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# ZEF NEWS



**LOCAL IMPACTS  
OF GLOBAL CHANGE**

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## THE ROLE OF LAND IN SUSTAINABLE DEVELOPMENT: OBSERVING SCIENCE POLICY AT THE UNITED NATIONS LAND CONFERENCE IN ABIDJAN

Land, a vital resource for humans and animals alike, is consistently decimated through land conversion. Up to 40% of all ice-free land on the globe has already degraded, adding to negative impacts on 3.2 billion people who directly depend on land for their livelihoods. Land has multiple uses, e.g. for food, timber, energy, freshwater, biodiversity, climate regulation and pollination. **The mounting pressure on land will inevitably accelerate as populations grow, therewith exacerbating conflicts, pandemics, biodiversity loss, and climate change.** Therefore, the restoration of degraded land plays a crucial role in sustainable development. In fact, land-use is at the core of solving the world's cumulative crises because synergies of social, economic and environmental aspects are involved.

### The Science-Policy Interface on Land at the COP15 in Abidjan

The [United Nations Convention to Combat Desertification \(UNCCD\)](#), is the global political body tasked with addressing desertification, land degradation, and the effects of drought in order to protect and restore land. There are 197 parties to this convention, which complements the other so-called Rio Conventions, namely, the [United Nations Framework Convention on Climate Change \(UNFCCC\)](#) and the [Convention on Biological Diversity \(CBD\)](#). All Rio-Conventions have regular Conferences of the Parties (COP).

The UNCCD has biennial meetings, and its [15th Conference of the Parties \(COP15\)](#) was held in Abidjan, Côte d'Ivoire, May 9-20, 2022. **The two-week conference was attended by around 7,000 people from 196 countries.** Similar to the other global environmental conventions, the UNCCD is regularly informed with evidence on land-use issues provided by a scientific advisory body, known as the [Science-Policy Interface \(SPI\)](#). **The UNCCD established the SPI in 2013 with a strict mandate of providing the Convention's Committee on Science and Technology with timely and interdisciplinary knowledge required to implement UNCCD decisions.** With its unique demand-led, collaborative design and small size, UNCCD's SPI is an interesting case of how the science-policy divide in the context of sustainable development can be bridged at the global level. Often overshadowed by the [Intergovernmental Panel on Climate Change \(IPCC\)](#) and its biodiversity-related counterpart, the [Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services \(IPBES\)](#), this particular SPI is under-researched, though its influence on global land-policies are notable. As part of my doctoral research, I wanted to investigate the SPI more closely and therefore attended the COP15. Here, I was able to collect data on the effectiveness of UNCCD's





SPI and observe how it copes with complex problems related to the Sustainable Development Goals (SDGs) on land use.

#### COP15: A Conference on 'Land, Life, Legacy'

The COP15's theme was "[Land. Life. Legacy: From scarcity to prosperity](#)", thus highlighting how land should be restored to benefit current and future generations. This meeting is especially important for Africa as **populations in Eastern Africa continue to suffer from severe food and water shortages due to the longest drought in the last 40 years**. So topics discussed at the negotiations and side events included drought resilience, the achievement of [land degradation neutrality\[1\]](#), investments in land restoration, and addressing the needs of the most vulnerable groups including women, migrants, and youth. In addition, there were talks on land tenure, synergies of the Rio Conventions, and the increase in sand and dust storms worldwide.

Due to our **Bonn University-related accreditation**, the ZEF-projects [LANUSYNCON](#), AFAS, and CABES were able to organize and host a side event at the Africa Pavilion, where I presented the LANUSYNCON project and my preliminary research findings on science-policy interfaces.

#### Insights from interviews and negotiations

Thanks to the relatively small and calm setting of this UN conference and my contacts within the SPI, **I was able to speak to more people than expected and was even introduced to the entire delegation of SPI members attending COP15 and invited to speak about my research and the importance of youth in science-policy at their the Science Day**. Besides networking and conducting interviews, I attended and observed seven negotiation sessions at COP15, along with three side events: One on science-policy, another about the [green wall](#)

[initiative](#), and one on landscape connectivity.

The most relevant and interesting sessions for my research took place in the first week when the **Committee on Science and Technology met**. In these sessions the SPI plays a crucial role, giving thorough presentations on key messages of the technical reports they completed in the past two to three years at the request of policymakers. This year they reported on the approaches of integrated land-use planning and integrated landscape-management, coordination activities with other intergovernmental panels, and sharing knowledge through the [UNCCD Knowledge Hub](#).

