



Alexander von Humboldt  
Stiftung/Foundation

## Fellows 2022/2023

### International Climate Protection Fellowship



Exzellenz verbindet –  
be part of a worldwide network.

Stipendiatinnen und Stipendiaten  
2022/2023  
Internationales Klimaschutzstipendium

## Dialogue and collective action for water and climate security in Central Asia



### Cholpon Aitakhunova

Degree: Master of Arts | Field: Empirical social research

Home Institution: Regional Youth Water Network “Central Asia Youth for Water”, Bishkek, Kyrgyzstan and Almaty, Kazakhstan | Host Institution in Germany: Collective Leadership Institute, Potsdam | Host: Dominic Stucker

Cholpon Aitakhunova investigates contemporary water management and climate adaptation in Central Asian countries to find solutions for improving collaboration on water, climate, and security dialogues, and call for collective action.

The six Central Asian countries Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan and Afghanistan share geography, history, and culture. However, they are far from being and acting as one: political tensions, border issues, and competing demands for resources are ever present. Water, in particular, is a core resource. It lies at the heart of the region's security and stability. Climate uncertainties may well cause further water management issues in Central Asia, though. There is precious little water cooperation, climate mitigation is not a priority, and the connection between water and climate is not properly understood.

Cholpon Aitakhunova's objective is to analyse the current situation in Central Asia. She will examine the status quo in the countries' understanding of the connection between water and climate as well as the extent to which they share a vision. By utilising the Collective Leadership Compass, interviews, and surveys, she wants to explore how regional actors employ collaborative action to work towards realising these visions. The results will offer a source of recommendations and solutions for future dialogues and collective action on water, climate, and security in Central Asia. Cholpon's research is being supported by the Collective Leadership Institute in Potsdam.

## Circular battery economy for a clean future in India

Veeresh Anehosur investigates second life batteries for sustainable energy management in India.

India is home to six of the world's ten most polluted cities. To tackle the issue of pollution, the country's National Clean Air Programme envisages 30 percent of electrical vehicles by 2030. But how sustainable are the vehicle's batteries? As they do not contain toxic metals, electrical vehicles batteries are generally considered environmentally compatible and are often discarded before their original capacity has been exhausted. The heavy metals they contain do, however, pollute groundwater and soils. Recycling these lithium batteries would not only reduce environmental damage but would also enable India to meet its estimated energy demands. Environmentally, a circular economy for lithium batteries would maximise the use of natural resources. Combined with solar energy, reusing batteries would, moreover, offer households an affordable and clean energy supply.

Veeresh Anehosur will conduct an economic analysis of second life batteries. By acquiring a better understanding of the challenges posed by second life batteries, he wants to find possible solutions and establish business models that will make the batteries more attractive. In his project, he focuses on India and the country's lack of legislation enabling second life batteries to succeed. Veeresh wants to stress the relevance of a circular economy whilst also highlighting the second life batteries' potential to have a positive impact on the environment through the electrical vehicles industry. His research is being supported by the Berlin-based German-Indian startup Nunam gGmbH.



### Veeresh Anehosur

Degree: Master of Science | Field: Electric power generation, transmission, distribution, and applications

Home Institution: BOS Balance of Storage Systems AG, Bangalore, India | Host Institution in Germany: Nunam gGmbH Business and Technology, Berlin | Host: Prodip Chatterjee

## 'Invisible' Women: A climate policy study with a focus on gender issues



### Shirin Choudhary

Degree: **Master of Arts** | Field: **Economic Policy, Applied Economics**

Home Institution: **Sattva Media and Consulting, Gurugram, India** |  
Host Institution in Germany: **GenderCC - Women for Climate Justice e.V., Berlin** | Host: **Gotelind Alber**

Shirin Choudhary compares the climate protection policies of New Delhi and Berlin, with a focus on gender issues, to draft governmental advice in that area.

Experts say India's climate policy does not address the concerns of the poor and marginalised, especially women. For the lived experiences of women, climate change has deep implications, as do climate protection policies. To this day, New Delhi is still in the process of developing a stringent climate policy, whereas cities like Berlin are already implementing climate protection measures in many areas of life. In both cities, Berlin and New Delhi, there is an intricate web of laws, policies, and programmes addressing climate change. Even if it is not evident at first glance, gender aspects play a role in all those measures although the experiences of women across the Global North and the Global South differ. Due to existing vulnerabilities, women in countries like India are more likely to face adverse effects of climate change than they are in Germany.

