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Nexus R&D Hub
Nature x Value Webs x Territories

NEXUS R&D Hub: Nature x Value Webs x Territories

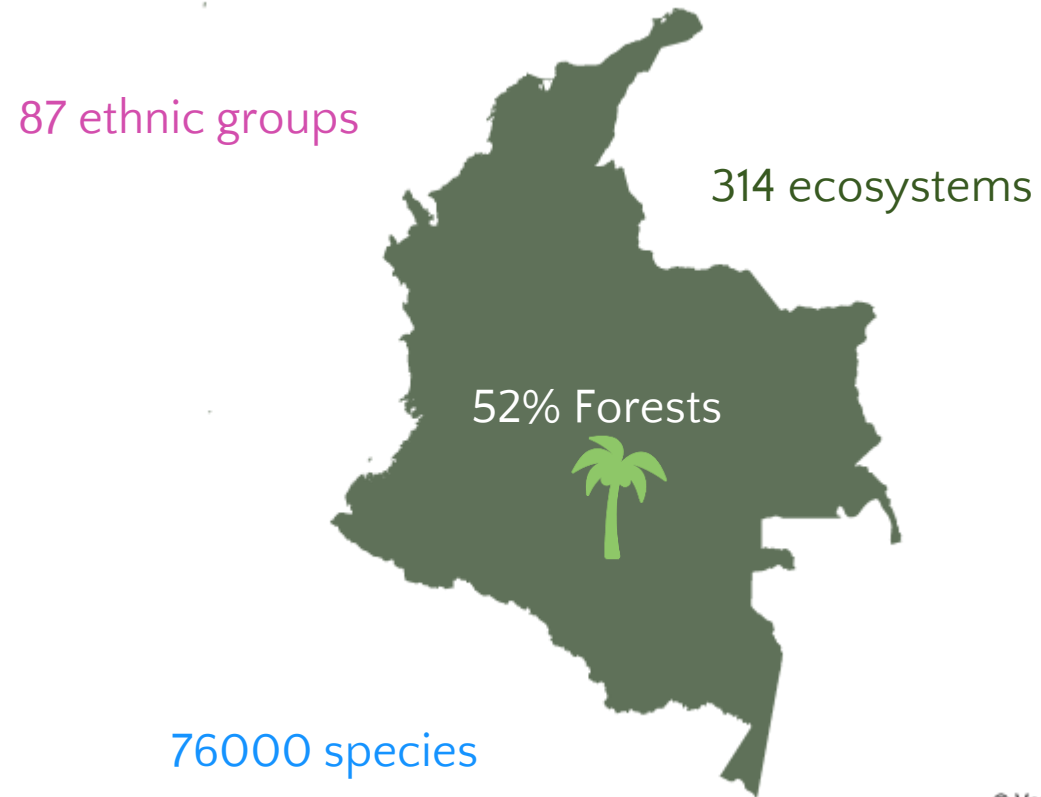
FOSTERING COLLABORATION: TOWARDS TERRITORIAL FOREST-BASED BIOECONOMIES IN COLOMBIA

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SOCIO-BIODIVERSITY IN COLOMBIA



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IMPORTANCE OF SOCIO-BIODIVERSITY BIOECONOMY IN COLOMBIA



This complexity reveals the importance of developing **sustainable, inclusive, and fair forest-based bioeconomies** operationalized by value chains and webs and the need of (a) Socio-biodiversity bioeconomy(ies).

e.g. Non-timber Forest products (NTFP)

WORKSHOP NEXUS R&D HUB (NATURE X VALUE WEBS X TERRITORIES)

- **Space to connect** researchers with the territories and enable a dialogue around forest-based economies.
- Central topic: Bioeconomies for **forest conservation** and provision of **livelihood options** and well-being to people living in these territories, considering **real challenges, conditions and needs**.
- It took place on Sep 16–18 2024 in parallel at the University of Hohenheim (DE) and the Humboldt Biological Resource Research Institute (CO)



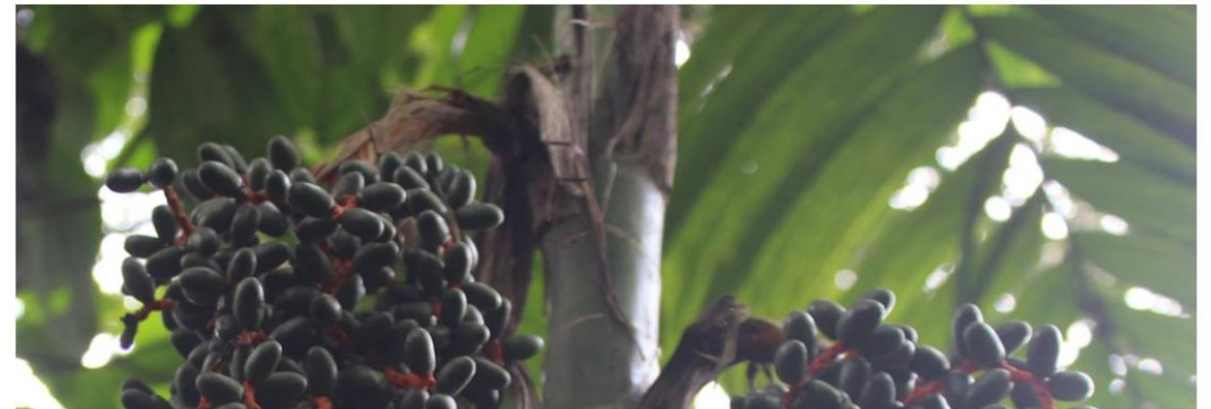
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Embajada de
Colombia en Alemania