Following the presentations, several countries gave interventions where they would pose questions to the SPI members. While most of them commended the activities done by the SPI, they also raised concerns. **These included the impacts of land degradation that are often mixed up with the impacts of climate change and the lack of consideration of and outreach to local contexts**. Another concern was the late submissions of technical reports to policymakers, who therewith have limited options only of reviewing them.

For more detailed information on the key outcomes of UNCCD COP15: read the summary provided by the [Earth Negotiations Bulletin](#).

**Funding: The Lanusyncon projet is funded by the Federal Ministry of Education and Research (BMBF)**

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Read more about her visit to the COP15 in [her blog post here](#).

[1] LDN as "a state whereby the amount and quality of land resources necessary to support ecosystem functions and services to enhance food security remain stable, or increase, within specified temporal and spatial scales and ecosystems."



## NEIGHBORHOOD ACTION TO MITIGATE SMALL DISASTERS TRIGGERED BY RAINFALL IN CALI, COLOMBIA

Rainfall can cause all kinds of small disasters such as traffic congestion, power cuts, and water-borne diseases, both inside and outside urban floodplains. The mitigation of these small disasters would help build neighborhoods' resilience and reduce inhabitants' inequality. Unfortunately, they are often overlooked for being tolerable, mild, and scattered. This study, which was conducted in the landlocked town of Cali in Colombia, prioritizes neighborhoods as entry points for interventions to efficiently mitigate small disasters. The methodology can be applied to other non-coastal cities as well.

#### Small disasters and neighborhoods

We found that neighborhood attributes such as **distance to rivers, topography, and population density** are related to the number of small disasters reported by these neighborhoods. **A rising population density often goes hand in hand with a growing number of reports – both characteristics of the lowest-income neighborhoods**. Why is this the case? We see that densification processes in these neighborhoods usually occur without improvement or appropriate maintenance of the existing infrastructure, making these neighborhoods more vulnerable. Exactly the contrary development can be observed in higher-income neighborhoods, where at least some basic infrastructure (such as storm and sanitary sewer systems) was established before the densification process had started. Since, it has been maintained.



*Not only floods come with rainfall: lightning strikes and strong winds take down trees, causing power cuts, traffic congestion, accidents and damage to properties.*

#### In which neighborhoods to intervene first?

Reports compiled by the police, fire fighters, the press, and the municipality in Cali between the years 2000 and 2017, revealed that **229 out of 336 neighborhoods had reported small disasters**. By running spatial auto-correlation tests we detected that some neighborhoods were surrounded by a high number of small disasters which were struck by a high number of small disasters were surrounded by neighborhoods which also submitted numerous reports. This is important information as these neighborhoods represent clusters that

behave consistently. **Mapping these clusters (see maps below) can help trace a set of causes and therewith contribute to intervention options.**



**Maps:** Seven neighborhoods had high affinity to their surroundings. *Tequendama and El Lido are affected by direct rainfall, and Ciudad Jardín by upstream runoff and backflow.*

#### Proposed strategies for neighborhoods

Based on the conducted research we recommend that neighborhoods flooded with upstream run-off **increase their conveying and water storage capacity**, while those flooded by backflow should check the **conventional hydraulic works downstream**.

**Sustainable drainage system components** such as green roofs and permeable pavement can reduce peak flow down to 25–75% in neighborhoods affected by direct rainfall, as long as proper connections to the drainage network are established and maintained.

**Publication:** Cesar Canon-Barriga, Janos Bogardi and Bernhard Tischbein (2022). Prioritizing neighborhoods for intervention to mitigate urban small disasters triggered by rainfall. *Urban Water Journal*, DOI: 10.1080/1573062X.2022.2026981

**Funding:** The study was funded by German Academic Exchange Service (DAAD), Federal Ministry of Economic Cooperation and development (BMZ) and Fiat Panis foundation.

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ers said that they do not use Farmer-Managed Natural Regeneration, mainly because their landscapes are (too) barren, the workload required is too high, there is too much uncontrolled grazing, and trees actually do compete for natural resources with their crops. In the next steps of my field-work in Baringo County, **I plan to further explore smallholders' knowledge, the gender-differentiated socio-cultural and economic drivers of Farmer-Managed Natural Regeneration adoption, and assess the long-term effects of Farmer-Managed Natural Regeneration on soil characteristics and tree diversity.**

**Funding:** German Academic Exchange Service (DAAD)

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## REHABILITATING DEGRADED FARMLANDS IN KENYA BY FARMER-MANAGED NATURAL REGENERATION