Shirin Choudhary wants to find out to what degree certain climate policies can contribute to achieving more gender equality. To do so, she will first assess and compare the social and economic status of women in Berlin and New Delhi. In the second step, she will analyse the respective climate protection policies of both cities with regard to their potential for more gender equality. Based on her findings, she will finally draft governmental advice for New Delhi legislators. Shirin is being supported by the Berlin-based NGO GenderCC - Women for Climate Justice.

## Mitigating climate change by bicycle commuting in Ecuadorian cities

Juan Pablo Diaz seeks to analyse the potential for and effects of promoting bicycle culture in Ecuadorian and Latin American cities.

Cities in Ecuador, just like others worldwide, see constant increases in population, energy intensity and greenhouse gas (GHG) emissions. In the case of Ecuador, transport is the major contributor to national emissions. Ways of reducing emissions do exist though. With appropriate policies, both mobility problems and emissions could be reduced, establishing a generally more sustainable mobility system. More explicitly, these policies could include incentives to increase the use of bicycles for commuting. By comparison, Germany's efforts to promote cycle-friendly policies mean that nowadays, 15 percent of commutes in Germany are made by bicycle.

In his research project, Juan Pablo Diaz aims to examine the current situation in Ecuador as well as the cycling regulations in Germany. Ultimately, he wants to determine to what extent the German measures can be adopted in his home country. Central to his research is also an assessment of the impact of such policies on the use of fossil fuels and GHG emissions. This will help Ecuador to achieve its climate goals and comply with the Paris Agreement. The results will be presented publicly in different contexts with the aim of expediting current developments and increasing environmental awareness in Ecuador and Latin America. Juan Pablo is being supported by the Institute for Transport Studies at the University of Kassel.



### Juan Pablo Diaz

Degree: **Master of Science** | Field: **Empirical social research**

Home Institution: **Agencia Nacional de Tránsito, Dirección de Control Técnico Sectorial, Ecuador** | Host Institution in Germany: **University of Kassel, Institute for Transport Studies** | Host: **Prof. Dr Angela Francke**

## Monetising Indian farmers' crop residue waste: lessons from Germany



**Pooja Dwivedi**

Degree: **Bachelor of Technology** | Field: **Bioprocess engineering**

Home Institution: **Invest India, New Delhi, India** | Host Institution in Germany: **Technische Universität Dresden, Institute of Waste Management and Circular Economy** | Host: **Prof. Dr Christina Dornack**

Pooja Dwivedi wants to create a scientific framework to avoid crop waste residues and improve the circular bioeconomy.

After harvest, Indian farmers are left with roughly 350 million tons of crop residue. Due to high costs and lack of time, the easiest option for them is to burn it. This causes the release of polluting particulate matter and greenhouse gas emissions. In addition to poor air quality, it means a loss of soil biota, threatening the global climate. By contrast, Germany's bioeconomy research, advanced technologies, and policies emphasise the potential of crop residue waste.

Pooja Dwivedi considers sustainable environmental innovations to be of major importance for global climate change mitigation. By making the reuse of crop residue more attractive to farmers, she wants to contribute to an appropriate framework that ensures biomass recovery and a circular bioeconomy. This includes developing affordable equipment, enhancing knowledge and awareness of the topic, as well as strengthening connections between farmers, buyers, and entrepreneurs. The lessons learned by Germany's agriculture will help her to enhance the crop residue supply chain in India and to demonstrate the profitability of crop residue end use. Moreover, her proposal advances the pursuit of long-term goals such as climate mitigation and agrobiodiversity whilst decreasing the emissions produced by crop burning. Pooja is being supported by the Institute of Waste Management and Circular Economy at Technische Universität Dresden.

## Ecosystem restoration and strategies for mobilisation of rural landowners in Brazil

Mayra Flores Tavares studies Brazilian landowners' motivation to restore their land in order to improve the implementation of ecosystem restoration.

