



Private Business Action for Biodiversity

Findings from a project on biodiversity-friendly
production and commercialization

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Content

- I. Private Business Action for Biodiversity – Introduction 4
- II. Observed trends and findings at global level 5
 - 2.1 Growing number of networks in the field of business and biodiversity 5
 - 2.2 Positioning of the private sector for a new Global Biodiversity Framework..... 6
 - 2.3 Biodiversity and the financial sector 7
 - 2.4 COVID-19 and Green Recovery..... 9
- III. Findings from pilot implementations in three countries 10
 - 3.1 Açai in Brazil11
 - 3.2 Carnauba in Brazil 12
 - 3.3 Spices in India 14
 - 3.4 Agave in Mexico 16
- IV. Findings on upscaling and motivation for change 18
- V. Conclusions20



A carnauba leaf.

PRIVATE BUSINESS ACTION FOR BIODIVERSITY – INTRODUCTION

A promising approach towards more sustainability in the private sector is to promote biodiversity-friendly production and commercialization. The 'Private Business Action for Biodiversity' (PBAB) project has been testing and further developing instruments for the promotion of biodiversity-friendly production and commercialization, with specific activities in three partner countries – Brazil, India and Mexico. In four pilot projects, the project implemented promising instruments and tools together with partners from the private and public sectors and analysed the results through a systematization process. Furthermore, the PBAB project has brought together expert practitioners and decision-makers from government, NGOs, indigenous peoples and the private sector from different continents (Africa, Asia, Europe, Latin America) in several events and

workshops, in order to discuss key questions related to biodiversity-friendly production and commercialization at global level.

The current document summarizes the most relevant findings from concrete implementation of activities both on global and national level: While chapter 2 focusses on the trends and findings from the discussions at global level, chapter 3 gives an overview of the four approaches supported by the project in the three partner countries and highlights the main achievements and learnings. Overall findings on upscaling and motivation for change can be found in chapter 4. Finally, chapter 5 summarizes the conclusions regarding the project's five fields of action.

PRIVATE BUSINESS ACTION FOR BIODIVERSITY PROJECT (PBAB)

The PBAB project has been implemented by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH on behalf of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) as

part of the International Climate Initiative (IKI). Global Nature Fund (GNF) and Union for Ethical Biobased Trade (UEBT) among others have been important implementation partners of the project.

Natural pollination by bees.



OBSERVED TRENDS AND FINDINGS AT GLOBAL LEVEL

II.

In society, awareness of the importance of biodiversity and concern about its loss has increased significantly during the past five years. Individual aspects such as insect loss and importance of natural pollination, the pollution of oceans by plastics or the importance of biodiversity within investments have received particular attention. Biodiversity has also risen in priority on the political agenda globally, as e.g. the “Leaders Pledge for Nature” by political leaders participating in the United Nations Summit on Biodiversity in September 2020, or the One Planet Summit in early 2021 have shown.¹ With the „One Health” approach, COVID-19 has brought attention to the linkages between healthy ecosystems, animal health and human wellbeing. The private sector is also increasingly aware of the importance of biodiversity and the risk of biodiversity loss for business activities. For example, the World Economic Forum’s Global Risks Report 2020 identified biodiversity loss as one of the top five risks to humanity, with an increasing trend compared to previous years. The number of initiatives and business associations in which companies and other key actors are committed to mainstreaming biodiversity in the private sector has increased significantly in recent years (see chapter 2.3). They are also increasingly contributing with their own positions and demands to the shaping of the Post-2020 Global Biodiversity Framework (see chapter 2.4). Actors in the financial sector are also paying more attention to biodiversity (see chapter 2.2). And of course, in 2020 and 2021 the COVID-19 pandemic, its socioeconomic impacts and the worldwide efforts for a green recovery have significantly changed the framework conditions worldwide (see chapter 2.1).

2.1 Growing number of networks in the field of business and biodiversity

As biodiversity has become a topic of growing importance over the past few years, more and more actors joined the discussion. During the last three years, the landscape of business coalitions, platforms and networks in the field of biodiversity has considerably expanded and positioned itself more strongly on an international level. All the newly established initiatives share the same general objective: engaging the private sector to take action towards the conservation and sustainable use of biodiversity and to call for responsible action by governments for policy changes.

While the overall goal of the different initiatives is similar, their specific content and structure varies. Some of the newly established initiatives are business coalitions, such as One Planet – Business for Biodiversity (established in 2019) or Act 4 Nature International (founded in 2018). Their actions focus on integrating biodiversity conservation and sustainable use into the companies’ corporate strategy and demonstrating business ambition and action. Other initiatives focus more on the financial aspect of biodiversity, such as the Finance for Biodiversity Pledge (founded in 2020), the Partnership for Biodiversity Accounting Financials (PBAF) or the Task Force on Nature-related Disclosure (TFND) (officially installed by mid 2021). They concentrate on protecting and restoring biodiversity through their finance activities and on exploring the opportunities and challenges surrounding the assessment and disclosure of the impact on biodiversity associated with their loans and investments. Furthermore, there are also networks working on specific topics or methodologies in the area of business

¹ See <https://globalcanopy.org/insights/insight/one-planet-summit-biodiversity-rises-up-the-global-agenda/>



Biodiversity-friendly spice cultivation.

and biodiversity, such as the Capitals Coalition (established in 2020 out of the predecessor organisations Natural Capital Coalition and Social Capital Coalition) and the Science Based Targets Network (SBTN) (established in 2020).

One newly established initiative that has grown quickly is Business for Nature (established in 2019). It is a global coalition that brings together international organizations and businesses with the objective to communicating the business case for reversing nature loss and address governments to adopt corresponding policies. Additionally, while already being established for a decade, the Global Partnership for Business and Biodiversity and its regional and national member organizations (e.g. the EU Business @ Biodiversity Platform, Germany's Biodiversity in Good Company or the Indian Business and Biodiversity Initiative) are linked to the Convention on Biological Diversity (CBD) and are highly relevant actors in the area of biodiversity. The PBAB project is well linked with these relevant actors,

which is also reflected through a joint webinar in promoting biodiversity-friendly production².