Land degradation remains one of the biggest threats to the lives, livelihoods, and landscapes of smallholders in Sub-Saharan Africa. Land degradation is not only a consequence of climate change but also of exponential population growth, raising demand for food and land over the last century. All these factors and developments together have increased the vulnerability of smallholders, who form the majority of Sub-Saharan Africa's population. Over the last decades, Sustainable Land Management has been an often-practiced way to improve the condition of land in this region. Unfortunately, many of these efforts have proven to be ineffective in the long term. Smallholders address land degradation challenges on a daily basis, forcing them to weigh options such as exploitative land use to produce much-needed food and cash, against different Sustainable Land Management approaches and the conservation of nature's resources. Reversing land degradation in Sub-Saharan Africa therefore calls for a radical shift in agricultural production systems that address the needs and constraints of smallholders.

### Farmer-Managed Natural Regeneration in Kenya

As part of the Right Livelihood College (RLC) Campus Bonn and with support of the DAAD, I am working in Kenya together with Right Livelihood Laureate Tony Rinaudo and the NGO World Vision Kenya. The study aims to understand Farmer-Managed Natural Regeneration in Kenya as an approach to rehabilitating degraded lands for smallholders. Kenya is far from

achieving its land-restoration targets of 5.1 million hectares and attaining 10% tree cover as set by the Africa Forest Landscape Restoration Initiative (AFR100) and the Kenyan 2010 constitution, respectively. About 12 million Kenyans live and depend on degraded land. Sustainable Land Management is crucial in attaining Vision 2030 and the Sustainable Development Goals (SDGs). Many Sustainable Land Management approaches are based on direct planting of - often exotic - trees. In contrast, **Farmer-Managed Natural Regeneration** is about the systematic regeneration and management of already existing native trees, self-sown seeds, stumps, or wildings on the landscape. Moreover, **Farmer-Managed Natural Regeneration** is reported to be a low-cost, simple, and sustainable land regeneration practice that smallholders can use to restore their land. Besides, it can lead to an increase in the productivity and resilience of farmers relatively quickly and efficiently. In Baringo County, west-central Kenya, land degradation dates back to the precolonial period. Smallholders in Baringo County are generally agro-pastoralists with an average farm size of 2.5 ha. With agricultural land stretching out into the savannah, the clearing of trees on farms combined with an ever-increasing demand for wood products, especially charcoal, **the land has degraded substantially. This development has massive negative impacts** on yields, water systems, and the climate, among others. Upon this backdrop, World Vision Kenya started implementing Farmer-Managed Natural Regeneration in Baringo County in 2012.

### Smallholders' perspectives

I started fieldwork in Baringo County in April 2022. Smallholders face tough decisions over balancing economic and social benefits and the environment, while they are making use of land to derive food and income. My tentative findings show that the method and scale of **Farmer-Managed Natural Regeneration adoption vary across smallholders and is depending on their needs, the state and size of the land, income status, and their knowledge** of Farmer-Managed Natural Regeneration. The smallholders I talked to told me that rainfall had diminished considerably in recent years. Their vulnerability to perennial drought increases their dependency on charcoal for income and fodder trees for livestock feeds. Smallholders also showed me **how they make use of simple Farmer-Managed Natural Regeneration technologies to make selected tree species grow better** on their farmland: They regularly prune small trees and cut the competing undergrowth. With these simple methods, plants such as acacia but also desert date trees grow much faster and taller. In addition, smallholders reported that they use the bark of acacia and leaves of desert date trees in the dry season as a very nutritious lifeline fodder for their livestock.

### Further steps and research plans

Smallholders' knowledge and perceptions influence the presence or absence of trees on their farmlands. Planting new trees requires enormous costs and efforts, and usually generates very low success rates. During the first field-work phase I conducted for my PhD research I found that the perception of smallholders is that regenerating trees with **Farmer-Managed Natural Regeneration technologies can rehabilitate their degraded farmlands quickly and cheaply.** They attested that this resulted in a significant build-up of soils, and an increased supply of firewood and fodder. However, other smallhold-

Photo 1: Landscape in Baringo County, March 2022 (photo by Irene Ojuok).

Photo 2: Discussion with smallholders in Baringo County on FMNR (photo by Till Stellmacher).

Photo 3: Evaluation report sharing and FMNR seminar by World Vision Kenya in Mogotio, Baringo County (photo by Joseph Musyoki).





**Prof. Dr. Hiroe Ishihara**, a professor at the [Graduate School for Frontier Sciences, University of Tokyo](#), paid a working visit to ZEF in July 2022. The *Graduate School of Frontier Sciences* is an interdisciplinary study program on sustainability science for international students at Master's and doctoral levels.