Ecosystem restoration plays a major role among the UN's Sustainable Development Goals for 2030. Recognising the importance of conservation and restoration of degraded ecosystems is pivotal to combat climate change, especially in Brazil, which accounts for 13 percent of the planet's biodiversity. The country has substantial rural areas that need protection and restoration. Although frameworks such as the Paris Agreement or the Native Vegetation Protection Law have been attempting to restore numerous hectares of land, regulations have not yet been effectively implemented.

As 53 percent of the national forests are privately owned, Mayra Flores Tavares focuses on private landowners, who are one of the main stakeholders in ecological landscape restoration. She aims to comprehend the motivation and social characteristics of rural landowners who have decided to restore their land. This will allow her to design mobilisation strategies to increase rural landowners' engagement in ecological restoration. For her project, she focuses on the Atlantic Forest biome – a global diversity hotspot and home to 60 percent of Brazil's population. This case study and in-depth analysis will enable her to pinpoint social aspects of restoration and promote ecological restoration projects to fight climate change. Mayra's research is being supported by the Chair of Silviculture at the University of Freiburg.



**Mayra Flores Tavares**

Degree: **Master of Science** | Field: **Ecology of land use**

Home Institution: **The Nature Conservancy in Brazil, São Paulo, Brazil** | Host Institution in Germany: **University of Freiburg, Chair of Silviculture, Freiburg** | Host: **Prof. Dr Jürgen Bauhus**

## Restoring forest landscapes in Ethiopia



### Musse Tesfaye Gebre

Degree: Master of Science | Field: Forestry Sciences

Home Institution: Ethiopian Environment and Forest Research Institute, Climate Change Science Directorate, Addis Ababa, Ethiopia | Host Institution in Germany: Technische Universität Dresden, Institute of International Forestry and Forest Products | Host: Prof. Dr Gerald Kapp

Musse Tesfaye Gebre studies the synergies and trade-offs between the reforestation project and land use policies in Ethiopia.

In Ethiopia, about 37 percent of national greenhouse gas emissions are caused by the forestry sector. Most of the emissions in this sector are a result of deforestation and degradation processes. To limit its greenhouse gas emissions to 145 MT CO<sub>2</sub> or lower by 2030, Ethiopia must act now. That is why, as part of its Climate Resilient Green Economy strategy and Bonn challenge, the country aims to restore 22 million hectares of forest through the Forest Landscape Restoration initiative. Afforestation is expected to save 130 MT CO<sub>2</sub> by 2030.

By exploring the synergies and trade-offs between forest landscape restoration and land-use policies in Ethiopia, Musse Tesfaye Gebre wants to develop legislative recommendations that can be honoured on national as well as international levels. He will use qualitative research methods in his study, conducting interviews with key stakeholders and reviewing relevant policies and strategies. He will also draw on statistical tools for the analyses and presentation. Musse Tesfaye Gebre's research will highlight important recommendations for decision makers to guide forest landscape restoration initiatives through effective, synergistic, and sustainable land use policy and planning. His proposal also highlights important concepts for the development of further related research in land use policy and planning. Musse is being supported by the Institute of International Forestry and Forest Products at Technische Universität Dresden.

## Socio-economic Impact of Protected Areas of the Western Ghats

Dr Sreeja Jaiswal aims to explore the socio-economic effects of the ecodevelopment approach to biodiversity conservation in Protected Areas in the Western Ghats of India.

The Western Ghats refer to a wide range of hills parallel to India's west coast. As one of the global biodiversity hotspots, they have been a designated UNESCO World Heritage site since 2012. Previously, under the Wildlife Protection Act 1972, the Indian government had pushed for a preservationist and isolationist approach to managing Protected Areas (PAs) in the Western Ghats. However, concerns about insufficient socio-economic development in villages around the PAs led India to change its strategy two decades ago to an ecodevelopment approach that aims at advancing socio-economic development whilst conserving the regional environment. Today, though, it is as yet unclear whether this approach has had the desired positive impact on nature, society, and the economy.

There is a lack of empirical evidence on the policy's implementation: no rigorous impact assessment for the PAs in India has been conducted. Consequently, Dr Sreeja Jaiswal aims to explore the impact of the ecodevelopment policy in India to identify the socio-economic changes it has triggered. She will compare the development of various villages surrounding the Western Ghats' PAs from 1991 to 2011. Her research will support future biodiversity conservation projects, environmental and rural development, as well as climate change mitigation and adaptation strategies – with a focus on developing countries. Sreeja is being supported by the Alfred Weber Institute for Economics at Heidelberg University.