2.2 Positioning of the private sector for a new Global Biodiversity Framework

In the development of the Post-2020 Global Biodiversity Framework (GBF) of the Convention on Biological Diversity (CBD), the private sector and its stakeholder organisations are emphasizing their role as an important actor for biodiversity conservation. The Business for Nature (BfN) initiative is very prominent here and calls for much more ambitious biodiversity targets and a visible role for the private sector. The stakeholders united in BfN show a clear interest in taking an active role in nature-positive action within the framework, but also demand the necessary framework conditions for this. There is a clear call for further development and implementation of environmental law as a task

SESSION AT IUCN WORLD CONSERVATION CONGRESS

Biodiversity conservation and value chains: creating space for collaboration between NGOs and business

At the IUCN World Conservation Congress 2021 in Marseille, the PBAB project designed a high-level lunch event on biodiversity conservation and value chains to emphasize the critical role of NGOs in supporting businesses in their biodiversity conservation actions.

The session brought together experts from the public and private sectors, with contributions from the Global Platform for Business and Biodiversity (GPBB), the World Business Council for Sustainable Development (WBCSD), the Secretariat of the Convention on Biological Diversity (SCBD), NGOs (such as UEBT, GNF, and TRAFFIC) and private company's (Jayanti Herbs & Spice and Symrise).

² On 4/20/21 and 6/17/21, the PBAB project presented tools to promote biodiversity-friendly production as part of a Global Partnership for Business and Biodiversity (GPBB) online seminar series hosted by the Secretariat of the Convention of Biological Diversity (SCBD). For more information and access to the recording session, please visit: <https://www.cbd.int/business/webinars.shtml>

for politics, as well as the emphasis on multi-stakeholder alliances building between the private sector, academics, civil society and governments. However, some critical issues are not addressed by BfN, but remain in the hands of the International Chamber of Commerce. Among them are the access to genetic resources and to related traditional knowledge, digital sequence information or biosafety issues and liability, which are the main themes of the Nagoya and Cartagena Protocol and which have direct impact on companies' policies and activities.

A clear interest of pioneering companies is to gain support for their biodiversity-friendly course by levelling the playing field, e.g. via stricter national legislation or incentives for biodiversity-friendly companies. Furthermore, there is a desire for long-term security for effective business planning. These long-term commitments, which can be achieved by redesigning national frameworks such as the National Biodiversity Strategies and Action Plans, can also motivate companies to invest in biodiversity-friendly activities.

As an example, in India a group of businesses and stakeholder organizations, with support from the India Business & Biodiversity Initiative (IBBI) hosted by Confederation of Indian Industry (CII), WWF India and GIZ (including the PBAB Project), developed a joint paper: Its purpose is to document the commitment of Indian businesses towards achieving the CBD's 2050 vision of "Living in Harmony with Nature" and strengthening the development of the Post 2020 GBF. Indian businesses prioritised four commitments, based on a roadmap for biodiversity conservation, reversing nature loss and living in harmony with nature:

1. Mainstreaming Post-2020 targets to reduce the footprint on nature and promote biodiversity conservation across the value chain by 2025
2. Avoiding or at least limiting disturbances of natural spaces and promote No Net Loss or Net Positive approaches among all operations by 2030
3. Partnering with local authorities and communities for sustainable consumption and production
4. Taking initiatives for monetary and non-monetary benefit sharing to local stakeholders and tribal communities

The paper states that the Post 2020 GBF provides an opportunity for businesses to build awareness among themselves, contribute towards nature conservation and influence policy makers for an ambitious and transformative long-term nature-positive vision.

In addition, the PBAB project contributed to the Chinese

preparatory process for the Kunming Biodiversity Conference by presenting findings of the project at the event "On the way to the COP 15: Business and Biodiversity" hosted by the German Embassy in Beijing³.

2.3 Biodiversity and the financial sector

In order to implement the Post-2020 Global Biodiversity Framework successfully, financing mechanisms will be needed to increase investment in biodiversity, in the same way that mainstream finance drives the rest of the economy. Public spending alone is by far not enough to address the crisis of biodiversity collapse. Private investments into biodiversity are needed as well and have to be encouraged. Financial institutions show a growing commitment for the conservation and sustainable use of biodiversity, as evidenced by the Finance for Biodiversity Pledge led by 26 financial institutions at the Biodiversity Summit of the United Nations General Assembly in September 2020. Nowadays (September 2021) it already counts on 55 signatories. Promising trends towards sustainable finance and impact investment must be strengthened to bring them out of niche activities and make a significant impact. On the one hand, it will be necessary to customize and redesign financial instruments to ensure that investment plans are evaluated for their potential risk to nature. On the other hand, there is a potential to create new investment products that incentivise biodiversity-friendly investment into value chains and ecosystem services.

Biodiversity-friendly pepper production in Kerala, India.



³ On June 18, 2021, the coordinator of the PBAB project, Andreas Gettkant, contributed at the Chinese and international exchange on corporate solutions for biodiversity conservation. The event was organized by the Sino-German Environmental Partnership (SGEP) and the German Embassy in Beijing, serving as a warm-up to the "Business and Biodiversity Forum," one of the parallel sessions of the 15th Conference of the Parties (COP15) of the Convention on Biological Diversity (CBD). Access to the summary: <https://climatecooperation.cn/climate/on-the-way-to-cbd-cop-15-business-and-biodiversity/>.



Carnauba palms in Piauí, Brazil.

Financial institutions are starting to conduct biodiversity risk assessments for their products, as the loss of biodiversity and ecosystem services also poses significant threat to their investments. In addition to the loss of reputation and legal risks associated with investments in companies that damage biodiversity, there are also credit and yield losses when economically essential ecosystem services are no longer sufficiently available.

Financial institutions can reduce the risks mentioned above and at the same time, make an essential contribution to preserving biodiversity by taking greater account

of biodiversity criteria in risk assessments for investment decisions and lending. An important first step has been the EU Taxonomy for Sustainable Finance by the European Commission in 2020. The taxonomy provides companies, investors and policymakers with appropriate definitions for economic activities, which can be considered environmentally sustainable (including biodiversity and ecosystems). Nevertheless, there is still a long way to go in establishing sustainable finance within a clear categorisation along the ESG (Environmental Social Governance) factors that also reflects fully the field of biodiversity.

