The Journal of
Development Around the World

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Contents

Foreword

This year got off to a flying start – with the launch of this new "The Journal of Development Around The World," the editors aim to highlight research and experts' views that often remain hidden: valuable studies conducted by students, consultants, or practitioners disappear under the radar as grey literature with much of the collected empirical material being lost; with communities often seen as objects, not as experts by experience or potential readers. By presenting this knowledge in the form of accessible articles, we can make a valuable contribution to debates and policymaking on many relevant development topics currently in the spotlight. Especially in these times of misinformation and fake news, knowledge of the local situations – and looking at reality from different perspectives – is of great importance. The various contributions – based on fieldwork in various parts of the world – help understand the link between an increasingly complex world and daily life – and the multiple perspectives that co-exist between regions and generations. This journal is an initiative taken at the International Development Studies (IDS) community of Utrecht University, which aims to continue to uphold those objectives of linking flows, transitions, and transformations in and between the local, regional, and global societies and generations that foster the development discourses.

The foundation was built over 15 years ago as a series of separate booklets and will now be published as an official open-access journal. Since the publication of the first booklet '*Development Mosaics*' (2008), titles have varied from *Exploring Development* (2009) to *Development Around the World* (2010, 2011, 2013) and finally, *Development in a Glance, a Journey through a Changing World* (2014). It is an excellent moment to thank all the editors of earlier work, which have laid a firm foundation for the new journal: *Vera Brok* and *Evianne Moret* (2008)– *Marloes van den Berg*, *Dennis van Buren*, *Lena Katzmarski*, and *Maarten van Schoten* (2009); *Ina Arnaoudova*, *Eileen Dyer*, *Elen Papaopoulou* and *Peter Verhagen* (2010); *Stephanie Anderson-Morales*, *Jolanda van Ginkel, Tim Daniel Krap* and *Renske van Milink* (2011); *Bregje van Stipdonk*, *Evans Kirigia* and *Murtah Read* (2013); *Lotte-Marie Brouwer*, *Sacha Handgraaf*, *Romy Santpoort* and *Margherita Scazza* (2014). Thanks for paving the way and being part of our IDS community.

I want to express great thanks and congratulate the guest editors of this first volume, *Julia van den Berg* and *Brent Sandtke*; without their volunteerism and tireless efforts, this journal would not have seen the light of day.

Last but not least, I want to express my gratitude to my beloved colleagues of IDS, *Mucahid Bayrak*, *Romain Dittgen*, *Femke van Noorloos*, and *Bishawjit Mallick*, who were brave enough to start this 'pathbreaking' initiative that will help to break silos that usually keep us apart: students and staff; 'academics' versus policymakers, practitioners or businessmen; or 'local people'. We have a common interest and in understanding the world and tackle challenges – time to team up, exchange and share insights in short and accessible articles.

"The Journal of Development Around the World" will help new students and researchers to discover new topics or build further on earlier research and provides opportunities to publish results and exchange knowledge. Looking forward to learn about development around the world through this scholarly journal and hope it will gradually gain its acceptance and reach worldwide.

Annelies Zoomers

Chair International Development Studies

List of Figures

Editorial

Brent Sandtke, Bishawjit Mallick

Motivations: The Journal of Development Around the World

Development is a complex and multidimensional process that goes beyond economic factors to include social and environmental dimensions. When we talk about "development around the world," we often refer to efforts to enhance the well-being of populations, reduce poverty, promote sustainability, and address various challenges faced by different countries and regions. This concept recognizes that international organizations, governments, non-governmental organizations (NGOs), and policymakers often collaborate to promote development globally. Further, it involves positive changes and advancements in key development indicators such as income levels, education, healthcare, infrastructure, technology, governance, and overall quality of life. To foster such discussion in an academic platform, the International Development Studies section of the Human Geography and Spatial Planning (SGPL) of the Faculty of Geosciences at Utrecht University introduced the "Development Around the World" (DAW) journal, which aims to provide a platform for scholarly research and discussions on various aspects of global development.

The DAW is an open-access annual publication that presents (case studies, policy briefs, etc.) and provides the unique opportunity to combine enlightening, inspiring case studies and empirical findings related to development with a focus on the global South.

Nature and scope of scholarships

This journal holds significance in current global development discourses by comprehensively examining contemporary challenges and opportunities. The journal's collective findings, drawn from various case studies, address pressing concerns from the field, including issues like socio-environmental impacts, foodscape transformations, and climate change adaptation.

In DAW, we address the contemporary concept of development that encompasses the multidimensional progress of livelihoods and stretches beyond economic growth by including social equality, environmental sustainability, and technological advancements. It underlines inclusivity,

fosters human well-being, and addresses inequality. Such a holistic approach reflects a shift that development is making towards focusing on sustainability, inclusivity, and resilience. It offers a holistic understanding of the multifaceted challenges associated with development projects. The topics of the different case studies are related to one or multiple sets of themes but not limited to *(i) health, youth, and social inclusion; (ii) investment, development, and flows of goods; (iii) migration, refugees, and welcome space, (iv) inclusive and sustainable urbanization, (v) food security, sovereignty, and land-at-scale, (vi) energy transition for all, and (vii) climate change adaptation, environmental migration, and non-migration.*

It contributes significantly to the ongoing discourse on sustainable development by closely examining these multifaceted aspects. Its relevance extends beyond academia, resonating with policymakers, development practitioners, researchers, and students. The various case studies highlight the need for environmental education, inclusive strategies, and cooperative nature-society relations, emphasizing the journal's potential to inform future practices and policies. Ultimately, this journal strives to advance the field by providing insights into contemporary global development's interconnected opportunities and challenges.

The 1st Volume 2024

This 2024 issue of DAW is based on the findings of the thesis completed in 2023 by students of the Master of International Development Studies (IDS) at Utrecht University. These are all highly relevant to the contemporary global development discourses and the need for sustainable development goals. For instance, in his research in rural Bangladesh, Daan van Berk has examined the blue revolution, delving into the foodscape transformation due to shrimp farming. His research reveals the dual nature of this shift, impacting both those who gain profits and those who become more dependent on the markets. Through this, he highlights the complex consequences of monocultural practices and changes in land use.

While climate change has been altered the development initiatives worldwide, and clearly embedded into future policy planning, Julia van den Berg addressed the livelihood challenges in Sri Lanka after the Indian Ocean Tsunami of 2004. She conducted her fieldwork in Galle city. Her research emphasizes the interplay between threat perception, climate adaptation, and societal circumstances. It underscores the nuanced relationship between individual adaptation strategies and broader socio-economic and

governmental contexts. In her research, she urges a comprehensive approach to climate change adaptation research that will consider societal factors and their influence on shaping resilience.

Considering the ecological conservations, research carried out by Sarah van Druten on the Galapagos Islands explores the socioenvironmental impacts of conservation policies, highlighting power dynamics and tradeoffs between nature conservation and local development. It underscores the need for inclusive strategies considering the unequal distribution of benefits and burdens, suggesting a focus on environmental education, local agency, and collaborative nature-society relations.

Establishing infrastructure development for sustainable energy is critical to addressing the SDGs. In his research project in Indonesia, Brent Sandtke focused on constructing a Hydropower project in Western Sumatra. This research has assessed the Environmental and Social Impact Assessment, focusing mainly on vulnerable groups, of which two were identified. He has attempted to emphasize the importance of inclusive impact assessment in this research. At the same time, he recommended for including a comprehensive approach, incorporating local customs and international guidelines, and finding inclusive stakeholder engagement venues to ensure the inclusivity of big-scale development initiatives.

Methods used in these case studies display a diversity of approaches and tools tailored to the specific contexts in which they are taking place. In the Galapagos Islands study, a political ecology framework guides the research, employing in-depth interviews, observations, and informal conversations to shed light on the intricate trade-offs between conservation policies and local development. The examination of shrimp farming research in Bangladesh Utilizes a qualitative approach to focus on the transition's impact on the local foodscape, displaying contrasting outcomes for different population fragments. In the Sri Lanka study, the researcher employs qualitative data collection methods, including in-depth interviews, small talk, and participant observations, to display the complex interplay between threat perception, adaptation strategies, and societal circumstances in the face of the consequences of climate change. Meanwhile, the assessment of the West-Sumatran project involved social surveys and focus group discussions to identify vulnerable groups and assess the socio-economic impacts on these groups.