Prof. Ishihara is part of the longstanding **cooperation between ZEF and the University of Tokyo**. As an environmental sociologist, she is an engaged lecturer in the Interdisciplinary Course of ZEF's doctoral program Bonn International Graduate School for Development Research (BIGS-DR).

**Q: Which disciplines are involved in the *Graduate School of Frontier Sciences*?**

**Hiroe Ishihara:** Sustainability science in Japan is very strongly connected with engineering. There are a lot of students and researchers from engineering, and urban design. I still have not understood why this is the case. Now, social sciences are also incorporated. That is the reason why they brought me in as an environmental sociologist and a couple of other faculty members with a background in social science too. We also have a collaboration with the [Graduate School of Agriculture and Life Sciences](#) at the University of Tokyo.

**Q: What is your special interest and contribution as a social scientist?**

**Hiroe Ishihara:** The research on human resources, ecosystems, or marine resources is still dominated by natural scientists. But when you go to the ground, you see that many natural scientists are not communicating well with the people living on those resources. And that's where we as social scientists come in. There are a lot of discussions demanding a (natural) science-based policy, which is true. But you also need to listen to what the local people are saying to formulate a policy or implement a policy the way you intended. If you do not involve the local level there will be unintended results. Thus, you will never be able to achieve what you wanted and you will end up in an anti-politics machine situation.

**Q: Why is the perspective and worldview of local people so important?**

**Hiroe Ishihara:** I want to understand what local people are doing and what kind of knowledge they have. How they view and make use of the natural environment and how they set up institutional rules and norms. From a natural-science perspective, it might look irrational, but local people have their own rationale and justification for why they are doing things a certain way. We need to

listen to that voice which is usually more characterized by a relational worldview. I think we cannot impose our solutions and tell them yours is not the right way. That is where I can contribute.

**Q: We are observing overexploitation of the global marine resources. Which institutions would fit best to make the use of marine life more sustainably?**

**Hiroe Ishihara:** There is no panacea. In places like Iceland and Norway, a market-based approach or individual transferable quota works well. But in other situations, it might not work well. Setting up quotas like *Total Allowable Catch* (TAC) is okay if you are targeting just one species. But if you are targeting multiple species as in Japan it does not work: if one species in your catch reaches the quota, you need to stop fishing. Even if you have not reached the quota for other fish species, you would still have to stop. This approach might be ecologically sustainable for one fish stock. But what happens to the local fishermen and local industries? I do not think that one solution-for-all is applicable.

My concern is that there is a western approach that claims to work universally. Regarding fisheries, we need a locally-adapted science-based policy. We have the same discussion on the IDQ (Individual Transferable Quota) or IQ (Individual Quota), which I also find problematic. Western-dominated discourse in form of quotas is going on around the world. And I am not happy with that claim of universal application.

**Q: What is the challenge for the Global South in terms of seafood security?**

**Hiroe Ishihara:** Weak institutions. Not only weak governmental institutions. We also have to empower local communities to solve the problems on the ground. There are examples of good co-management institutions. But I often do not know which is chicken and egg. When the government is weak, the communities do not have any rights either. They don't want to manage the seafood stocks because they do not know what will happen in the future. I

think we need to strengthen communities as well as the government.

**Q: Let's assume that you are the ruler of the Japanese marine environment. What would be your first step?**

**Hiroe Ishihara:** That's a very difficult question. I think I would make an assessment first. In Japan, there are very strong cases of community management and of co-management between government and local communities. I would sort out what kind of cases are working well and which are not. In those areas which are not doing well, I would exert more governmental control or apply a market-based approach. But in those communities that are doing well, I would continue to work with the current management system.

What worries me is the current Japanese policy which shows a very strong push for quotas like TAC, ITQ, IQ, and those kinds of policy instruments. They think these policies are science-based. The Japanese line of argument is that we need to westernize our thinking and actions. I do not think that this addresses the reality of fisheries management in Japan. There was a period in Japanese history during the 19th century when the government tried to implement a top-down approach which didn't work well. They failed because the fishermen knew that they were

controlling the coast or at least the coastal fisheries. They resisted. In the end, the government had to give rights to the fishermen. Considering this and looking at the coastal fisheries now, we see that a lot of the local communities are doing the actual management. We need to find and set up a way to convey scientific facts to the fishermen. It is not enough to study biology, lobster or mackerel, or whatever. You also need to talk to the fishermen and convey your knowledge. In some cases scientists have been successful: They go to the coastal areas and set up a study group with the fishermen so that the scientist can educate fishermen and the scientists acquire knowledge from the fishermen. I think those kinds of reciprocal approaches are really important to set up new institutions.