### Dr Sreeja Jaiswal

Degree: PhD | Field: Economic Policy, Applied Economics

Home Institution: M.S. Swaminathan Research Foundation, Chennai, India | Host Institution in Germany: Heidelberg University, Alfred Weber Institute for Economics, Heidelberg | Host: Dr Anca Balietti

## Climate diplomacy and the role of gender in EU and South Asian climate policies



**Dr Dhanasree Jayaram**

Degree: PhD | Field: Foreign Policy and International Systems

Home Institution: Manipal University, Department of Geopolitics and International Relations, Manipal, India | Host Institutions in Germany: Freie Universität Berlin, Otto Suhr Institute of Political Science, Berlin, and Centre Marc Bloch, Berlin | Hosts: Dr Kirsten Jörgensen and Dr Judith Nora Hardt

**Dr Dhanasree Jayaram will explore gender and climate policies in the EU and South Asian countries, determining possible impacts of feminist climate diplomacy.**

The European Union has concentrated major climate diplomacy efforts on South Asia. Its eight countries are perceived as one of the most vulnerable regions worldwide. Although climate change eventually affects everyone, some population groups suffer more than others. Women for instance, are disproportionately affected: mental health, food security, and sanitation are only a few of the areas where this reveals itself. In the context of EU policies, there are multiple attempts to promote gender equality and to establish peaceful as well as sustainable societies. However, the desired gender policy mainstreaming is particularly poor when it comes to climate change.

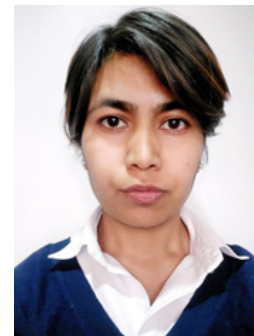
This is why Dr Dhanasree Jayaram's research project involves an assessment of the EU's gender mainstreaming efforts with a focus on the representation of gender in climate diplomacy. In addition, she intends to determine what effects feminist climate diplomacy would have. With her main work concentrating on the EU, she will shift her focus to the European Union's international development cooperation, examining the role of gender in European climate diplomacy toward South Asian countries. Her research could generate valuable outcomes for parties working on gender and climate change. Dhanasree's proposal is being supported by the Environmental Policy Research Centre at Freie Universität Berlin and Centre Marc Bloch.

## Enhancing groundwater management in Nepal by mainstreaming climate change

**Sabina Khatri aims to develop a holistic natural resource management approach for Nepal's water sector.**

Nepal is a typical example of water mismanagement: Even though a drainage network of over 6,000 rivers and streams exists, there are increasing reports of water-induced migration and a growing population without access to safe drinking water. Whilst surface water irrigation projects have a tradition in Nepal, groundwater abstraction has only recently become more popular. It is hoped that, with the help of groundwater resources, the national irrigation targets can be met. In combination with climate change, however, these anthropogenic demands are a real threat to the finite resource of groundwater. So far, there have only been a handful of studies on (ground) water related policy interventions in connection with climate change.

That is why Sabina Khatri wants to develop guidelines that will lead to a sustainable and integrated management of groundwater resources in Nepal. Based on existing policies and regulations, as well as revisions of groundwater governance followed by previous data-based policy recommendations, she will analyse the real cause of unsustainable aquifer use in Nepal. It is her plan to mainstream climate change in water related policies and integrate multiple stakeholders into the process in order to take a step forward towards modifying the existing legal framework. Sabina is being supported by the United Nations University Institute for Integrated Management of Material Fluxes and of Resources in Dresden.