After the four case studies, it presents the expert opinions. Here, it brings the longstanding journey of Prof. Guus van Westen, who has been teaching and researching in the field of development studies related to land rights and development theories more than three decades. His professional activities and scientific contributions to the development discourses encourages the current and future development scholars. His interviews exemplifies the history, present and future epilogue of the masters in International Development Studies program at Utrecht University.

Last but not the least, the journal presents three communication materials of IDS students. Communicating research findings is one of the key part of fostering development initiatives through research which also refers to any tangible or digital output created to convey information and ideas. Authors Wolf Bijen and Isa Plug write about their research on eco-tourism in Belize, outlining plans for a Sustainable Future initiative. In 'Justice in Wind Energy", author Laurèle Schuurman targets policymakers, offering key insights for equitable decision-making while looking at the green energy industry. Lastly, Yuan Sun addresses voluntary non-migration and community development. In her work she writes about environmental risks, adaptation strategies and the influences of these on migration.

All these communication documents contribute to significant perspectives to development studies by highlighting social considerations and offering sustainable strategies for equitable and community-driven development. Across these studies, qualitative and participatory methods highlight the importance of nuances and context-specific approaches in addressing and understanding the complexities of development challenges.

Outlook

It's important to note that the global development landscape is dynamic, and new challenges and opportunities may emerge over time. Staying informed through reputable sources and participating in international discussions can provide a more accurate and updated understanding of the outlook for development worldwide. Through publishing scholarly research outputs, experts opinions, and policy briefs, the DAW will continue to contribute to the efforts likely to intensify, with governments, organizations, and communities working together to eradicate poverty, ensure quality education, promote equality and inclusivity, and address climate change.

Research Articles

Challenges in the local foodscape due to the shift from rice to shrimp farming in rural Bangladesh

Daan van Berk

Abstract

A blue revolution has taken place in most of the developing countries in Asia. This can also be seen back in Bangladesh with the rise of shrimp farming, manifesting in a transition from rice farming to rice-shrimp farming or monocultural shrimp farming. This paper focuses on how this transition transformed the foodscape of a local rural community in Bangladesh. Since salt water is a requirement for shrimp farming, it was led into the research area and the landscape became salinized. A landscape that was green before shrimp farming, became a 'desert in the delta.' As a result, the local population is now more dependent on the local markets. The aim of this paper is to show the two-sided foodscape by doing interviews with the local inhabitants of the shrimp area. On the one hand, people who lost their crops and became more dependent on the market and on the other hand, the people who made more profits than before and are still able to grow the crops they grew before shrimp farming. Most of the local people did not know what the effects of shrimp farming would be and had no other choice but to shift to shrimp farming due to the salinization. The shift from rice farming to shrimp farming led to drastic changes in the foodscape and increased the area's inequality.

Keywords

shrimp farming · foodscape · food sovereignty · power relations · inequality · social well-being.

Introduction

Since the mid-twentieth century, coastal and marine environments worldwide have experienced a range of changes. Among the biggest ones features the rise of coastal shrimp and prawn aquaculture in many tropical and sub−tropical regions of the world (Pokrant, 2014). Shrimp and prawns are mostly used as export products. They have always been one of the most traded aquatic commodities, but in the last decades the export of shrimps and prawns has increased (Gatta, 2022). The global demand is reflected in the increase of shrimp farming in Bangladesh. Farmed shrimps have become a high value commodity, which is mostly exported from places in the global South to places in the global North (Belton, 2016). The rise of shrimp

farming started around the 1970s, after the independence of Bangladesh. The interest in shrimp farming was caused by rising values and demand from international markets. Shrimp farms were established in peripheral lands near the mouth of coastal rivers where inundation of saline water is possible (Rahman & Hossain, 2013). This triggered a shift from local agricultural practices to shrimp aquaculture. Therefore, local agricultural habitats have disappeared, gradually replaced by a new monoculture of shrimp farms. In 1970, Bangladesh ranked 15th the production of aquaculture, and having risen to the 5th position in 2016 (Garlock et al., 2019). By 2007, the shrimp farm area in Bangladesh consisted out of nearly 2,17,877 hectors. Approximately 80% of the shrimp farming areas are situated in the southwestern region of Bangladesh, while the rest are in the southeastern part (Nupur, 2010).

The production of shrimp does not go without issues. One of the main problems is the outbreak of shrimp diseases (Rahman & Hossain, 2013). There is also an occurrence of social issues such as forced migration and social unrest, which were mostly created by a small group of more wealthy inhabitants of the shrimp areas. These social problems are, for example, caused by unplanned and rapid expansion of the shrimp area, which is also the cause of environmental struggles, such as land degradation and salinization (Rahman & Hossain, 2013). Other social issues related to shrimp farming are a lack of monitoring, widespread corruption, and the absence of an integrated policy for this industry (Nupur, 2010).

There is already a lot of research on the consequences and problems of shrimp farming, but no research has focused on the consequences on the local foodscape. This research focuses on the foodscape by doing in-depth interviews and taking observations in the research area. This provides added information on how the local foodscape adapts to a shift to a monoculture such as shrimp farming in Bangladesh. In addition, literature shows that the rise of shrimp farms has affected the local food consumption and the social landscape in the local communities in Bangladesh (Ahmed et al., 2009; Swapan & Gavin, 2011). This research expands on this literature with a focus on the local foodscape, which shows a more elaborate picture of the situation in the research area. Most of the research on shrimp farming uses quantitative methods, while this research uses qualitative methods to give a clear impression of what is going on in the shrimp areas. Furthermore, this study addresses another important knowledge gap in foodscape research as most foodscape research has taken place in urban places. This research focuses on the rural foodscape. At last, Belton (2016) showed that the transition to commercial aquaculture has resulted in the modification of class, gender, labor relations and resource access. This influenced the social

well-being of the local population. This came back in multiple studies. Lower-income households shrimp areas are increasingly marginalized and either driven into the mangroves to garner resources for sale or to sell their labor, often at very low rates (Swapan & Gavin, 2011) They can no longer share-farm idle land to grow rice, their trees and household food crops were killed by shrimp-related salinization of the soils, they had great difficulty obtaining water for their own small shrimp farms and were even denied access to the government owned canals and waterways. Other studies, such as Datta et al. (2010), also describe that land in Bangladesh is scarce and inequitably distributed, which causes inequality with shrimp farming. Belton (2014) elaborates that social wellbeing worsened due to shrimp farming, which resulted in greater food insecurity. Abdullah et al. (2016) states that inequality is caused because of an unfair share of the benefits of shrimp farming. As a result, the economic activities related to shrimp farming have made the income gap between high-income households and low-income households bigger.

The link between food transitions and social well-being is hardly mentioned in literature about Bangladesh. By linking social well-being with foodscapes, this study gives new insights into the existing literature. This should explain how a food transition influences the local foodscape and social well-being. This research is conducted in a small area in sub-coastal Bangladesh. In this area, the transition to shrimp farming happened but this is not the only area. The blue revolution took place in a big part of Asia (Garlock et al., 2019). Therefore, the results of this research could be relevant beyond rural Bangladesh. While this case focuses only on a small shrimp region, the findings from this research can be extended and applied on other regions facing similar transitions in the agricultural field.

This research aims to give a clear image of the effects of a shift from traditional farming to monocultural farming to the local foodscape. Therefore, this research has the following research question: How did the transition from rice farming to rice-shrimp farming transform the foodscapes of farmers in subcoastal Bangladesh, and how can this be explained.

The research question is answered with the help of the following sub questions:

- Why did shrimp farming get introduced in the research area?
- How did the introduction of shrimp farming result in the development of local rice-shrimp models?

- How has the foodscape of local farmers changed since the start of shrimp farming?

- What are the direct and indirect drivers of change of local farmers' foodscapes in relation to rice-shrimp farming?