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*“I am not happy with the universal claim of western knowledge”*



## CUBE: BIO-ECONOMIC OPPORTUNITIES FOR TERRITORIAL DEVELOPMENT IN CUBA



Cuba has been implementing a number of agricultural, technological and socio-economic policies for promoting bio-economy over the past years. Many initiatives have been developed and managed at municipal level and been strengthened by recent policy reforms. In this context, two questions arise: How can local knowledge and technology support territorial development\*) based on bio-economic strategies? And, second, what transformation paths are possible and desirable? To answer these questions, ZEF and the Institute for Environmental Sciences (iES) started a project in July 2021; the Cuban BioEconomy (CUBE) project.

This Cuban-German cooperation project has initiated and moderates the exchange of scientific and practical knowledge. This effort includes **identifying agricultural systems with a considerable potential in the context of a national Cuban bio-economy policy**. The identification of the key institutional, social, technical, and management bottlenecks is also part of this process. The German team works closely together with research centers of three Cuban universities and a training and extension unit of the Cuban Ministry of Agriculture. Also involved are local experts with experience on policy development and working on issues relevant to the elaboration of bio-economic strategies in accordance with national development frames.

### Systems approach and value-networks approach

CUBE supports agricultural concepts that are based on the sustainable production and use of biomass and the related value networks. Thus, the **project contributes also to the achievement of the Sustainable Development Goals (SDGs) in Cuba, in particular SDGs 1, 2, 4, 12 and 15**. CUBE is based on two conceptual pillars: **The systems approach and the value-networks approach**. The systems approach assumes that production systems are complex and interconnected. The value-networks approach is based on the assumption that instead of optimizing one product's value chain (linear vision), it is closer to the reality of what is added value

when several interconnected value chains are explored simultaneously (network vision). Both the systems and value-networks approach are complementary and have been applied in previous bio-economy-oriented initiatives.

### Bioeconomy in Cuban municipalities, a state of the art

In early March 2022, the CUBE project held three workshops in the municipalities of the partner universities: Unión de Reyes, Cienfuegos and Cueto. Beside participants from all partner institutes, key stakeholders representing governmental and grassroots organizations as well as local agricultural cooperatives took part in the workshops. During the two-day workshops, the participants identified archetypical (conventional) local land-use systems with bioeconomic potential, for example: **Technological innovations for increasing and improving agricultural production, as well as processing and marketing strategies focusing on a more efficient and sustainable use of natural resources**. This could include integrating grains and oilseeds in agroforestry systems, which could then be used for human food, animal feed and bioenergy alike. The workshops' participants also identified potential strengths, opportunities, weaknesses and threats to transition to the envisioned systems, and their possible socio-economic and environmental impacts. After the workshops, the German CUBE team visited small and medium-sized farms as well as Cuba's first bioelectric plant. The latter is using sugarcane bagasse and *marabú* bush (*Dichrostachys cinerea*), an invasive leguminous bush occupying 20,000 km<sup>2</sup> of agricultural land in Cuba, as fuels for operating.

### CUBE, what next?

During the next months, CUBE will continue to further and reinforce mutual knowledge exchange at the interface of science and policy among Cuban and German actors. In particular, **CUBE aims at setting up a joint ad-hoc strategy for a bioeconomic transition of suitable land-use systems in the project's three focus municipalities Unión de Reyes, Cienfuegos and Cueto**. In a later phase, CUBE intends to strengthen academic exchange through training opportunities for young scientists and doctoral students, drawing on the experiences of ZEF's international doctoral studies program BIGS-DR.

\*) *The project uses the term territorial development because of its prioritization in Cuban political discourse. Conceptually, in this case, it can be understood as local development.*

For more information about CUBE, visit <https://cube-bioecon.org/>

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## INTRODUCING ZEF'S GENDER GROUP AND ITS ACTIVITIES

The ZEF Gender Group (ZEF GG), established in early 2020, constitutes a space for sharing knowledge(s) and discussing proposed and ongoing research on a variety of disciplines from gender and feminist perspectives. ZEF GG's researchers convene monthly meetings to share their insights, experiences and work. Over the course of the past two years, we have discussed a wide range of topics in these meetings, such as *Engendering Research, Feminist Perspectives from the Global North, Feminist Perspectives from the Global South, Arab Feminisms, Gender and Climate Change, Female Labour Force Participation, Women's Empowerment, Masculinities and Gendered Impacts of Agricultural Commercialisation*.