WORKSHOP ON FINANCE THAT WORKS FOR BIODIVERSITY

06/24–25/19, Bonn

The GIZ and World Agroforestry (ICRAF) brought together financing experts from six projects (including the PBAB project) for a global learning and knowledge-exchange event. Public- and private-sector experts from Africa, Asia, Europe and Latin America shared their

experience of directing investments into biodiversity-friendly food production.

Find a report about the workshop here: https://www.international-climate-initiative.com/de/infothek/publikationen/publikation/article/workshop_report_finance_that_works_for_biodiversity.

SESSION AT GLOBAL LANDSCAPE FORUM, 2020

10/28/20: Financial Incentives for a Biodiversity-Friendly Future – is Green Recovery a Catalyzer?

At the virtual Global Landscape Forum (GLF) 2020, expert practitioners and decision-makers from the government, NGOs, indigenous peoples and the private sector from different continents (Africa, Asia, Europe, Latin America) joined a discussion on existing approaches and financial incentive measures for biodiversity mainstreaming.

The session was jointly organized by four projects from GIZ (incl. the PBAB project) and World Agroforestry (ICRAF).

Find this session's white paper here: <https://events.globallandscapesforum.org/wp-content/uploads/sites/2/2020/10/GLF-Biodiversity-2020-white-paper-Financial-incentives-for-a-biodiversity.pdf>.

In addition, financial institutions can specifically promote companies that operate in a biodiversity-friendly manner and offer investment products with a positive impact on biodiversity, e.g. through impact investment products. They can play a key role as catalysts for behaviour changes and can influence in economic pathways, business models and practices of Small and Medium Enterprises (SMEs). This is especially important for many countries in the developing world, as SMEs, including cooperatives, are often the backbone of their economies, crucial for poverty reduction and play an important role in most value chains. Existing experiences are showing that it is possible to bring finance to SMEs, even in areas with high risk for investors, through blended finance mechanisms.

However, many stakeholders in the financial sector feel that the concept of biodiversity is too complex and too abstract to incorporate it into their core business and develop products to invest in biodiversity-friendly production schemes or opportunities deriving from it. The common understanding and partnership between the financial and the environmental sector are weak, so they are not yet able to cooperate in developing sound biodiversity investment opportunities. Enhanced dialogue is also needed between business and Indigenous Peoples and Local Communities (IPLC), who should be fully included in decision making on investment and the design of funds because of their territorial and cultural rights and their traditional knowledge on nature.

To develop a biodiversity business case for the financial sector, there are several important steps to be taken: It is necessary to strengthen the knowledge of the financial sector in relation to biodiversity, to build capacities in the environmental sectors and with SMEs on financing mechanisms and how to access them, to enhance communication between environmental and financial sector, to design examples for biodiversity-friendly investment products (e.g. impact investment funds, blended finance mechanisms) and to develop hands-on tools for linking biodiversity to financial risk mitigation. It is also necessary to qualify the monetary risks of biodiversity loss and quantify the possibility of economic gains by valuating biodiversity to make it more visible and comprehensible for the sector.

Financing instruments and investment decisions should reflect social-environmental costs in a transparent manner. Approaches for the valuation of biodiversity and ecosystem services are supporting decision makers in politics and business to recognize the true value of nature and consider the external costs of its destruction. Voluntary commitments by financial actors and companies are not enough to conserve and sustainably use biodiversity. „Sustainability pioneers“ in the financial sector would like to see clearer orientation and guidelines from policymakers. On the political level, the setting of rules by regulation and the creation of incentives for biodiversity-friendly production schemes are needed.

2.4 COVID-19 and Green Recovery

From early 2020 onwards, the COVID-19 pandemic significantly changed the setting on a global scale. There is a risk that the challenges faced by economies and societies, as they recover from COVID-19, lead to reduced attention towards biodiversity by the government and to reduced spending for environmental topics due to exploding debts in poor countries, lower state revenues or return to harmful practices for the sake of economic growth. The discussion about green recovery programmes and new approaches like “One Health” initially raised hopes for a change in the framework conditions towards incentives for biodiversity-friendly producing companies and investments in a nature-positive, carbon-neutral and equitable transformation of the world economy. Unfortunately, reality has shown that many countries have opted for short-sighted economic stimulus programmes in which sustainability plays a subordinate role. Investments into traditional industries are mostly characterised by environmentally harmful subsidies, which burden the state budget twice: first through additional state expenditure, and later through increased costs for repairing damage inflicted on the environment, nature and health. However, there are also a few positive examples of governments that have committed to „build forward better“. COVID-19 response programs can have the potential to accelerate a shift towards a biodiversity-friendly future.

At the corporate level, the issue of resilient supply chains has gained prominence. The COVID-19 pandemic has made it clear that companies that focus on a sustainable business strategy and address social, environmental and economic aspects in their supply chains are significantly more resilient than companies that operate on a short-term basis.

Carnauba palms.



The economic decline that is happening because of the pandemic additionally resulted in the global decline of employment, especially in developing and emerging countries. As several sectors, such as the tourism sector, and agricultural value chains collapsed, people around the world are losing their livelihood. In light of the global discussion regarding biodiversity, which is arising through the pandemic, the PBAB project produced a discussion paper on the correlation between biodiversity and employment, pointing out the positive linkages between them. Nature-positive jobs have often a high potential to be implemented quickly and in many cases require low qualification, but they also offer opportunities for qualification on the job and finally support the conservation and sustainable use of biodiversity, creating more resilient value chains and improving living conditions in the rural areas. This positive interaction is of paramount importance for overcoming the biodiversity crisis while it also offers an opportunity to mitigate the impacts of the pandemic crisis. Therefore, this correlation should be taken more into account when designing reco-

very measures, seeing that this way, two global challenges – biodiversity loss and unemployment – can be tackled at the same time. Therefore, it is recommended to stronger consider employment aspects within the context of biodiversity-relevant green recovery measures and designing the new Global Framework.

In addition, the PBAB project – together with other global projects – organized and contributed to two regional expert workshops for Africa, Asia, and Latin America on how to implement stimulus programs that tackle the economic consequences of the COVID-19 pandemic⁴.

Overall, more examples are needed of how to bring successful biodiversity finance approaches to scale, linking COVID-19 response measures to finance for a biodiversity-friendly future. The big challenge remains to design, approve and implement this kind of recovery programmes that are building back better.



Harvesting açai berries.