Limitations

As a Western researcher doing research in Bangladesh, it was important to consider the positionality as researcher and limitations. Firstly, there is a difference in cultural background, which could affect the interpretation and understanding of the results. To prevent this the local habits and culture were learned during the data collection, so the culture could be better understood. The study site encompassed a rural village, which presented the opportunity to participate and learn from the community.

Secondly, there was a language barrier with the participants of the research. To solve this issue translators helped during the interviews and some Bengali words were learned prior to conducting research. However, there was a reliance on the translations of the translators. As a result, some of the answers of the participants could be misinterpreted, misunderstood, or wrongly translated, which could give different results than the intended meaning.

Thirdly, as a researcher you are an outsider in the research area. Most of the community had never met someone from a Western country before, so it was a special experience for them. For example, after some interviews' pictures were taken and many locals wanted pictures and they would show all the places in the community. This helped in understanding the local culture but was exhausting at the same time. Due to my status as a Western researcher, it was not difficult to find participants for the research, because everyone wanted to talk. There were some cases where possible participants expected to get a lot of money for doing an interview. These possible participants were not interviewed for the research. As a result of the positionality as researcher, the locals could see the interviews as a possibility to exaggerate the impacts of shrimp farming on their foodscape. Some interviews had a positive view on shrimp farming, while others were negative. The participants could also have expectations that there will be something done with their problems because of the interview, that is why the translator explained the purpose of the research at the start of the interview to avoid a misunderstanding on the purpose of the research.

Lastly, there could be a researcher bias. This bias could have influenced the data collection and the analysis of the research data. To prevent a bias this

research tried to show both sides of shrimp farming and to analyze both viewpoints as objectively as possible. To achieve this, participants were randomly selected, except for one local political leader, who was mentioned in each interview.

Theoretical Framework

A foodscape can be defined as the spatial manifestation of food distribution and eating habits. These are places where food has meaning for a person. It also includes places where food is bought, where food is prepared, where food is consumed and where people talk about food (MacKendrick, 2014; Oranges, 2007). Adema (2010) describes foodscapes as a marriage between food and landscape, including the physical and conceptual landscapes. This concept is extended with the inclusion of institutional arrangements, cultural spaces, and discourses that mediate our relationship with our food (MacKendrick, 2014). A foodscape is not something that is fixed, but something that changes overtime (MacKendrick, 2014). Research on foodscape is gaining prominence in developing countries. In parallel, policy makers are turning their attention to the role that the foodscape plays in shaping diets, nutrition, and health in these settings (Turner et al. 2019). There are different definitions for the concept of foodscape. In this research the following definition from the High-Level Panel of Experts on Food Security and Nutrition report from 2017 (p. 28) is used: "The physical, economic, political and socio-cultural context in which consumers engage with the food system to make their decisions about acquiring, preparing and consuming food." The foodscape consists of the built environment, which are accessing point for consumers; the food entry points, where food is obtained or bought; personal determinants of food choices like income, skills, education, and facilities etc.; and the local cultural, social, and political norms and values that are underlying for the food-related actions (HLPE, 2017). Central in the idea of foodscape is the interaction between people, food, and place, which intertwines individuals with surroundings materiality, environment, culture, and society (Sage, 2010).

The foodscape is always changing. For instance, Dolphijn (2004) argues that food functions in immanent structures are always in the process of change. Oranges (2007) outlines that foodscape is a dynamic culinary culture of a community, influenced by factors such as place, religion, history, culture, technology, development, and social organization. In other literature, the foodscape is also described as a dynamic social construct which relates food with place, people and meaning (Johnston & Baumann, 2011). According to Garden et al. (2019), the changes in each foodscape are caused by various local, national, and global processes, which have effects on places, such as a

shift in policies, migration, and population growth. These changes in foodscape are in how people access, prepare and consume food. An example is the food entry points. Half a century ago it consisted mostly of local markets and self-consumption, but now it consists of out small kiosks, corner stores, wet markets, urban gardens, food markets, formal and informal markets, supermarkets, restaurants, schools, hospitals, public canteens, and vending machines. According to Herforth and Ahmed (2015), food choices in the foodscape are made on the base of availability, affordability, convenience, and desirability of various food. Availability and affordability are present in most definitions of foodscape and food environment, but convenience and desirability are new factors. Availability considers the food what is available in the area; affordability considers the costs of food; and convenience considers the time costs of food. The time to get food has changed over the years. In developing countries in Asia and Latin America, the number of supermarkets has grown exponentially. Supermarkets are a competition for small, local markets that sell local products instead of more imported products from elsewhere (Minten & Reardon, 2008). The desirability of food is made up of internal factors and external factors. Internal factors are personal preferences such as the taste of food and external factors are the outside influences on food choices like the local culture, advertisement, status of food and the quality of food (Herfort & Ahmed, 2015). A product is more often bought if the quality is good, this is influenced by the visual appearance of food, the smell, the taste, and the texture of the food. Lower quality food is mostly found in more disadvantaged areas of lower economic status (Glanz et al., 2005).

The rural foodscape is significantly changed by globalization processes such as the globalization of agricultural systems, which is further mediated by local factors such as rural decline, urban-rural migration, and changes in rural values (Hjalager & Kwiatkowski, 2023). Hawkes (2006) sees a food environment as more global, with more linkages to interconnected local, regional, and global markets. Globalization and localization can therefore have an impact on the foodscape.

Food can play an important part in the identity of an individual. For instance, food can evoke feelings, emotions and connections with places and people (Johnston & Longhurst, 2012). Scholars have adopted the term 'foodscape' to identify and analyze the socio-spatial manifestation of human–food activities, food culture and subsequent social or health implications (Panelli & Tipa, 2009). Goodman (2015) states that it is impossible to separate out the notions of culture, space, economy, politics, and materiality when conducting research on food. Cook et al. (2013, p. 343) takes this a step further by arguing that the study of food offers "rich, tangible entryways

into almost any issue in which you might be interested." Research on the foodscape allows researchers to explore food production and food consumption without privileging one over the other (Goodman, 2015). In Murcott (1982) the cultural role of food is argued. Food choices are not random but show patterns and regularities. These choices are related to social status, ethnicity, and wealth:

> Food also must be seen as a cultural affair; people eat in a socially organized fashion. There are definite ideas about good and bad table-manners, right and wrong ways to present dishes, clear understandings about food appropriate to different occasions. (p. 203)

Data and methods

The data collection of this research took place in Magurkhali, a small municipality in the South-western part of Bangladesh, in the Dumuria district. A shrimp farm area's ecological characteristics are numerous rivers where river water contains salinity for 6–7 months of the year. Most of the land area is low lying and subjected to daily tidal inundation, where tidal fluctuation varies between 2.25 – 0.75m. This tidal fluctuation along with salinity has major influences for the use of land (Rahman & Hossain, 2013). Magurkhali meets the ecological characteristics and was therefore considered suited for the research.

Foodscape is a spatial concept which includes an understanding of the economical, physical, social-cultural, and political context of a community (Vonthron et al., 2020). To get a better understanding of these different contexts of foodscape, the qualitative methods of in-depth interviews and observations are used. In-depth interviews provide information and expressions of opinions or beliefs of individuals, which gives insights in the foodscape of the participants. It can help to close a gap in knowledge that other research methods cannot provide. This is because an interview tries to find out the personal experiences of a respondent. An interview thus ensures that the researcher comes close to the respondent (Hay, 2016). Observations allow the behavior and social reality of individuals and groups to be directly observed, documented, and analyzed by the researcher. This allows researchers to understand contexts within which activities and certain events take place (Clark et al., 2009). In this research, observations helped to describe the local community, the available food in the community, the location of shrimp farms and popular places. Observations can also complement interviews, because they give the opportunity to reveal daily routines (Clark et al., 2009). Because of the language barrier it may be hard to understand everything, and certain remarks can be missed.

13

Observations can show food habits and help to understand food habits of the community. Observations can further assist in understanding individuals who are unable or unwilling to share experiences verbally (Clark et al., 2009).