Since its inception, the ZEF GG has expanded the number of its members and the sphere of its activities. **Around 30 junior and senior researchers are now part of the Group**. In addition to discussing gender-related research at ZEF, the Group's monthly meetings have welcomed guest speakers from universities in Latin America, South Asia and Africa, who have been offering different perspectives, e.g. on *Gender-Based Violence, Barriers to Women's Participation in the Formal Workforce and Women in Agricultural Value Chains in Africa*. **The ZEF GG also hosted a special lecture by the General Director of UN Women, Bettina Metz**.

Another event was held on November 25, 2021 to mark the [United Nations International Day for the Elimination of Violence against Women](#). Based on case studies, four experts from science and practice from Asia, Africa, Latin America and Europe showed how gender-based violence affects rural development beyond the direct impacts on health and well-being and presented pathways for change. See our [blog](#) post on "[Why rural development cannot happen whilst Gender-based violence remains endemic across the world](#)" for more details on lessons learned.

On June 7, 2022, the ZEF GG celebrated [World Environment Day 2022](#) with panellists from India, Colombia, Cameroon and Germany, who shared their particular experiences and perceptions of progress and setbacks in terms of making "One Earth" possible without gender-based discrimination.

The ZEF GG offered a two-day workshop for the wider ZEF research community on "**Gender in ZEF: sharing concepts and insights in development research**" in May 2021. Besides the rich exchange on theoretical approaches and methodologies, several senior and junior researchers discussed best practices and gaps to consolidate gender-sensi-

tive research at ZEF. Based on these discussions and subsequent interviews and questionnaires, a [report on "Gender in ZEF. A report on gender-sensitive research at ZEF"](#) was published, summarizing ZEF's progress in recent years. The report shows that ZEF's three departments run a considerable number of projects with a gender focus. The report also highlights the need to take a gender perspective throughout the research cycle in a consistent way; to look critically at development research projects from the perspective of (gender) inequalities; to develop and apply gender-sensitive methodologies; to develop a participatory gender policy; and to **discuss gender research in a multi- and interdisciplinary manner**.

Besides organizing monthly meetings, special events and writing reports, the ZEF GG supports the consolidation of gender-related awareness and capacities in development research. **Members of the GG coordination team are involved in the inter- and disciplinary teaching program for doctoral candidates at ZEF** and, e.g., give courses introducing gender and development as an area of scientific inquiry. This includes tracing its origin, evolution and contestations and the key themes that have emerged from the body of knowledge generated by the field. Moreover, these courses familiarize doctoral candidates with suitable methods for undertaking gender research in various disciplines.

The ZEF GG also interacts with the **University of Bonn** by providing courses on gender at the Faculty of Arts and by regular exchange with the Equal Opportunity and Diversity Unit, among others. By strengthening gender-sensitive research at ZEF and promoting interdisciplinary collaboration on gender issues among ZEF researchers, **the Gender Group aims at making a contribution to both ZEF's Strategy 2021-2030 and the University of Bonn's efforts for conducting excellent research**.

The ZEF Gender Group is a self-organized group of senior and junior researchers from all three departments of ZEF. It was initiated by two senior researchers, Dennis L. Avilés Irahola and Tina Beuchelt and has currently four co-coordinators, including two newcomers, Eva Youkhana and Sundus Saleemi.

Please visit us at <https://www.zef.de/gender-group.html>

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## WORKING ON PARTICIPATORY MONITORING OF BIODIVERSITY LOSS IN COLOMBIA

The ZEF-led [German-Colombian bilateral Doctoral Studies Program DSSP](#) has set a research project on “Participatory Monitoring of biodiversity loss in Colombia: Alternatives for understanding and resolving environmental conflicts” (acronym: ColPaMon)\*).

Together with the Institute for Latin American Studies (LAI) at Freie Universität Berlin, (specifically the program trAndeS), ColMaPon has been **promoting exchange spaces of community-based monitoring in conflicts since 2021**. The project has not only been working in Colombia but has reached out to other Latin-American countries too. **The main objective has been to explore alternatives and respond to environmental conflicts in Colombia while including and supporting local stakeholders in the process**. Between May and November 2021, two workshops and three conferences took place, contributing to deepening monitoring experiences in different settings and territories of conflict. Through this kind of interaction it was possible to generate knowledge about participative and community-based monitoring processes and engage local communities that have developed different monitoring processes of environmental conflicts.