III. FINDINGS FROM PILOT IMPLEMENTATIONS IN THREE COUNTRIES

While there are positive trends on global level that show a growing awareness for the importance of integrating biodiversity in business activities, and successful examples for biodiversity-friendly production and commercialisation already exist, they are not being implemented on a broad and widespread basis. To maintain and reinforce the positive

trends, we need effective implementation of private and public support mechanisms and instruments that promote, disseminate and scale promising approaches. Therefore, the PBAB project looked for new instruments, tested and further developed them in a total of four pilot implementations.

⁴ On the 24th and 26th of August 2021, two online seminars took place on how to implement stimulus programs that tackle the economic consequences of the COVID-19 pandemic while simultaneously addressing the climate and biodiversity crises in Latin America and the Caribbean, as well as in Asia and Africa. The sessions were organized by the German environmental NGO Deutsche Umwelthilfe (Environmental Action Germany), and the scope of three projects implemented under the International Climate Initiative by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), including the PBAB project.



Açaí seedlings.

In an 18-months scoping phase, the project identified five fields of action in which instruments and mechanisms have potential for promoting biodiversity-friendly production and commercialisation: Impact monitoring, traceability, financing mechanisms, management tools and capacity development⁵. With these fields of action in mind and based on a set of selection criteria⁶, the PBAB project carefully selected four value chains in subprojects for the pilot implementation of instruments, which promote biodiversity-friendly production and commercialisation: açai and carnauba in Brazil, selected spices in India and agave in Mexico.

3.1 Açai in Brazil

The açai berry from Brazil is a reddish, black-purple fruit of the açai palm tree, native to the Amazon and northern South America, which has been consumed in the region around the Amazon river basin for centuries. Nowadays, the fruit is processed and sold as frozen pulp, juice, and powder, or used as an ingredient in various products from beverages, smoothies, foods to cosmetics and supplements. As the global demand for the fruit – and subsequently açai production in plantations – expanded in the last ten years, Amazonian ecosystems are increasingly under pressure and there is the necessity to improve and value biodiversity-friendly management practices. The objective of the Brazil pilot implementation on açai has been to support a new tool to measure biodiversity impacts within forest management certification. This approach should also help promote biodiversity as an asset for açai marketing strategies.

The project identified the following promising **instrument**:

- **Testing a new procedure developed by the Forest Stewardship Council (FSC)** as addition to their certification process, which helps small-scale producers to demonstrate the positive impacts of their forest management activities on the selected ecosystem services, "biodiversity" and "carbon". These positive impacts can be used in marketing strategies by companies buying açai from the region or also by investors, who are interested in seeing a positive biodiversity return on investment.

With this background, the project has selected an initiative that successfully implemented forest management practices, the cooperative AmazonBai, which was founded by traditional producers from Bailique. Located in the state of Amapá, the Bailique archipelago is formed by eight islands with an approximate population of 10.000 people, distributed in about 50 communities. Their main activities are fishing and extraction of forest products, of which açai berry extraction is the main source of income. In 2014, the communities established their Biocultural Community Protocol (the first in Brazil). It is an instrument supported by the Convention on Biological Diversity (CBD) that considers different aspects of livelihood and recognizes the right of these communities to participate in decisions related to their territory, empowering them to have a more balanced relation with external stakeholders and supporting the conservation of natural resources. In order to differentiate their açai production on the market, communities in Bailique have implemented FSC Community Certification on their areas in 2016, searching for ways to value their management practices and the quality of product.

⁵ More details on the results of the scoping phase can be found here https://www.international-climate-initiative.com/fileadmin/Dokumente/2019/20190208_Biodiversit%C3%A4tsfreundliche_Produktion_und_Vermarktung_DE.pdf

⁶ Selection criteria: high dependency of biodiversity and ecosystem services and/or high impact on biodiversity, political will, economic relevance, high percentage of SMEs involved, high potential with regard to creating new / innovative findings.



Carnauba harvesting.

As a **result** of the project, the Ecosystem Service Procedure has been successfully developed and supported together with FSC and the NGOs Instituto Terraó and Imaflores helping small-scale producers from Bailique to demonstrate the positive impacts for biodiversity and the reduction of CO₂ emissions. The new procedure has generated results that contribute to concrete improvements in the quality of life of the communities:

- With the demonstration of the **positive effect of management on biodiversity and CO₂ storage**, multiple benefits and impacts were generated for the communities. They range from improved management systems to improved production quality, increased self-esteem, capacity building and training opportunities, visibility and participation in social projects.
- Through the cooperation with AmazonBai, **2996 hectares** of land has already been monitored and verified using the FSC's certification process for ecosystem services.
- Around **660 people (producers and their families)** have benefited directly from the project measures through improved ecosystem services.
- Together with FSC, the principal results and experiences were reflected in a **booklet** and disseminated through a **communication campaign** for stakeholders within the supply chain and a **virtual training course** for certifiers and auditors.

However, more time is needed to assess the impacts of the new procedure on commercialization. This also depends on the cooperative's management capacity to implement business strategies. Moreover, planned activities have certainly been hampered by the Covid-19 pandemic. Up to now, prices and marketing conditions have not yet improved due to the new certification process. Nevertheless, producers from Bailique highlighted that the community is on the verge of signing sponsorship and image use contracts. In the medium term, the **consolidation of a distribution point** in Macapá and São Paulo should make it possible to increase the communities' income.

Furthermore, the working group "Pró-Açaí Dialogues" brings together public and private actors from various segments involved in the açai value chain to develop a proposal for management standards for sustainable açai. The results from the PBAB pilot case açai are being used as a reference, among others.

In **conclusion**, the procedure developed by FSC proved to be a good instrument to demonstrate the positive impacts on the selected ecosystem services "biodiversity" and "carbon". Açai berries are a product with growing worldwide demand. The project has contributed to valuing the sustainable management of natural açai forests and strengthening traditional producers of açai. Developing a financing and marketing strategy proved difficult, because the Amazon-Bai cooperative has stopped collaborating with the private sector on a larger scale and is pursuing its own projects. However, the lessons learned from the pilot case are being taken up due to the growing interest in açai products.