The participants of this research were chosen on the base of quota sampling. This means that participants are chosen on the base of specific criteria (Taherdoost, 2006). The established criteria were: i) living in one of the shrimp areas and ii) being the owner of farmland or formerly being the owner of farmland. The participants were selected by walking through the shrimp areas and stopping by each house to ask if people wanted to take part in the research. After doing an interview at least two houses were skipped to prevent neighbors from taking part in the research. These participants were randomly selected with this quota with the exception of one participant. The political leader of the area was mentioned in all the interviews; therefore, it was important to include him in the interviews, to understand the political dimension of the foodscape better and to explore the reasons why shrimp farming was established in the area. The interview with the political leader was arranged with snowball sampling. This means that other participants help in connecting with potential other participants for the research (Taherdoost, 2006). In total, 21 in-depth interviews were conducted.

Results and discussion

"A beautiful area full of green and trees." This was how a participant described the area before shrimp farming took place. This sentiment was shared by the other participants. The area is now completely different because of the transition to shrimp farming. In rural Bangladesh, the livelihood of the local people is often dependent on farming. The most common product has always been rice. This was also the case in Magurkhali, where paddy farming was the common way of farming. The local people also cultivated vegetables, fruits and had livestock. However, there was one change in the agricultural landscape: saltwater was let into the area, so shrimp farming could be possible. This intrusion of saltwater resulted in shifts in the local foodscape of farmers.

Shrimp farming was introduced at the beginning of the 1990s in the research area. According to the data gathered from the interviews, this happened because the introduction of shrimp farming could be a successful way to improve farming and most importantly make more profits. Shrimp has a higher commodity value than most other agricultural products. As a result of shrimp farming the area could develop a lot. However, not everyone wanted to make the shift to shrimp farming, because they were happy with the products that used to grow in their farmland. Despite this, the local

political leader and people with influence decided to make the choice for local people to shift to shrimp farming by letting saltwater in with the help of a switch gate and with the digging of a canal in an area where the saltwater was not planned. Due to this saltwater intrusion, people had to make the switch to shrimp farming, because other products did not grow as well in saltwater as in freshwater. The switch gate (Figure 1) allowed a constant flow of salt water to enter the shrimp area. This is close to the biggest shrimp farm of the area, which is in the political leader's possession. A shrimp farmer who lived close to the shrimp farm of the political leader explained:

> The political leader of this area has his own land besides the river, so it is easy to get access of collecting saltwater from the river here rather than that side and the chairman asked people if he could do it and they agreed, and he did it.

Figure 1. Salt water entering the shrimp area through the switch gate.

This shows how the political leader used his power to build the switch gate at his farm. The participant did not know the effects of the salt water, because the political leader did not explain it to the farmers in the area. Another farmer in the area told what happened:

> We did not know that this salt water would be so toxic and get into our lands and everywhere, in the environment and everywhere. We were not aware of it. Now that we have experience, we realize it was the wrong decision. It was a mistake for us with salt water.

Initially, the local people were happy with this change because they made profits with shrimp farming and next to shrimp farming, they could still farm paddy. A participant that profited from shrimp farming explained: "This area was like very poor, very very poor. Since the shrimp farming started, people started to make a lot of money." The introduction of shrimp farming led to the development of a rice-shrimp model or *gher* farming, in which shrimp farming happens in the dry period and paddy farming happens in the rainy season. However, this model has changed. Through the years, salinity

levels increased in the area, which resulted in difficulties with farming other products than shrimps and saltwater fishes. Because of that, local farmers only have work during the shrimp period, while before shrimp farming, they were occupied with farming food during the entire year. As a result, people must do other labor such as driving an easy bike or working in the city; or "became lazy," according to a farmer who experimented with rice farming in the shrimp area, instead of doing food related farming activities. Another influence on farming practices is the black spot disease or 'shrimp virus,' which started occurring approximately around ten years ago and influenced the development of shrimp farming. As a result, farming practices are affected: farmers make less profits and shrimp farming is more difficult, which is mostly the case for farmers with small lands. For most participants shrimp farming is not profitable anymore. The participants mentioned that there is not a way to prevent the virus and that they still farm the same way as when shrimp farming started. An affected farmer explained:

> They do their farming old school style, so it is not possible in this matter to prevent this virus, only if they use technology to shrimp farm, but in this area is quite impossible to use it, because there are no facilities here to use the technology.

To understand the change in the foodscape it is important to understand what happened with the landscape. Fruit trees disappeared in the landscape due to shrimp farming. These were mainly mango, banana, coconut, and jackfruit trees. These are all commonly eaten fruits in Bangladesh, whereas jackfruit is the national fruit of Bangladesh. According to the participants the area changed massively: "It was like very, very green in the past." This area often had rice fields for farming, but there were also other vegetables cultivated. This is really like the Shovna area at the other side of the river, where shrimp farm never happened. This shows that the research area has undergone significant physical changes. Figure 2 shows this area, which has very green rice fields, small ponds with water and a lot of different fruit trees, which are often located at the houses of the local families.

The current shrimp farm area has none of these characteristics. Figure 3 shows the current landscape. This landscape is very much impacted by the saltwater intrusion. The area has a strong salt scent in the air and white salt deposits can be seen everywhere. This area has almost no vegetation, except some palm trees and a bit of grass in between the shrimp fields. The trees could not grow any fruit anymore. There was still a coconut tree, but it did not give any coconuts. One of the participants had lost 42 coconut trees. In addition, most vegetation was at the residencies of local families, this mostly consisted of some plants, however these plants were mostly dead.

Furthermore, the area consists mostly of shrimp farms, which are farmed in water. This has the characteristics of a monoculture.

Due to the saltwater intrusion the local people are forced to farm shrimp. This caused the change in land use in regards with cultivating food. It caused the disappearance of local agricultural products, which resulted in the need to go to markets for food. In addition, the salinization also caused a decrease in livestock, which caused a decrease in milk consumption. The salinization also caused a change in the fish that are cultivated in the area: from freshwater fish to saltwater fish, and it affected the drinking water. Before shrimp farming most people in the community got their water out of the ground with a well. Now, this method is still used by some of the participants, but most of the participants used diverse ways for getting water now. This is as a result of the saltwater intrusion and because of too much iron in the groundwater. The participants that are profiting more from shrimp farming use filters to purify water.

Figure 2. Landscape in an area without shrimp farming.

Figure 3. Landscape in the shrimp area.

Indirect drivers of change are the profits that are made by shrimp farming, which led to improvements in the local infrastructure; the shrimp virus, which led to a decrease in profits and made shrimp farming more difficult; political decisions and power relations, which led to the introduction of shrimp farming and still keeps shrimp farming in the area with the switch gate. For the last four years it was promised that the saltwater intrusion would be stopped, but it did not happen. The political leader did not mention that he will stop shrimp farming but said that it will decrease or disappear from the area if the virus continues in his interview. The political leader therefore seems to have a lot of power over the shrimp area and over local land-use. The political leader has now been in power for 4 periods or 20 years. He is elected democratically, but according to one participant, he always wins, even though he does not have the support in the shrimp area. However, he does not need the support of the shrimp community, because he has support in other areas in Magurkhali, which do not have trouble with salinization from the river water. Lastly, there are individual actions against shrimp farming like protests, which led to an end of shrimp farming in Kanchan Nagar, which is a small neighboring village.

In addition, some locals tried to experiment with growing rice during the shrimp season. The rich shrimp farmers talked about a case where a couple of locals tried to stop with shrimp farming:

> Some people made some polder for experiment, and they avoided the saltwater and brought the freshwater and they tried to experiment, and they became so poor that they had to work as a day laborer in the market and now this year they came back with the saltwater.

This experiment failed, but another participant succeeded in growing paddy instead of shrimp before the saltwater came in. The saltwater still came to his land, but he successfully grew the paddy before it reached the area. A couple of weeks after the interview with him, he could harvest the paddy, while others in the area could not do it. He explained that he did it because he wanted to experiment, since freshwater is not coming into the area. He explained: "I think that people will look at me and will be an example for other people and other people will also try this and people will live properly again." This example shows the resilience of the local community and the hope that still is there.