### Exchange, assessment and looking forward: Workshop in Bonn

Following-up on its previous agenda and actions, ColPaMon organized its **third (hybrid) workshop at ZEF from June 21-23, 2022, bringing together a diverse group of participants from Colombia, Ghana and Germany**. The workshop aimed at facilitating further exchange about current participatory monitoring initiatives on environmental conflicts in Colombia and Germany. Another objective of the **three-day workshop** (see full program [here](#)) was to share and discuss scientific questions and thereby work on a full project (collaboration) proposal for enhancing participatory monitoring of environmental conflicts in Colombia.

### Environmental activism and policy in Germany

The workshop participants in Bonn shared insights about Environmental Conflicts and Participatory Monitoring in different scenarios and contexts. Among the presenters was **Daniel Hofinger**, a spokesperson of the German environmentalist and anti-coalmining initiative “[Ende Gelände](#)”. His presentation was followed by a discussion on the role of activism in Germany and an interesting exchange about the sometimes diverging perspectives of civil society and academia.

Furthermore, there were presentations on information and data management systems such as the **Environmental Information System and the Observatory of Environmental**

**Conflicts**, both developed in IDEA within DSSP. Based on this, ideas for a future collaboration project that would involve techniques and technologies in participatory monitoring of environmental conflicts in Colombia were discussed.

A special guest was **Kerstin Sieverdingbeck, the policy adviser for Colombia with the German Federal Ministry for Economic Cooperation and Development (BMZ)**. Ms. Sieverdingbeck explained the framework of BMZ-related cooperation with Colombia, presented some of the BMZ-instruments to address environmental conflicts, and talked about the prospects of international cooperation as well as the main challenges BMZ has been facing in these multiple processes.

The first workshop day concluded with a World-Café with different working groups on the preliminary research questions of the envisaged collaboration proposal. Discussion points were conceptualizations integrating perspectives of the Global North and the Global South; innovative theories and methodologies of transdisciplinary research; and the articulation of scientific and local knowledge to face conflicts. The sessions were moderated by doctoral students of **this year’s DSSP Summer School** (You can watch video interviews with the DSSP students from Colombia [here: https://bit.ly/DSSP\\_Interviews](https://bit.ly/DSSP_Interviews)).

### Different regional perspectives

During the following days, there were insightful presentations from different regions; ZEF senior-researcher [Dennis Avilés](#) from Bolivia shared information and first results from a research project (called IRASAG), which looks into **social and gender transformations linked to fire events in the Amazon Region**. ZEF alumnus [Asaah Mohammed](#) (now at C. K. Tedam University of Technology and Applied Science in Navrongo, Ghana and the University for Development Studies in Tamale, Ghana) talked about **institutional arrangement for governance and local benefit sharing in Ghana’s oil sector**. [Jonas Hein](#) from the German Institute of Development and Sustainability (IDOS) gave a talk about the ongoing **conflict over the Elbe Estuary and different narratives about water from a political ecology perspective**. [Carlos Nupia](#) from the German Colombian Peace Institute ([CAPAZ](#)) reflected on **conflict, environment and academic international cooperation**. ZEF-alumnus [Alejandro Mora-Motta](#) presented a recently



accepted paper, written with different colleagues from ZEF, on “**Integrating scientific and local knowledge to address environmental conflicts: the role of academia**”.

After two and a half interesting and intensive working days inside, the workshop ended with an excursion to the **Siebengebirge, a Natural Reserve near Bonn**. All participants had the opportunity to visit this beautiful place, learn about this area’s special natural resources management and its importance for climate regulation and biodiversity, and just enjoy the peace and beauty of this natural space.

\*) **The ColPaMon project** is an initiative emerging from the Doctoral Studies Support Program (DSSP), a bilateral graduate school run by ZEF, University of Bonn, the Institute for Environmental Studies (IDEA) of the National University of Colombia (UNAL).

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## ZEF'S RESEARCH AND CAPACITY FOOTPRINT IN NIGER AND GHANA

In her speech at Abdou Moumouni University (UAM) in Niger's capital Niamey in April 2022, Germany's Foreign Minister Annalena Baerbock pointed out that the German government intends to continue to cooperate with Niger. Germany's overall political goal is to enhance the country's efforts for ensuring food security, coping with climate change, conserving natural resources and intensifying renewable energy options.