**Sabina Khatri**

Degree: Master of Science | Field: Political Theory

Home Institution: Ministry of Energy, Water Resources and Irrigation, Kathmandu, Nepal | Host Institution in Germany: United Nations University Institute for Integrated Management of Material Fluxes and of Resources (UNU-FLORES), Dresden | Host: Dr Serena Caucci

## Implications for renewable wind energy in Zambia



### Brigadier Libanda

Degree: Master of Science | Field: Climatology

Home Institution: University of Edenberg, Kitwe, Zambia |  
Host Institution in Germany: University of Würzburg, Institute of  
Geography and Geology | Host: Prof. Dr Heiko Paeth

**Brigadier Libanda will conduct the first comprehensive Zambian assessment of wind speed projections.**

Renewable energies are crucial for the fight against climate change. Experts hope that they will account for roughly 80 percent of global electricity supply by 2050 compared to the current 26.2 percent. If this endeavour is to succeed, wind power will be an important contributory factor. The amount of energy a wind turbine can harness is determined by wind speed, swept area, and the density of the air. Therefore, to promote the expansion of wind energy, studies focusing on these aspects are pivotal. Unfortunately, especially in the region of southern Africa, where the lack of access to energy is one of the main causes for the region's socioeconomic problems, there is a dearth of studies on spatio-temporal wind speed variations.

By conducting the first comprehensive assessment of wind speed projections across Zambia, Brigadier Libanda will put an end to this lack of scientific research in the region. His proposal focuses on two research questions that build on one another: Firstly, he wants to find out how well the state-of-the-art models CMIP6 & CORDEX-Africa simulate wind speeds across Zambia. Based on his findings, he will then investigate the potential implications for wind energy generation in the country with a special focus on wind speeds. His research will benefit the region's policymakers and academia alike. Brigadier is being supported by the Institute of Geography and Geology at the University of Würzburg.

## Indigenous knowledge in sustainability projects in Brazilian Amazonia

**Juliana Lins aims to improve resource management strategies for sustainability projects in the Amazon Rainforest by leveraging indigenous knowledge.**

The Amazon Rainforest is the most diverse forest in the world and is indispensable for our world climate. In Brazil, Amazonia covers more than half of the territory and indigenous lands are some of its most protected areas. However, invasions, mining and landgrabbing have become serious threats to these areas. Deforestation has reached the highest levels in years. To protect Amazonian biological and cultural diversity, numerous indigenous organisations have started to act and cooperate with each other – not only in Brazil but also on international level. Cooperation involving indigenous people's profound expertise in their local environments is gaining in value. The knowledge system is very different from the Western one, however, which poses the challenge of considering both.

Juliana Lins intends to investigate the valorisation of indigenous knowledge in projects on the sustainability of Brazilian Amazonia which are financed by international collaborations and executed on indigenous lands. In studying these projects, she wants to point out how recognising indigenous knowledge can lead to better outcomes, increase forest protection and help indigenous populations. To analyse the extent to which international cooperation between indigenous groups supports their fight against deforestation as well as adaptation to the changing climate, Juliana's research will have a strong focus on intercultural dialogue within the projects. She is being supported by the Climate Alliance in Frankfurt am Main.



### Juliana Lins

Degree: Master of Science | Field: Foreign Policy and International Systems

Home Institution: Instituto Socioambiental, São Gabriel da Cachoeira, Brazil | Host Institution in Germany: Climate Alliance - Klima-Bündnis - ALLIANZA DEL CLIMA e.V., Frankfurt a.M. | Host: Thomas Brose

## Protecting the Brazilian Amazon: Democratic transformations and the role of public laws



### Giovanni Martins de Araujo Mascarenhas

Degree: Master of Agrarian Law | Field: International Public Law

Home Institution: Federal University of Goiás, Law School, Goiania, Brazil | Host Institution in Germany: Institute for Advanced Sustainability Studies e.V. (IASS), Potsdam | Host: Dr Maria Cecilia Oliveira

Giovanni Martins de Araujo Mascarenhas investigates the effects of extractivism, public laws, and policies on land use and climate protection in the Brazilian Amazon to improve current regulations.

Brazil is the seventh largest emitter of greenhouse gases (GHG). Between 2005 and 2012, national GHG emissions dropped by 54 percent as a result of a 78 percent reduction in deforestation. Although rainforest conservation limits the expansion of crop and cattle farming nationally, the five million square kilometres of Brazil's Legal Amazon region need protection. Especially since the enactment of the Forest Code in 2012 and the governmental focus on extractivism through agriculture, cattle farming, and mining, GHG emissions and deforestation have been escalating once again. In addition, illegal occupation and land grabbing in the Legal Amazon have increased. These effects make it ever more difficult to preserve and restore the forest areas. Moreover, Brazil will have major problems achieving the UN's Sustainable Development Goals, the Paris Agreement, and its Nationally Determined Contribution.