Summarizing, the transition to shrimp farming led to a transformation in the foodscape mainly because of saltwater. The food habits did not really change, but the quantity and the quality of food is really different than before shrimp farming was introduced. The food that used to grow in the

area is not there anymore and the places where people get their food have changed from their own land to local markets. Initially, locals were happy with shrimp farming, but the effects of saltwater and the shrimp virus led to a lot of negative changes in the food and landscape. These effects mostly hit the farmers with small farms, while the big farmers have land outside of the shrimp area and are not much affected. There were two clear narratives that came forward from the interviews: the narrative of the local people with small farms and the narrative of people who have bigger farms, whom also have lands outside of the shrimp area or the narrative of people who have advantages of shrimp farming and people who have disadvantages from shrimp farming.

Conclusion

In literature, there has already been a lot of research on shrimp farming in Bangladesh. This research provided new insights by focusing on the foodscape, which was not done before. The focus of this research was to research how one change in agricultural land use due to demand from Western countries transforms a local foodscape. In this case, the transition rice farming to shrimp farming. The effects of shrimp on landscape were clearly visible in the area. The Magurkhali area became a desert in the delta. Next to the drastic changes in the landscape, there were also social impacts seen. The people who did not profit from shrimp farming are not self-sufficient anymore but became dependent on the local markets. The food changed in quality and quantity, which resulted in less healthy eating habits. There were also economic struggles seen, which were increased by the shrimp virus.

Most research on shrimp farming is quantitative and focuses on the changes that shrimp farming causes for a community. This research also focuses on the changes for individuals. There are a lot of different viewpoints on shrimp farming in the research area, this research highlights the viewpoints of the people who did profit from shrimp farming and the viewpoints of the people who did not profit from shrimp farming to tell the story on how shrimp farming affected the foodscape.

Next to filling a gap in literature, this research also looked at the social impacts of shrimp farming. While shrimp farming could be a really profitable business and could help with the development of a region, in reality it is only profitable for farmers with big farms. Locals do not have a say on shrimp farming, and they are not getting any help from the government. Shrimps are an important export product, so the government should also look to the local impacts it has on local foodscapes. The participants of this research said that shrimp farming like this is not sustainable, and they expected that

19

shrimp farming would disappear from the region. Therefore, it is important to reflect on how a shrimp farm can transition back to other agricultural land use.

In addition to contributing to the theoretical debate, this research could also have some implications for policies too. The World Bank planned for a limited area to be affected by the saltwater intrusion. When the World Bank left these plans, they were not followed and most of the area became salinized. To solve this problem, proper land-use planning must be implemented. With this, salinization could be mitigated to a limited area that is designed for shrimp farming. Another problem is that a lot of farmers are dependent on the incomes generated from their farm. The virus caused a lot of farmers to lose income. Policies which support diversification of income sources could be a solution to these problems.

According to the participants, the decisions on shrimp farming are made by a few people. Policies should focus on involving more people from the shrimp areas in the decision-making process. Most of the farmers have lived their whole life in the shrimp area and their history with the area goes back generations. Their knowledge of the area could contribute to more sustainable farming methods. Lastly, there should be more education and awareness about shrimp farming. Participants mentioned that they initially did not know the consequences of shrimp farming. It is important that farmers have knowledge of the long-term consequences of shrimp farming. This knowledge could empower farmers to make more informed decisions.

Reflections

Going to Bangladesh was a great opportunity to do research on an important topic. In the Western world, shrimps are seen as a common product which can be bought at the supermarket without realizing the impacts of the products on rural areas in countries such as Bangladesh. The rural areas in Bangladesh became a part of a global supply chain for shrimps without the realization of the locals, but they had to deal with the impacts. This research provided a voice to the people who are struggling because of the transition to shrimp farming and tried to highlight the unequal situation between people with power and people who do not have power. This was a heavy topic to research due the heavy circumstances people have to live in. The interviews were sometimes difficult, with stories about how people were killed due to shrimp farming, but most of the time, the interviews were inspiring. The participants showed hope and resilience even when there seemed to be no hope. In addition, everyone in Bangladesh showed a lot of kindness and hospitality, which made doing research in this country very special.

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Climate change, threat perception, and adaptive capacity in Galle, Sri Lanka

Julia van den Berg

Abstract

Galle, a coastal city in the southwest of Sri Lanka, faces numerous climate risks due to its tropical wet climate and its exposure to an annual monsoon. Given the absence of flood protection and its economic dependence on climate-sensitive livelihoods, adapting to these changes is crucial for locals. This research explores the mechanisms linking threat perception and adaptation strategies to enhance livelihood resilience against climate change in Galle, Sri Lanka. To analyze the intricate livelihood resilience strategies, a comprehensive framework focusing on threat perception and climate adaptation strategies is employed. Qualitative data, including in-depth interviews, small talk, and participant observation, were collected on-site. Results point out that individual threat perception drives climate adaptation strategies, bolstering livelihood resilience. However, the interplay between these mechanisms is influenced by adverse societal circumstances in which individuals are positioned. Economic hardships and lacking governmental support hinder residents' capacity and incentives to adapt to climate change. This research, therefore, underscores the necessity for a nuanced approach to climate change adaptation research, considering the significant societal factors that shape individuals' engagement in livelihood resilience strategies.

Keywords

climate change · threat perception · adaptive capacity · livelihood resilience · climate change vulnerability · Protection Motivation Theory

Introduction

Climate change has been widely acknowledged as a significant threat to ecosystems created by humans and nature, as well as to human civilization in the twenty-first century and beyond (De Costa, 2008). Its impact extends across all dimensions of the socio-ecological environment, encompassing agriculture, biodiversity, health, and settlements (World Bank Group & Asian Development Bank, 2020). While the effects of climate change will be experienced differently across regions, its drivers and consequences

are essentially global in nature. No country or region is immune to climate change (De Costa, 2008). Yet, evidence unequivocally underscores that the most severe effects of climate change will be felt in developing nations. Their heightened vulnerability results from their livelihood often being reliant on natural resources and a limited adaptability to climate extremes (De Silva & Kawasaki, 2018; Nianthi & Shaw, 2015; Thathsarania & Gunaratne, 2018).

Among the most vulnerable are densely populated tropical coastal communities, subjected to rising temperatures, intensifying extreme weather events, and rising sea levels (Cinner et al., 2018; Nianthi & Shaw, 2015). Communities reliant on oceanic resources like fisheries and agriculture are especially affected by climate change (Cinner et al., 2018; Nianthi & Shaw). In this context of climatic vulnerability, the city of Galle, located in Sri Lanka's southwest, emerges as a paradigmatic case. Its low-lying geography, tropical wet climate, and ongoing recovery from the 2004 Indian Ocean tsunami emphasizes its susceptibility and vulnerability to climate risks (Rathnayake et al., 2020). In response to these threats, this research's main objective centers around exploring individual threat perceptions engendered by climate change and their translation into local-led adaptation strategies aimed at bolstering livelihood resilience.

This research specifically hypothesizes that individuals, when confronted with climate risks, attempt to attain livelihood resilience by engaging in adaptive behavior. Understanding the complex dynamics of adaptive response to climate risks unveils a nuanced interplay of cognitive processes and personal experiences that shape how individuals perceive threats. In line with Ives and Kendal's (2014) modification of the Values-Beliefs-Norm (VBN) theory, such processes intersect with value systems, beliefs, and normative structures which influence behavioral intentions and actions. This research proposes that the interaction of these cognitive elements determines how a person perceives threats, which determines how they engage in adaptation strategies. In this sense, the main objective of this research is to understand threat perceptions of climate change and how local-led adaptations are made as livelihood resilience strategies. The main research question is: *How are individual perceptions of environmental threats caused by climate change translated into local-led adaptation strategies?* Three sub-questions were designed to accompany and support the main research question: *i) how do residents of Galle perceive environmental changes caused by climate change, ii) to what extent do residents of Galle perceive their livelihood at*

risk due to climate risks caused or aggravated by climate change, and *iii) in what ways do residents of Galle engage in climate change adaptation strategies?*

This research applies the Protection Motivation Theory (PMT) as a theoretical lens to explore the connection between threat and coping appraisal, culminating in self-protective behaviors. Grounded in the approach of human agency and livelihood resilience, this research establishes an analytical framework that emphasizes iterative process of threat perception and adaptation strategies in increasing livelihood resilience in the face of climate change. The findings show that individual-level factors (see Figure 4) often intersect with community-level factors such as the economic and political conditions in defining adaptive capacity and ultimately livelihood resilience. This means that external conditions often shape the boundaries of climate adaptation strategies. To understand how livelihood resilience is shaped by threat perception, this research argues for a model of perception and adaptation to climate change that encompasses these individual- and community-level factors.