ZEF is running around 10 larger research and capacity development projects in West Africa (some covering East Africa as well), including Niger. All ZEF-related projects in the region have a few features in common: 1. **Entry point is the management of water and/or energy.** 2. **Bio-physical management issues are embedded in an inter- and/or transdisciplinary way in socio-economical, institutional and environmental contexts.** Thus, the projects attempt to provide technically efficient, economically feasible, socio-culturally adapted and environmentally sustainable concepts. 3. **Research components are complemented by capacity-developing as well as capacity-strengthening components, and 4. Intensive cooperation with local partner institutions is key to all projects.**

### Strategies to improve livelihoods and stabilize systems

By applying this basic project design ZEF's research projects support the SGDs (i.e. 2, 3, 6, 7, 13) and provide research-based findings, which can be used for **strengthening sustainable resources management and thus achieving food security under increasingly difficult conditions.** At the same time, **capacity-building projects enable students, scientists, and development practitioners from government agencies and civil society to acquire the required technical, scientific and professional skills to plan, manage and implement the transition envisioned.** They thereby contribute to improving livelihoods and stabilizing agricultural, socio-economic and environmental systems that are currently fragile in West Africa.

### Key partner: Abdou Moumouni University in Niamey

The Abdou Moumouni University in Niamey (UAM) has become ZEF's major partner in several research projects focusing on the **Energy-Water-Food Nexus in Niger.** Among them are the **'West-African Science Service Centre on Climate Change and Adapted Land Use (WASCAL)'** and the **Climate Information for Integrated Renewable Electricity Generation (CIREG)'. Both projects are funded by BMBF.**

The Graduate Studies Program on Climate Change and Energy of **WASCAL** (10 Doctoral and six Master programs in 12 West African countries) at UAM is training the next generation of professionals as agents of change for mastering the region's challenges. Besides, **CIREG** is a cooperation project between scientists from West African and European institutions, as well as stakeholders and decision-makers in the region. CIREG has been informing on options to unfold the huge potential for generating renewable energy in West Africa. For this purpose, it has been utilizing complementarities between renewable energy approaches and the advancement of the energy-water-food nexus, ranging from small-scale (e.g. hybrid wind- and so-

lar-systems to match energy supply and demand) to large-scale options (e.g. combining wind and solar energy to help avoid potential regional conflicts e.g. those created by the Grand Renaissance Dam in Ethiopia). Co-designed research layout, application of advanced modeling tools and in-depth case studies enable CIREG to deliver energy and climate services relevant for stakeholders from the local to the regional level.

### West African Center for Sustainable Rural Transformation and other Capacity Development projects

Another successful example of ZEF's collaboration with partners in Niger and Ghana is the **'West African Center for Sustainable Rural Transformation (WAC-SRT)'**, which is funded by the Federal Foreign Ministry through the DAAD. The Center has run research and teaching programs since 2017, thereby substantially enhancing teaching and research infrastructure (developing new curricula, providing stipends for students) at the **Abdou Moumouni University** in Niger. To train current and future resource persons the program is **fostering knowledge-generation and -dissemination to support rural transformation towards climate-smart land use, renewable energy generation, and improved livelihoods.** For that purpose, WAC-SRT is combining, in a transdisciplinary way, technological tools, managerial approaches, adapted business models and administrative arrangements focusing on decentral, locally adapted and water-energy-food nexus-aware solutions.

ZEF's focus in the project **'Risk Assessment and Adaptation Strategies for Sustainable Urban Resource Supply in Sub-Saharan Africa (RARSUS)'**, was to conceive options for managing floods in urban settings and therewith deriving strategies to support small-scale irrigation in peri-urban sites with Niamey as a typical study region. ZEF's contribution to **'Researchers back to secondary school – Renewable Energy-powered Water-Energy-Food-Economy Nexus in the Dosso Region in Niger (RETO-DOSSO)'** consisted in combining solar-powered pumping, water storage facilities, advanced irrigation techniques and appropriate irrigation-scheduling tools for enhancing efficiency and productivity of small-scale irrigation systems.

### Research on Great Green Wall in the Sahel

ZEF-researchers explored costs and benefits of the Sahel Great Green Wall as a continent-wide intervention for reducing land degradation and sustaining the agricultural potential in the region (**The Economics of the Sahel Great Green Wall**).

### South-South cooperation

As part of its project set-up, ZEF has been fostering South-South cooperation. An example is the cooperation between WASCAL and the Pan African University / Institute of Water and Energy Sciences (PAUWES) with ZEF as a facilitator. Through this set-up, research results can be disseminated and long-term impact achieved, thus contributing and working towards sustainable development in Niger and the region.

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## ZEF SOCIAL MEDIA POSTS ON WAR AGAINST UKRAINE AND ITS IMPACT ON THE GLOBAL SOUTH & MORE

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