3.2 Carnauba in Brazil

In **Brazil**, the project has focussed on the carnauba value chain. Carnauba palms grow on riverbanks in the predominantly semi-arid Caatinga, a region in northeast Brazil, characterized as a dry forest ecosystem of high biodiversity. The palm is increasingly threatened by invasive species and changes in land use. The carnauba palm leaves contain a large amount of wax that protects it from intense solar radiation and reduces water loss. Wax extracted from the leaves of the palm trees is used in car polish, cosmetics and sweets and is one of the most important export products in the region with an average extraction of circa 19,000 tons of wax powder per year⁷.

Environmental and social challenges have come to light, including degradation of local biodiversity, deforestation as a result of persistent drought, the rapid expansion of invasive species, as well as poor working conditions and low pay. Carnauba conditions a complex supply chain with several different stakeholders involved, including **landowners** that loan the land to **producers** for the extraction of carnauba leaves, **extractive workers** hired by the producers to perform the field work, and **local wax processing**

companies that transform the powder into wax for export. **Distributors** and **brands** from mainly Europe and the U.S then buy the wax for final processing. Due to the carnauba production chain's key relevance for some products and customers increasingly asking for more information about these value chains, some of the local companies had already started to tackle socio-economic challenges before the start of the PBAB project. However, many companies within the value chain had not joined this effort at the beginning of the project and the political implementation of social and environmental standards within the carnauba value chain was unfortunately very weak (mainly due to a lack of resources).

The **objective** of the Brazil pilot implementation in the carnauba value chain has been to promote a more responsible production that respects people's rights and preserves biodiversity. Therefore, the project has helped establish a multi-stakeholder partnership, the "Initiative for Responsible carnauba," has developed Good Agricultural and Collection Practices (GACP) and has supported the adaptation of internationally recognized biodiversity standards for the carnauba sector.

The project identified a combination of promising instruments and approaches to tackle the challenges in the carnauba sector:

- Developing **successful management practices** for carnauba areas.
- Establishing a **multi-stakeholder initiative** to tackle ethical and biodiversity challenges within a global value chain.
- **Improving the sourcing of carnauba wax** by requiring the signature by local carnauba processing companies of the TAC⁸, a regulatory instrument put in place by the Brazilian government and complementing it with the UEBT standard's principles for improved social and biodiversity practices. The UEBT standard contains principles and criteria that address human rights, including all International Labour Organisation (ILO) core conventions (minimum age for work, no forced labour, etc.) and adequate working conditions, as well as other principles such as biodiversity conservation and local economic development.



Different types of carnauba wax.

- Developing and implementing **Biodiversity Action Plans (BAPs)** together with Brazilian companies to strengthen biodiversity-relevant measures.

As a **result** of the project, a multi-stakeholder initiative, the "Initiative for Responsible Carnauba" (IRC), was established in 2018 and has focused since then on good social, human rights and biodiversity practices for carnauba harvesting and processing. Together with 20 companies, the IRC has adopted **social, traceability, and biodiversity standards** for the sector (both the UEBT standard and other recognized, credible standards) and helped the wax processing companies which purchase wax from the producers and process it for export to implement them together with UEBT. Through cooperation with four companies in Piauí and Ceará, which account for approx. 75% of the market share, social and biodiversity practices are being improved on approximately 4,500 hectares of land. Around 1,950 people have benefited directly from the project measures through better working conditions and improved ecosystem services. Together with the local NGO Associação Caatinga, a first **Good Practices Manual** for the sector and **12 learning videos** (available on YouTube and for download via WhatsApp) were developed by the project to reach out to and inform extractive workers about biodiversity management and their labor rights.

⁷ i.e. according to the Brazilian Institute of Geography and Statistics (IBGE)

⁸ The Terms of Conduct Adjustment (TAC) is a document used by Brazilian public bodies especially by the Public Prosecutor's Office (MP). In the carnauba productive chain it is an agreement between the Labor-Related Public Prosecutor's Office (MPT) and any actor of the chain, in which the latter party agrees to comply with labor legislation and occupational health and safety standards, under penalty of paying a fine.

Furthermore, UEBT and the University of Ceará conducted a carnauba baseline study on the socio-economic situation and biodiversity status in and around the production areas in the two most important production states, Piauí and Ceará. The results were discussed with the wax processing companies. The study's recommendations, such as respecting and strengthening workers' rights, supporting livelihoods, and conserving biodiversity have been considered in developing and implementing different actions, including company-specific **Biodiversity Action Plans**. BAPs have proven to be a helpful instrument for companies to define, implement and monitor biodiversity measures. With the support of UEBT, one of the main wax processing companies in the region has already successfully implemented a BAP. Its implementation covers the establishment of an environmental education center for workers, a bank of seedlings and tree nursery that provides the region with native and threatened species for reforestation of degraded areas, and the development of techniques to control invasive species.

Through the carnauba pilot, the project identified the following **findings** on the instrument of multi-stakeholder partnership:

- One of the major beneficial aspects of a Multi-stakeholder partnership has been its **linkage of regulatory and voluntary approaches**: e.g. the IRC supports and strengthens the local government actions by requiring the TAC signature.
- To establish a multi-stakeholder initiative, it has been essential and useful to consider **antitrust regulations and competition laws** as they may limit the possibilities of a multi-actor partnership (as certain aspects such as market prices may not be discussed), as well as to manage the interests and sensibilities of different actors, and agree on the governance of the initiative and other rules early on.

Biodiversity-friendly pepper production.



- Multi-stakeholder partnerships should increasingly develop **joint actions of all members** to have actions that are more easily controlled and monitored than actions taken by individual companies.
- **Aiming for ambitious requirements through a complete standard** (e.g., in case of carnauba the UEBT standard) is key in driving meaningful change, although it can face opposition by the local companies to make it easier to comply with lower requirements.

In conclusion, the carnauba sector's biodiversity-friendly production and commercialization proved to be a relevant topic for all stakeholders due to the environmental and social challenges that have come to light. Because the carnauba palm is an endemic species that is wild collected, the production of carnauba cannot be continuously expanded. Therefore, it is crucial to highlight that biodiversity issues and social aspects, like working conditions, directly affect companies' operations. As an instrument to promote biodiversity-friendly production and commercialization, the multi-stakeholder partnership has been a well-accepted instrument to bring buyers, distributors, and processors together to address the challenges in the sector. The multi-stakeholder Initiative for Responsible Carnauba has developed a concept of sustainability and financial viability and will continue its work independently. UEBT has taken over the secretariat since August 2020. The elaborated best practices and the learning experience will help the carnauba sector in Brazil as well as on a global level along the value chain. Biodiversity Actions Plans have also proven to be very good instrument for companies, being flexible and adaptable to each situation. Complementary technologies can be useful to support and complement the work implemented as part of the BAP, e.g. using satellite data for mapping the carnauba areas.