Giovanni Martins will examine GHG emissions and deforestation rates, review the legal framework, and compare the results to uncover the negative effects on the forest and climate protection. Next, he will draft tangible policy advice. His main aim is to improve current laws and policies to create a sustainable legal framework for environmental protection, social equity, and economic development. Giovanni is being supported by the Institute for Advanced Sustainability Studies in Potsdam.

## Emission trading systems in the Dominican Republic's public and private sectors

Janibel Munoz Torres conducts a feasibility study of a governmental cap-and-trade system and assesses the role of the private sector in the Dominican Republic.

Even though the government of the Dominican Republic has recently intensified its efforts to mitigate climate change by committing, for example, to reducing greenhouse gas emissions by 27 percent, there is still much to be done. In many areas of climate politics, the Dominican Republic does, after all, count as a typical non industrialised economy. This becomes especially evident when considering market-based instruments in the realm of climate policies, such as emission trading systems (ETS). They are considered an effective mechanism for achieving sustainable development that balances the economy and the environment. So far, the Dominican Republic's ETS potential has not been exploited.

Janibel Munoz Torres' proposal will provide a remedy for this. By conducting a feasibility study of a cap-and-trade system in the Dominican Republic, she will open doors for her country to enter emissions trading. In addition, she will consider a stakeholder engagement plan for the private sector since their investments can make important contributions to mitigating climate change. With the help of comparisons between Germany and the Dominican Republic, she will determine the requirements that her country must fulfil to be able to recognise potential ETS design compatibility issues and opportunities for establishing them at an early stage. To gain a holistic view of different jurisdictions' experiences with ETS, she will also use case studies. Janibel is being supported by the International Carbon Action Partnership in Berlin.



### Janibel Munoz Torres

Degree: Bachelor of Science | Field: Foreign Policy and International Systems

Home Institution: Ministry of Environment and Natural Resources, Climate Change Directorate, Santo Domingo, Dominican Republic | Host Institution in Germany: International Carbon Action Partnership (ICAP), Berlin | Host: Stefano De Clara





## Increasing resilience in Uganda's forest landscape restoration



**Mabel Nabunya**

Degree: **Master of Science** | Field: **Forestry Sciences**

Home Institution: **Uganda Carbon Bureau Ltd., Lubowa, Uganda** |  
Host Institution in Germany: **PlanAdapt, Berlin** |  
Host: **Dr Mariana Vidal Merino**

**Mabel Nabunya explores institutional and policy measures to ensure the use of native species in future reforestation projects.**

All over the world, forest landscape restoration is being promoted as a climate change countermeasure to restore landscape functionality and biodiversity. In Uganda, too, for example, large-scale reforestation projects are being implemented. These projects predominantly use exotic species such as pine and eucalyptus because native trees are considered unattractive due to the length of their rotation period and a general lack of knowledge about their silviculture. Whilst this approach has certainly boosted timber production it has not benefited biodiversity. On the contrary: excluding native tree species from these projects poses a threat to ecosystem services such as carbon sequestration, livelihoods, and food security.

That is why Mabel Nabunya wants to find ways of making forest landscape restoration in Uganda more resilient in the long run. To do so, she will explore the policies and strategies of countries like Germany that already practise longer rotation forestry and identify best practice approaches. She will investigate how the capacity of local institutions and communities in Uganda can be increased to sustain interest in forest landscape restoration using native species. Mabel wants to expand Uganda's limited knowledge of the various climate finance sources available to support restoration and climate change adaptation initiatives. Mabel is being supported by the Berlin-based NGO PlanAdapt.

## Restoring river basins with nature-based adaptation measures

**Regina Ruete investigates the conditions under which nature-based solutions in river basins can promote environmental (in)justice.**

It is clear that climate change is increasing existing environmental risks to river basins. Therefore, land use planning and management have become a major challenge. Even more so in the Global South, where the conditions in river basins make them far more vulnerable. Nowadays, nature-based solutions such as floodplain restoration and green infrastructure in basins have become popular countermeasures. If these nature-based solutions are not implemented carefully, however, they might result in environmental injustices. The case of the Matanza-Riachuelo river basin (MRRB) in Argentina serves as an example for this: The efforts to combat the river's high level of contamination eventually led to violent evictions from its banks.