OBJECTIVES OF THE WORKSHOP



- Facilitate the exchange of **experiences** and identification of **challenges**
- Identify research lines, priorities, interests and capacities as basis for setting a **research agenda** for the NEXUS R&D Hub.
- Define the vision, goals and structure and identify **strategies** to operationalize the NEXUS R&D Hub

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Diversity of stakeholders:



- Researchers from Germany DE
- Biodiversity-based territorial initiatives in Colombia CO from Caquetá (Amazon), Arauca (Eastern Plains), Cesar (Caribbean Marsh), and Quibdó (Pacific rainforest)



- Researchers from Colombia
- Representatives of NGOs
- Industry representatives from Colombia



This presentation will focus on the results of the first session in Colombia

WORKSHOP NEXUS: PRIORITIZED MAIN CHALLENGES TO DEVELOP BIODIVERSITY-BASED VALUE WEBS IN COLOMBIA

Bioeconomies based on wild plant biodiversity

- Sustainable use, natural ingredients and non-timber forest products (NTFPs)

Bioeconomies based on agro-biodiversity

- Biodiversity for diversification and resilience of agricultural systems.

Cross-sectional: biodiversity conservation, livelihoods and governance





Plant species

IDENTIFIED VALUE CHAINS/WEBS

Wild biodiversity

- Mainly native palms (Aracaceae)
- Extraction from natural populations in Caquetá (Amazon) and Orinoco (Eastern plains)
- Mainly fruits from
 - *Mauritia flexuosa*, „Burutí“
 - *Euterpe precatoria*, „wild Açaí“
 - *Bactris gasipaes*, „chontaduro, peach palm“
 - *Bactris guineensis*, „corozo“
 - *Oenocarpus bataua*, „seje“
 - *Attalea maripa*, „maripa palm“
 - *Brosimum alicastrum*, „guaimaro“
 - *Ceratonia siliqua*, „algarrobo“
 - *Poraqueiba sericea*, „umari“
 - *Carapa guianensis*, „carapa“
 - *Copaifera langsdorffii*, „capaiba“
 - *Astrocaryum cuatrecasanaum*, „chuchana“

Agro-biodiversity

- Cultivation in silvopastoral systems
- Novel perennial crops in early-stage of domestication:
 - *Euterpe oleracea*, „açaí“
 - *Caryodendron orinocense*, „cacay“
 - *Vaccinium meridionale*, „agraz“
 - *Myrciaria dubia*, „camu camu“
 - *Theobroma grandiflorum*, „copoazu“
 - *Plukenetia volubilis*, „sacha inchi“
- Established perennial crops
 - *Theobroma cacao*
 - *Cocos nucifera*, „Coconut“ (introduced)



IDENTIFIED VALUE CHAINS/WEBS



Intermediate product

- Local processing close to urban areas
- Multi-product with different processing degree:
 - Fresh fruit
 - Pulp
 - Oils
 - Palm heart

Final product

- Local, regional and national distribution
- Multi-product with different processing degree:
 - Fresh and preserved fruit and palm heart
 - Frozen pulp flour
 - Juice pulp
 - lyophilized powder
 - Drinks (wine, milk-like drink, juice, yogurt)
 - Ice cream
 - Cookies, cakes and snacks
 - Jam
 - Fermented and dried seeds
 - Spicy sauce
 - Butter
 - Cosmetics (oils, formulated serum)
 - Protein
 - Handicrafts
 - Building material (roofs)
 - Feed and silage
 - Plant propagation material
 - Agricultural bioinputs



IDENTIFIED AND PRIORITIZED CHALLENGES

Access/Collection

Lack of knowledge and access related to the characterization of natural **population of plants**

Lack of knowledge and capacity on **propagation** (e.g. germplasm banks), **cultivation** (e.g. agroforestry), efficient harvest and post-harvest

Limited information and access on: **species, uses, market, quality**, VC actors, regulatory framework, enabling conditions, environm. and social aspects

Lack of knowledge and integration with **market needs and trends**

Lack of familiarization with **legal framework** (e.g. access permits) and protocols

Productivity impacts of climate change, lack of **adaptation**

A BASELINE FOR COLLABORATION

- The identified challenges include technical aspects **BUT** also non-technical aspects
- Addressing these challenges require the **coordinated articulation** of:
R&DI, territory-based initiatives and communities, public authorities, private sector, funding agencies, at regional, national and international levels.
- The NEXUS Hub is envisioned as “a platform for research, development, innovation and knowledge appropriation that facilitates the articulation of stakeholders and the generation of shared value in the transition towards a bioeconomy based on the biodiversity of sustainable value chains and networks of non-timber forest products and agrobiodiverse systems”



Questions for further discussion

- Is cultivation the targeted scenario for NTFPs value chains?
- How to balance low-processed products in local markets and advanced products for international markets?
- How to develop markets (regionally, nationally, internationally) for biodiversity-based products?
- How to integrate different values in the value web?
- Are special business models and actor relations required for biodiversity-based products?
- What governance arrangements can be adopted for a sustainable performance (socially, environmentally, economically) of the VC?
- Are the identified challenges common in other countries with similar conditions (e.g. Brazil) or species (e.g. Palms) and which strategies could fit for their solution?



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THANKS FOR YOUR ATTENTION!

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