3.3 Spices in India

In India, the project has focussed on spice cultivation in the Western Ghats, a mountain range in southern India that is known for its great biodiversity. Changes in agricultural practices have put spice production at risk and have led to the destruction of biodiversity and environment. From a business perspective, a constant supply of spices in sufficient quality and quantity cannot be guaranteed with unsustainable farming systems. Therefore, the project has promoted biodiversity-friendly practices in the cultivation of pepper, cardamom, nutmeg and cinnamon as well as chili, e.g. through multi-layer and mixed cropping systems. The **objective** of the India pilot implementation has been to improve awareness, knowledge and training opportunities regarding biodiversity-friendly production, commercialization, and tools for the implementation of biodiversity-friendly systems among Indian spice producers and SMEs in Western Ghats of India.

The project identified three promising **instruments** and tools:

- **Biodiversity Assessment Tool:** This tool for biodiversity and ecosystem services assessment helps stakeholders in selected value chains to identify impacts and dependencies on Biodiversity.
- **Biodiversity Action Plans (BAPs),** which help producers and companies to identify, implement and monitor measures for the protection of biodiversity in and around the farmland as well as measures for very good professional practice for more biodiversity.
- **BAP-Monitor (Biodiversity Action Plan Monitoring Tool),** which provides additional guidance for a monitoring of measures foreseen in a Biodiversity Action Plan on two levels: performance and impact.

Together with key stakeholders and experts from India, as well as the project's main implementation partners Global Nature Fund and Union for Ethical BiTrade (UEBT), these instruments have been adapted to the context of Indian spice production and further improved after piloting them with smallholder producers and companies. The uptake of the approach within the spice sector in India was very good: Instruments and training materials developed and promoted by the project have been adopted by at least three spice companies and by important public stakeholders in India (e.g. in the India Good Agricultural Practices). Key recommendations have been included in the National Sustainable Spice Programme, thereby guaranteeing a multiplier effect and outreach beyond the initial scale of the pilot project. The instruments are being used and promoted by actors such as UEBT (also in cooperation with Rainforest Alliance) and Global Nature Fund in other geographical contexts and sectors.

An analysis of costs and benefits of biodiversity-friendly spice production has shown clear **benefits** for producers, people living in production areas, companies and consumers. Through improved provision of ecosystem services, farming systems become more resilient to changing climate conditions and the economic viability of farm operations is sustained, thereby ensuring the continuous supply of spices for companies. Long-term relations between companies and farmers lead to fair payments and engagement in shared actions for learning and improvement. Companies benefit through the reduction of operational and reputational risks as well as risks related to market access, regulation, and laws. People living in production areas benefit from an enhanced provision of ecosystem services, such as food supply, access to clean and safe water and better-quality soil, which may contribute to poverty reduction in rural areas. Health risks for farm workers and their families as well as for consumers are reduced by minimizing exposure to toxic and persistent chemicals.



Chili.

Costs for farmers depend highly on the type of measure selected. Some might even be cost-saving, why others require additional financing mechanisms or support during a transition phase.. Costs for companies may include human resources (farm advisors), certification costs, support for the implementation of measures on farms and higher raw material prices. For actions at landscape level, organizational structures are needed

Biodiversity Action Plans, which were promoted by PBAB project as core instrument, have proven to be a helpful instrument for companies and producers to schedule, implement and monitor biodiversity measures in and around farms. The instrument helps producers and local companies understand the advantages of sustainable use of biodiversity, and strengthens and valorises farmers' skills on biodiversity-friendly farming practices. Companies implement a systematic approach to biodiversity management and can easily communicate about their biodiversity efforts. Biodiversity Action Plans are an adequate instrument in order to expand biodiversity-friendly production in the spice sector. It is an approach that can be generalised and replicated in different geographies and with different crops. It can also be scaled up to landscape level.

Challenges in the BAP implementation may arise, when internal or external expertise on the biodiversity situation in farming areas and surroundings is not available or when existing expertise is not framed into specific measures and targets. Also, the uptake of measures might be slow if short-time costs for the implementation remain with farmers or if collaboration is needed among many stakeholders without proper organizational structures in place. For further upscaling of the approach, capacity development is crucial as well as adequate financing mechanisms for more costly measures.

In **conclusion,** biodiversity-friendly production and commercialization proved to be a highly relevant topic for stakeholders in the Indian spice sector. There is a growing awareness among businesses for implementing sustainable practices and standards. Biodiversity Action Plans have been well accepted as instruments to support the implementation of such practices and bring positive impulses for biodiversity.



Agave.

3.4 Agave in Mexico

Agaves are a group of plants of which 70 % of species are native to Mexico. They are used to produce fibre materials, sweeteners, fermented beverages such as pulque and highly popular distillates such as mezcal and tequila. To produce these distillates, the sugar concentrations of the agaves are key. The sugar is needed by the plant to produce the flower, once in their lifetime. After blooming, agaves die and are no longer useful for harvesting. For this reason, many producers do not allow the plants to bloom, preferring to reproduce with offshoots (clones). This reduces the genetic variability of the species and makes them more vulnerable to pests, diseases and climate change.

Bats are essential for agave reproduction, as they pollinate the plants. At the same time, agaves are important for bats to survive, as they provide a source of food. With producers preferring the asexual reproduction, bats lack food and their survival is threatened.

Market pressure in the face of increasing global demand for mezcal and tequila are discouraging biodiversity-friendly production by promoting practices such as the cultivation in monocultures, overexploitation of fast-growing varieties of agave, illegal extraction of agave in protected areas and other biodiversity-rich ecosystems, prevention of flower and seed production and quick fixes for pest control through the use of pesticides. This results in the loss of important ecosystem services such as pollination, habitat provision, prevention of soil degradation, traditional knowledge and practices, biologic pest control and genetic variability of the agaves themselves.