Through her research, Regina Ruete wants to work out how scenarios like that may be prevented in the future. She will analyse two cases: in Germany, the Altenheim polder on the Upper Rhine, and in Argentina, the MRRB event in more detail to investigate the impact of nature-based solutions on environmental (in)justice. In addition, she will study the floodplain recovery of the Elbe River in Röderau-Süd after the 2002 flood, as a complement to the other two principal case studies. Based on these cases, Regina will use a qualitative approach to answer questions on the type of environmental conflicts that arise in the implementation of nature-based solutions and how they can be addressed. Her findings will find their way into a policy guideline for the appropriate implementation of nature-based solutions. Regina is being supported by the German Development Institute in Bonn.



**Regina Ruete**

Degree: **Postgraduate Diploma** | Field: **Human Geography**

Home Institution: **Autoridad de Cuenca Matanza Riachuelo (ACUMAR), Buenos Aires, Argentina** | Host Institution in Germany: **The German Development Institute, Bonn** | Host: **Dr Jean Carlo Rodriguez de Francisco**

## Electric vehicles in India: Addressing issues through Germany's learning curve



**Sonakshi Saluja**

Degree: **Master of Arts** | Field: **Empirical Social Research**

Home Institute: **Initiative for Sustainable Energy Policy, New Delhi, India** |  
Host Institution in Germany: **Reiner Lemoine Institute, Berlin** |  
Host: **Norman Pieniak**

**Sonakshi Saluja assesses obstacles and solutions in the development of electric vehicles in India by analysing German implementation policies.**

In 2020, India accounted for seven percent of global emissions. As a member of the International Energy Agency (IEA) and the Electric Vehicle Initiative (EVI), India's aim is to reduce its emissions and pollution by advancing the development of electric vehicles (EVs). By 2030, 30 percent of vehicles sold are supposed to be EVs. Yet, the adoption of EVs faces several obstacles: financial investment is lacking, India has limited grid and charging capacity, and the country is lagging behind on its commitment to the Paris Agreement. By contrast, Germany is known for its emerging sustainable energy and automobile sectors. The country has become the European leader in EV sales and thus, a central actor in the EV industry. Moreover, policies have been introduced to protect the environment, such as the Motor Vehicle Tax Act in 2020, which led to higher taxes for owning vehicles.

For her research, Sonakshi Saluja will explore viable and sustainable financing options which can be adopted in the Indian context. She also aims to support research at her host institute by working on improvements to Germany's EV policy framework. In addition, Sonakshi wants to establish knowledge transfer between the two countries in the field of technical capacities and infrastructures. Her research project will help the Indian government to develop stringent emission rules, to advance the development of EVs and to act more environmentally consciously. Sonakshi is being supported by the Reiner Lemoine Institute in Berlin.

## Afromontane regions: past and future of mountain biodiversity under a changing climate

**Dr João de Deus Vidal Jr studies mountain biodiversity and possible effects of a changing climate.**

Climate change and the predicted growth of the human population threaten nature, biodiversity, and a wealth of plant species. Mountain areas such as the Afromontane regions on the African continent are especially vulnerable. The latter are areas of rich diversity and endemism – home to species that are native to a single defined geographical location. Despite their richness, the Afromontane is poorly understood.

In his research project, Dr João de Deus Vidal Jr explores biodiversity in the Afromontane regions: What influence do environmental predictors have on diversity and richness of regional flowering plants? In what way will different emission scenarios affect biodiversity? João will conduct a mountain-specific analysis, testing how climate, biogeography, geology, and human development affect the region's diversity. For his project, he is creating a catalogue of plant species and endemism, calculating extinction rates and habitat loss. His research will allow him to identify geographic hotspots as well as biodiversity data gaps, generating valuable information for future mountain conservation and research. João is being supported by the Chair of Physical Geography at the University of Passau.



**Dr João de Deus Vidal Jr**

Degree: **PhD** | Field: **Biogeography**

Home Institution: **Universidade Estadual de Campinas, Campinas, Brazil** |  
Host Institution in Germany: **University of Passau, Chair of Physical Geography** | Host: **Prof. Dr Christine Schmitt**