Analytical Framework

Values and beliefs

Despite its significant implications for the environment, society, and the economy, climate change is a phenomenon that the general population cannot readily and accurately identify due to its gradual nature. Slow-onset changes like desertification, droughts, and salinity are especially complex to identify as they lack immediate impact (Koubi et al., 2016; Weber, 2010). However, individual perception is not solely shaped by palpability; they are also determined by personal values. This aligns with the Values-Belief-Norm (VBN) Theory, which asserts that values, basic beliefs, attitudes, and norms shape behavior (Ives & Kendal, 2014). Ives and Kendal (2014) argue that values are not merely static mental static constructs but are profoundly embedded in ecology and culture. Environmental decision-making, therefore, does not take place in a vacuum but is often affected by the context in which these decisions are set and allows for space to reflect upon one's values. Differentiating from values, norms guide expected behavior, and beliefs reflect worldviews (Dietz et al., 2005; Ives & Kendal, 2014). Religion strongly intertwines with perception. Sri Lanka's predominant religions — Buddhism, Hinduism, and Islam — emphasize human-nature interconnectedness and acceptance of shape, possibly shaping disaster perceptions (Harrap, 2022). Additionally, climate vulnerability and adaptive capacity further shape individual threat perception.

Vulnerability, resilience, and adaptive capacity

Climate change vulnerability, resilience, and adaptation are intricately interwoven concepts increasingly considered through subjective values (O'Brien & Wolf, 2010). They vary contextually and temporally across individuals, social groups, and nations. Human agency is essential in these systems in which the synthesis of individual threat perception and adaptive capacity drives livelihood resilience within climate vulnerability contexts. Climate change vulnerability encompasses susceptibility to risks and the likelihood of suffering harm from external threats. It is a result of sensitivity to impacts, exposure, sensitivity, and (lacking) adaptive capacity (Thathsarania & Gunaratne, 2018). It described not solely the detrimental material effects of climate change but also how these effects are valued differently and how they impact the lives and well-being of humans and animals. This perspective holds that people are susceptible to the extent to which climate change impacts their subjective internal and objective external worlds (O'Brien & Wolf, 2010). Moreover, it encompasses resilience; the capacity to rebound after disruption, which is pivotal in communities' response to change (Adger, 2000).

This research adopts a livelihood resilience approach, distinctly acknowledging and emphasizing the several ways in which people perceive risk and react to it, either individually or collectively, as well as how they perceive risk differently (Tanner et al., 2014). Walker et al. (2006) argue that resilience is based on three characteristics: i) recognizing and coping with the aftermath of natural disasters; ii) adapting to change; and iii) actively shaping one's own future as opposed to depending only on external factors. This approach emphasizes human agency as essential in building resilience and recognizes that it is never distributed homogenously within and between social groups. Rather, social, economic, and cultural factors play a significant role in determining this ability (Weichselgartner & Kelman, 2014). A resilient system, therefore, can adapt to change and endure stress without losing its fundamental characteristics of identity, structure, or function (Walker et al., 2006). In such a system, adaptive capacity plays a vital role.

Adaptive capacity is shaped by personal, societal, and environmental factors and involves value-based changes to mitigate climate consequences (Adger, 2000; Smit & Wandel, 2006). Adaptive capacity relies on foreseeing change, limiting impact, and seizing opportunities (Cinner et al., 2018). Adaptations can be planned or reactive, driven by policy or individual initiatives, and affected by kinship networks, technological resources, and institutional environments (Smit & Pilifosova, 2003; Smit & Wandel, 2006).

It can both be bolstered and limited by socio-economic attributes such as (financial) assets and (physical) capability. In this sense, an individual is part of a larger system on which they rely for favorable circumstances and conditions to adapt. Ultimately, adaptive capacity explains why some people and groups are able to innovate and adapt faster and more efficiently than others (Siders, 2019). The Protection Motivation Theory (PMT) is employed in analyzing adaptive behavior due to its alignment with vulnerability and threat perception.

Protection Motivation Theory

Introduced by Rogers in 195, the Protection Motivation Theory (hereafter 'PMT') analyzes the effects of fear appeals, focusing on cognitive mechanism driving behavioral change (Norman et al., 2005). It involves two primary cognitive processes of 'threat appraisal' and 'coping appraisal'. Threat appraisal assesses threat seriousness, susceptibility, and vulnerability, while coping appraisal evaluates one's ability to respond and mitigate risk (Mallick et al., 2022). High threat severity, susceptibility, self-efficacy, and efficacy of response, along with low response costs and maladaptive rewards, drive self-protective behavior (Kothe et al., 2019). PMT originated in social and health psychology, expanding to broader decision-making fields (Norman et al., 2005), though its methodology remains quantitative. However, qualitative methods can also explore PMT variables through inductive reasoning, integrating individual experiences beyond numerical scales. Using PMT in qualitative studies, such as in-depth interviews, allows space to create a deeper understanding of aspirations, ideas, experiences, and perceptions clarifying how threat perception influences adaptive capacity within various contexts. Expanding to qualitative research can enhance understanding of threat and coping variations, contributing to adaptive capacity and livelihood resilience.

Operationalization of the variables

The presented analytical framework (Figure 4) integrates threat appraisal, adaptive capacity, and livelihood resilience theories within climate risk and vulnerability contexts. Vulnerability and exposure, according to IPCC (2019), shape the socio-ecological elements of environmental hazards. Vulnerability measures how much people are or could be harmed by climate risks, whereas exposure measures how seriously an individual or landscape is exposed to such risks. Both mechanisms impact livelihood resilience, though not in isolation. The PMT forms the crux, focusing on threat and coping appraisal. Threat appraisal assesses threat seriousness and vulnerability, influenced by climate risk knowledge, experience, values, and

beliefs. Coping appraisal, shaped by assets, capability, and adaptive capacity, measures response ability. Adaptive capacity encompasses commitment, capacity, and willingness to adjust. Assets and capability encompass individual socio-economic attributes. These interdependent factors determine threat perception and resilience. Conversely, high resilience through effective adaptations decreases threat perception, reducing vulnerability. This dynamic system is influenced by individual and social events, which shape livelihood resilience. Livelihood resilience is thus not merely an end-state but an ongoing process.

Methodology and Data Collection

Research design and participants

Qualitative interviews, particularly semi-structured in-depth interviews, were chosen as a fitting method for data collection due to their alignment with the subjective nature of threat perception, adaptive capacity, and livelihood resilience. With personal experiences and feelings central to the research sub-questions, this method allowed for deeper exploration while adhering to predetermined topics (Clark et al., 2019). Topics and central questions have been decided upon beforehand, following the literature. Still, there was space for the discussion to dive into subjects and issues raised by the participants (Clark et al., 2019). An interview guide was created prior to the fieldwork. To ensure rigor and validity, the predetermined questions
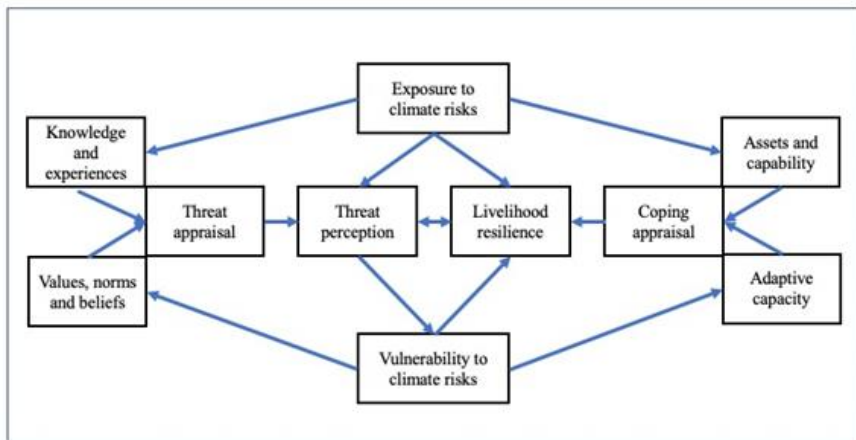

Figure 4. Conceptual model of threat perception and adaptation to climate change by author.

were designed based on the variables as established in the analytical framework (see Figure 4).