The project implemented **instruments and mechanisms** promoting biodiversity-friendly production and commercialization of agave including the analysis of viable monitoring, traceability, and market-recognition schemes and worked with initiatives that apply biodiversity-friendly production approaches. These initiatives focused on small-scale producers and ranged from large-scale initiatives such as the science-based Bat Friendly Initiative and the public sector led development of a biodiversity-friendly label that includes agave, to traditional associations within and outside protected areas that aim to protect their cultural traditions and natural resources.

Furthermore, the project strengthened **biological monitoring capacities** among the different groups and participatively built visual step-by-step monitoring manuals for each group. The groups' governance schemes were solidified by providing legal advisory and specifically tailored organization workshops. Additionally, advisory for biodiversity-friendly low-cost farming practices like biological pest control were carried out. Furthermore, labels that communicate the origin and sustainable production practices to the consumer were developed or solidified, giving the farmers access to new markets and providing economic incentives for sustainable production. The governance schemes of these labels range from producer-led management mechanisms to the Agriculture Ministry owned Biodiversity-Friendly label.

The **trade-offs** between obtaining reliable impact data and providing simple and low-cost monitoring tools for producers were analysed. Scientifically sound monitoring schemes like the monitoring of the Bat-Friendly Initiative

Biodiversity-friendly agave plantation in Mexico.



which is backed by the National Autonomous University of Mexico (UNAM), provide reliable evidence of the effects on bat populations of allowing agaves to flower. However, the monitoring requires a large scientific expert team, a collection permit for the capture of the bats that is only available to researchers and the use of expensive lab equipment. Thus, the project worked on developing a simplified version that allows biodiversity monitoring of species associated with agave that can be carried out by the participating farmers. Other simple schemes that may easily be carried out by farmers themselves, like the ones carried out by the Agave Producers Association of Teotihuacán, often rely on visual identification and registration of species, the accuracy of which may vary depending on the individual's experience and knowledge. Some schemes possess additional robustness, e.g. producer groups located within protected areas, which receive training and advisory from the Protected Areas Commission which on occasion also has access to monitoring equipment such as camera traps.

Our analysis found that linking the biodiversity-friendly farming practices and monitoring to a label was key to generating value through the products. The developed or strengthened labels like for example the Biodiversity-Friendly label and the Bat Friendly label aimed to highlight the biodiversity-friendly farming practices being carried out. They also aimed to highlight biodiversity associated to agaves itself, traceability and the legal origin of the agave plants or production within a protected area as it was the case with the Teotihuacán Collective label, which focused on the local agave varieties themselves and La Michilía and Tehuacán-Cuicatlán Protected Area labels. In all cases, the development of the criteria for the labels and the ge-

neration of messages for the consumers were constructed together with the producers that would implement them, focusing on local culturally and ecologically relevant biodiversity, which ensured a greater level of appropriation. It was found that a participatory development of monitoring systems by including the producers throughout the development process is important to make sure producers can successfully apply them. In case of labels, the development of the criteria for the labels and the generation of messages for the consumers also need to be constructed together with the producers that would implement them. This also needs to be accompanied by capacity building measures, which ensure a robust governance scheme that allows proper management of the label.

In conclusion, monitoring systems created by producers for producers and strengthened with capacity building on sustainable agricultural practices, group governance, and organization and biological monitoring, help ensure long-term incentives and capacities among farmer groups. This effect is further supported, if the monitoring systems are linked to a label that provides market recognition for biodiversity-friendly agave products.



Cardamom and pepper growing in biodiversity-friendly agroforestry systems.

IV. FINDINGS ON UPSCALING AND MOTIVATION FOR CHANGE

When looking at the project's work at both global and pilot intervention level, there are important learnings for the work on biodiversity-friendly production and commercialization with private sector stakeholders. With the following list, the project aims at sharing the most important findings responding to the questions "How to untap motivation for change from businesses?" and "How to foster upscaling?":

- There needs to be a business case for producing in a more biodiversity-friendly way. Many times, the demand and support from B2B actors is important for building the business case in agricultural value chains. Support may be direct or indirect, e.g. through prices or improved trading relations. The motivation to invest into biodiversity-friendly production may also come through increased yields, resilience or market demand.
- It is important to carefully analyse the pressure points within the value chains. Through addressing these pressure points, it is easier to motivate stakeholders to change and start working on biodiversity-friendly production and commercialization. Social issues can sometimes be perceived as more urgent to work on and serve as a door opener for environmental issues.
- Linking biodiversity to ecosystem services and analysing the company's impacts and dependencies on both helps to show the high relevance of the topic. Climate change and biodiversity can be addressed together, as many measures are beneficial for both issues. The link becomes also clear in the context of the current discussion about nature-based solutions: measures based on healthy ecosystems can have a positive impact on socio-economic challenges, such as climate change.
- It has been crucial to raise awareness that biodiversity issues directly impact the companies' or farms' operations, e.g. the invasive species, which is threatening the future of carnauba production. Linking biodiversity threats with companies' or farms' operations helps to show the high relevance of the topic for their activities.
- It is recommended to work along the whole value chain, as stakeholders all along the value chain can bring motivation for change and provide important conditions for driving the change. Many times, the success depends on highly motivated individuals.
- As businesses are operating in a competing environment, working on biodiversity-friendly production and commercialization can bring challenges, e.g. with antitrust rules. A way to avoid this is through bringing together those that are not in direct competition (e.g. companies working at different stages of a value chain). Also, some issues are pre-competitive, so cooperation is possible, e.g. for baseline studies. Moreover, competition can have a positive side, as it encourages companies to look for a differentiation of their products and thereby can bring motivation to change towards biodiversity-friendly production and commercialization.
- To ensure buy-in from management, clients and farmers, it is important to show positive results. For this, the monitoring and evaluation and the presentation of results is key.

- It is crucial to look at the costs of biodiversity measures and identify mechanisms to compensate farmers for the costs and efforts of implementation. Economic incentives are key in order to engage farm owners and workers. To promote replication, it is also important to calculate and communicate the costs of measures, so that interested actors can take decisions based on this information.
- It is important to build capacity in institutions (multipliers) that can introduce the approach to companies and farmers. Multi-stakeholder partnerships can play an important role for upscaling, as they connect different stakeholders from a value chain and thereby foster support and demand from B2B actors.
- Linking regulatory and voluntary approaches increases the impact on a sector. Voluntary standards are a tool among several others to drive sustainability improvements – they are never a guarantee or a solution in themselves. Voluntary approaches require additional tactics such as regulations to have maximum impact on a sector.
- Political support is crucial. Often, political support is weak and companies are struggling without favourable framework conditions. More political structures need to be implemented in order to reward companies that are acting biodiversity-friendly.