Interviews involved participants from Galle, recruited through snowballing and convenience sampling (Clark et al., 2019). The sample included 30 in‑depth interviews with individuals ranging from 22 to 84 years old, from diverse socio‑economic backgrounds and neighborhoods. Achieving gender parity proved challenging in Sri Lanka's patriarchal society, as men predominated public areas, making it difficult to encounter women willing to be interviewed. This resulted in 6 female and 22 male participants. Neighborhoods were categorized into coastal (C), transition (T), and inland (I) zones, capturing various natural environments' perspectives. Occupations ranged widely to encompass diverse viewpoints. Interviews were conducted indoors, outdoors, seated and walking, offering contextual insights. Data analysis comprised the transcription of all recorded interviews and manual coding, both through inductive and deductive approaches.

Participant observation and small talk emerged as crucial methods during fieldwork. While not the primary approach initially, they facilitated connections and gathered essential data. Small talk, seen as building rapport and trust, provided access to otherwise unrevealed information (Driessen & Jansen, 2013). Participant observation, involving researcher immersion in daily life, captured rich human experiences beyond interviews. This method uncovered insights that extended beyond the theoretical framework, allowing a glimpse into real‑world contexts (Clark et al., 2019).

Site exploration and climate change context

Galle, a sizeable city on Sri Lanka's southwest coast (see Figure 5), is the administrative center of Galle District and the largest in the Southern Province. Sri Lanka, despite its small size, experiences diverse climatic variations. It has an average temperature of 27°C to 28°C. The country has two primary seasons: *Maha*, corresponding to the northeast monsoon from September to March and *Yala*, corresponding to the southwest monsoon from May to August (The World Bank Group & Asian Development Bank, 2020). Galle features a tropical rainforest climate and is prone to heavy rainfall during the Yala season, leading to annual issues like flash floods and mudslides. Galle's city center is surrounded on three sides by the Indian Ocean and lacks adequate flood protection measures, making it extra vulnerable to climate risks.
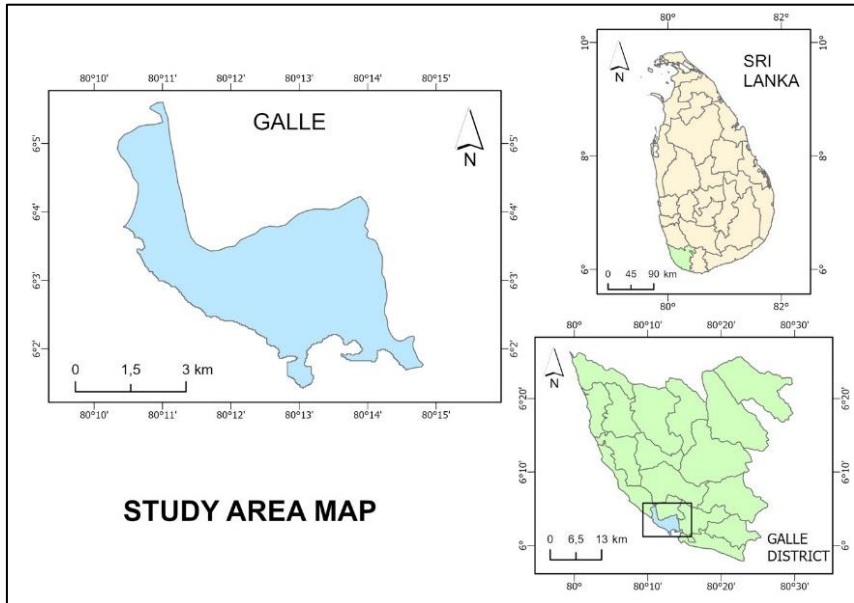
Figure 5. Study area map indicating the geographical position of Galle in Sri Lanka.

Over the past century, Sri Lanka has witnessed a notable rise in mean, maximum, and minimum temperatures, with a rapid increase from the 1970s. Extreme heat poses significant threats to living standards. Sea level measurements and projections indicate a steady rise along the coastal areas (The World Bank Group, 2021). Sri Lanka frequently faces challenges such as cyclones, landslides, droughts, and coastline erosion. The 2004 Indian Ocean tsunami caused widespread destruction in Sri Lanka, leaving behind considerable damage and loss of life, particularly impacting coastal areas like Galle. Galle's vulnerability is rooted in its geographical location, climate, and exposure to environmental hazards. With its complex hydrological cycles and susceptibility to extreme weather events, Galle is at risk from both slow- and rapid-onset environmental changes.

Findings

Exposure and vulnerability to climate change

Galle is exposed to a variety of climate risks, of which most were accurately identified by participants. All participants recalled the 2004 tsunami. Rising temperatures, river floodings and unpredictable weather patterns, including a steep increase in the occurrence of tropical storms, were also

mentioned. A noticeable rise in temperature since childhood was commonly reported, besides how extreme weather fluctuations have disrupted traditional climatic patterns. The sea level rise was not discussed by participants, possibly due to its gradual nature and obscured visibility by coastal activities and structures. While many participants could identify climate change, many lacked an understanding of the notion of climate change as a global phenomenon. Older generations and those without higher education often detailed climatic impacts without mentioning the term 'climate change.' However, some participants with lower education levels were knowledgeable due to other sources like books or social networks. Education on climate change is relatively new in Sri Lanka's school curricula, contributing to gaps in understanding. Some participants comprehended drivers of climate change, such as deforestation, ozone layer depletion, pollution, and waste dumping. Concerns were raised about inland tree cutting and the lack of environmental regulations, leading to pollution and deforestation. The diversity in participants' awareness and knowledge emphasizes the varying degrees of understanding of climate change's causes and consequences.

Threat perception

Threat perceptions are highly subjective and appear in all shapes and colors. Identity-related and cognitive mechanisms allow for more understanding and insight into the process of factors that ultimately shape threat perception. The established analytical framework encompasses the evaluation of both the threat and a person's capability to cope with it, in which an individual relies on their values, norms, beliefs, knowledge, and experience. These factors lie at the foundation of achieving livelihood resilience. In line with this framework, participants expressed varying degrees of reliance on all these factors.

Participants based their assessment of whether their livelihood is at risk on a variety of identity-related factors, as well as certain cognitive factors such as their knowledge about and experiences with climate change. Education, age, economic (in)security, and religious values and beliefs, in particular, play a significant role. Participants with greater knowledge on climate change expressed greater concern. Lack of education on climate change left some unaware of its implications. However, findings show that knowledge and experience do not necessarily correlate; many participants who are directly affected by climate change were not knowledgeable about the notion of climate change itself. Notably, the 2004 tsunami, a significant event, did not consistently translate to sustained threat perception. For

many, the trauma faded over time and was not a constant source of anxiety or deemed significant in establishing feelings of threat.

The economic crisis in Sri Lanka since 2022 has further complicated livelihoods. Power cuts, steep inflation, and goods shortages impact various sectors, with agriculture, tourism, and fishing being most affected. Some participants link climate change to economic insecurity. For instance, extreme weather affects the tourism industry, which is already impacted by the economic crisis. A tour guide, for instance, explained how he regularly has to cancel his walking tours due to heavy rainfall or extreme temperatures. Similarly, traditional Sri Lankan farming methods, based on traditional knowledge, clash with changing climate conditions. Furthermore, older participants mostly prioritize immediate survival, while younger participants perceive long-term threats to their livelihoods. Lastly, no considerable variations in responses or observations in geographical zones of residence (C, T, I) were found.

Individual livelihood risk is thus not ultimately established by one single aspect, but rather by a complex interplay of identity, knowledge, experience, and external circumstances that shape how individuals perceive climate-related risks. These mechanisms are not fixed; they are subjective, temporal, and influenced by personal awareness and community-level factors. These nuances underscore the complex relationship between perceptions and vulnerability.