A map designed to plan biodiversity measures at farm level as part of a Biodiversity Action Plan.

- Many times, the work on biodiversity-friendly production and commercialization focuses on international value chains, especially if it is linked to voluntary approaches such as standards. National markets may also bear a potential for upscaling, but often little information is available about national customers' demands. More information about national markets should be compiled at the beginning of a project in order to be able to include the potential of national markets.

WHAT ARE THE SPECIAL NEEDS OF SMALL- AND MEDIUM ENTERPRISES (SMEs) REGARDING BIODIVERSITY INTEGRATION AND HOW CAN THESE NEEDS BE ADDRESSED BEST?

In many countries, SMEs are the backbone of economy and make up for a considerable share of the GDP. In agricultural value chains, they are oftentimes the first company to work with farmers and have the capacity to organize and support them. In many cases, instead of conventional companies, these SMEs have the organizational form of cooperatives (e.g. in the case of açai in Baillique). Despite of their importance as a change agent, many of the instruments and capacity development opportunities that have been developed for integrating biodiversity are not targeted at SMEs and cooperatives, which typically lack time and staff for complicated instruments and time-consuming collaboration initiatives. Therefore, SMEs and farmers need easy to handle, flexible and low-cost tools and trainings to assess and improve biodiversity performance. Those tools should be simple and at the same time effective. It is strongly recommended to develop

instruments in a participatory way, in order to ensure that SMEs and producers can successfully apply them.

The continuous improvement approach, as applied by the Biodiversity Action Plans, has found to be most accepted by companies and farmers, as it allows them to introduce positive changes gradually (annually or every two years) instead of requiring a huge investment at once. By focussing on a limited number of well-designed and successfully tested tools which can be applied by a raising number of users, it would be possible to reduce costs, e.g. for trainings. Most SMEs will also need hand-holding and guidance, e.g. from local consultants, as biodiversity expertise needs to be available for the implementation of biodiversity-friendly measures. In structured supply chains, big players are taking care of SMEs. Working with individual SMEs is more complicated.



Training of trainers for the implementation of Biodiversity Action Plans.

V. CONCLUSIONS

Combining pilot implementation in selected value chains with knowledge exchange on global level, the project was able to extend the findings in the five fields of action that had been identified during the scoping phase: Impact monitoring, traceability, financing mechanisms, management tools and capacity development.

Impact monitoring: For cost-effective and at the same time meaningful impact monitoring, it is crucial to design simple tools in a participatory way. A participatory approach facilitates the application by SMEs, cooperatives and smallholder producers, as the experience in the agave pilot case clearly demonstrated. Furthermore, monitoring tools do not need to cover the whole range of possible impacts on biodiversity, as this leads to complex and costly tools that will not be applied on a larger scale, because they require specific knowledge and come with high costs that cannot be integrated into product prices. The project's two pilot implementations with agave in Mexico and spices in India have shown that it is possible to design effective and flexible impact monitoring tools by focussing on key indicators that are representative for the desired positive changes in the respective ecosystems.

Traceability: Digitalization opens new opportunities for traceability, and there is a discussion about the pros and cons of blockchain approaches for improved traceability mechanisms. However, digitalization only offers limited solutions for the big challenge of tracing the product at the beginning of the value chain, especially when small-scale producers or extractivist workers (carnauba case) are involved. The subproject with carnauba in Brazil showed clearly that improved communication among the stakeholders of a value chain, e.g. through setting up multi-actor partnership like the Initiative for Responsible Carnauba (IRC), can be an important element to improve traceability, as it brings together the different actors in a value chain.

Furthermore, it helps stakeholders to tackle challenges together, as it improves the exchange about the different needs and market requirements and helps actors at the final stages of a value chain to understand the contexts and challenges of producers.

Financing mechanisms: Although there is a clearly rising market demand for sustainable, biodiversity-friendly investment opportunities driven by customers that belong to the millennial generation, there are still very few biodiversity-friendly investment products on the market. The pilot case with açai in Brasil has confirmed that a lack of investment readiness of SMEs and cooperatives is a big hindering factor, and capacity development is therefore crucial. In addition, communication between investors and investment projects has to be improved in order to adapt the requirements to the realities in the field. Furthermore, monitoring instruments for impact investments need to be improved through efforts similar to the design of the FSC Ecosystem Services procedure in the açai case.

Management tools: Management tools need to be simple and hands-on, especially when SMEs, cooperatives and small-scale producers are involved. The examples of the pilot cases with spices in India, agaves in Mexico, and carnauba wax in Brazil have shown that management tools that fulfil these criteria, such as the Biodiversity Action Plans, are easily adopted by private sector stakeholders and brought to scale. At the same time, it also became clear that these tools have the potential to bring new opportunities for additional financial resources, as public and private entities are more willing to invest into biodiversity-friendly production if there is a sound management plan in place.



Pepper growing in biodiversity-friendly agroforestry systems

Capacity development: Wide-spread knowledge about the impacts and dependencies of business activities on biodiversity and ecosystem services is crucial for driving change and for enabling the different stakeholders of a value chain to take decisions leading to sound business models with long-time sustainability in all dimensions. In all four pilot cases, awareness of the importance of biodiversity for their commercial activities was low at the beginning, but key stakeholders became increasingly engaged after the first round of awareness raising trainings. Furthermore, it became clear that additional capacity development opportunities targeting SMEs, cooperatives and smallholder producers are much needed in order to enable them to use monitoring and management tools as well as to untap financing opportunities. Therefore, awareness rising and capacity development measures have to accompany every effort to foster biodiversity-friendly production and commercialization.

The services provided by nature are the basis for most economic processes. Businesses can play an important role in combating the causes of biodiversity loss. Together with its partners, the PBAB project has identified promising instruments for promoting biodiversity-friendly production and commercialization, tested and further improved these instruments and shared the learning on local, national and international level. Partners from private and public sector as well as civil society will continue to use and enhance these instruments, and thus continue working towards the joint goal of a biodiversity-friendly future.



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