Livelihood resilience

Researching local adaptation measures revealed that defining adaptation was complex for participants due to its intersection with numerous societal issues. Adaptation strategies often address broader vulnerabilities, not solely climate-related ones, as the economic crisis, societal issues, and climate impacts intertwine. Mentioned and observed tangible adaptive measures include using fans, air conditioning, and planting more plants and trees to counter extreme heat. Some participants diversify income sources, cultivate food, or shower more frequently to cope with discomfort. Other participants mentioned travelling to cooler regions during times of extreme heat. Farmers adapt by using natural solutions, like redirecting water streams, instead of costly technologies. While climate change directly affects agriculture, adaptation is not always guided by climate considerations. Societal issues like the economic crisis take precedence.

Galle's adaptive capacity is shaped by the broader socio-economic context. The economic crisis, political unrest, and the COVID-19 aftermath have collective implications. Sectors like agriculture, tourism, and fisheries suffer

due to these crises, intertwining with climate impacts. For many, shortages of fuel and fertilizer affect their livelihood. Economic survival thus becomes the priority, reducing the perceived urgency of climate change. Moreover, many participants lack education on climate change, limiting their awareness of adaptation options. While some express aspirations to counteract climate change or migrate to other countries or regions, financial constraints hinder their actions. Besides a personal lack of financial means, many participants feel government support is lacking. Without solid climate legislation, residents are not given incentive or supported to engage in structural adaptive behavior. Therefore, locals' resilience strategies primarily revolve around the mentioned basic survival amid crises.

Although hindered by socio-economic obstacles, participants show coping skills in dealing with slow and rapid climate events. They employ creative strategies, like alternative income sources and self-sufficiency in food. Physically, they adapt through fans, showering more often, and seeking cooler areas. However, these strategies are constrained by adaptive capacity. Financial insecurity impedes investment in long-term climate resilience. Urgent economic concerns overshadow climate change, making it a non-urgent issue. Awareness of climate change's role in adaptation is limited, leading to indirect adaptations. Participants therefore implement measures for immediate comfort or survival without explicitly linking them to climate change.

Discussion

Data analysis reveals that cognitive mechanisms and identity-related factors intricately shape threat perception. Rogers' (1975) PMT concepts of threat and coping appraisal were used to explore how cognitive factors and identity dimensions influence individuals' perception of climate-related hazards and their coping ability. Notably, the degree of knowledge individuals possess about climate change implications and its impact on their financial stability emerged as influential factors. Generally, higher knowledge levels were associated with higher levels of stress and perception of threat, aligning with the PMT. Surprisingly, direct exposure or experience with climate-related events did not necessarily lead to heightened threat perception. Although participants recognized changing weather patterns and had experienced events like the 2004 Indian Ocean tsunami and annual floods, these experiences did not always translate into perceived livelihood threats. Many individuals who were aware of climate change did not feel threatened due to conflicting beliefs, lack of knowledge, or prioritizing other livelihood risks. An exception was observed when individuals' financial security was directly tied to climate conditions, as in the case of those

working in tourism and agriculture. However, the relationship between climate change exposure and threat perception was complex and context dependent.

Values, beliefs, and norms also were found to influence threat perception. Those valuing sustainability and environmental conservation were more concerned about climate change. This strongly coincided with environmental knowledgeability. Additionally, participants with strong religious beliefs, particularly Buddhist values, tended to exhibit lower threat perception. This could be attributed to Buddhist principles emphasizing acceptance of change and one's active role in the environment. Religious beliefs play a substantial role in shaping worldviews, impacting how individuals perceive and cope with climate risks. Factors like knowledge, environmental values, and religious beliefs thus contribute to shaping how individuals perceive the threat of climate change to their livelihoods.

In socio-economically vulnerable regions like Galle, individuals often face greater susceptibility to climate change impacts. The ability to adapt becomes critical for coping with climate-related effects. While external interventions are sometimes necessary for extreme events, many adaptive strategies lie within individuals' coping range. However, challenges related to adaptive capacity and financial resources frequently hinder these efforts.

Four categories of individuals emerged based on their awareness of climate change impacts and direct effect on livelihoods: those aware and directly affected, aware but not directly affected, unaware but directly affected, and unaware and not directly affected. It is important to note that "not directly affected" means that participants do not feel as though their livelihood is threatened by climate risks because of their agency placing them in a less vulnerable space or they experience little dramatic effects of climate change on their socio-economic or political position in society. Those who were aware and directly affected were more likely to engage in adaptation strategies. Yet, the relationship between awareness and adaptation was not always straightforward. Financially comfortable individuals often exhibited low levels of adaptation despite their awareness of climate change. An interviewed software engineer and successful entrepreneur both demonstrated vast knowledge on climate change but neither perceived their livelihood at risk as community-level factors such as food production difficulties had no direct effect on their standard of living. With a comfortable salary, they could afford more expensive, imported goods. This underscores the role of contextual factors such as economic stability in shaping adaptive behaviors.

While the PMT emphasizes a parallel relationship of threat and coping appraisal, this research revealed a rather a linear relationship between these mechanisms, where threat appraisal influences coping appraisal. Threat perception is intertwined with cognitive aspects and identity-related dimensions, shaping perceptions of severity and susceptibility to climate risks. Moreover, the ability to cope and adapt is affected by adaptive capacity, self-efficacy, and response costs. Factors like limited financial means, lack of governmental support, and economic crises contribute to low adaptive capacity, ultimately affecting livelihood resilience. These community-level factors thus influence the extent to which individuals have the space and freedom to adapt. The absence of incentives, financial aid, and understanding about climate change in Galle results in vulnerable individuals struggling to strengthen their livelihood resilience. Economic crises further impede adaptive capacity, highlighting the dependence of adaptive behaviors on external systems and contextual factors.

In essence, individual adaptive behaviors are complexly influenced by cognitive processes, identity factors, and societal circumstances. A comprehensive understanding requires consideration of not only perceptions but also the capabilities and systemic dynamics that enable or constrain adaptive behaviors. The analytical framework expands to encompass adaptive capacity, assets, and capabilities influenced by exposure and vulnerability, thus providing a more holistic perspective on how individuals respond to climate change challenges. This research acknowledges the nuanced nature of individual perceptions and adaptive behaviors. While drawing on established theories and approaches, the findings emphasize the unique context of Galle. The focus on individual livelihood resilience underscores how the broader societal and economic contexts shape adaptation possibilities. Acknowledging the limitations of qualitative data and subjective experiences, this research provides valuable insights into the nuanced intersection of cognitive mechanisms, identity dimensions, and contextual factors.

Conclusion

Mechanisms shaping threat perception and adaptation strategies in Galle were explored, revealing contextual, cognitive, and person-specific factors at play. The findings show that threat perception was found vital for motivating a range of livelihood resilience strategies, although physical discomforts or financial strain were more influential in driving adaptation strategies than a specific climate change awareness. Participants who did experience a high threat appraisal were all, actively or passively, concerned with (out-of-reach) structural adaptive responses, although threat

appraisal is not a necessary factor in engendering adaptive behavior. The prevalence of adapting to climate risks was shown to be overshadowed by external causes such as the economic crisis, indicating a notable disparity between adaptive aspirations and adaptive capacity. Similarly, even when people acknowledged that climate change posed a risk to their livelihoods, their adaptive space was framed by contextual conditions. These contextual factors give them (un)favorable conditions in which to implement adaptation strategies. As a result, even though it is clear that threat perception is a crucial motivator for developing structural livelihood resilience, its manifestations are highly intricate, context-dependent, and individual-specific.

Reflections

As the main achievement of my academic career, writing and conducting research for this thesis has shaped my academic research skills and gave me unforgettable experiences far outside my comfort zone. Conducting literature research prior to my fieldwork period has taught me to critically reflect upon available academic knowledge, but has also deepened my ability to create, connect, and reframe certain key theories and frameworks. The highlight of the thesis trajectory, for me, was the opportunity to conduct fieldwork on the other side of the world. I am thankful for the privilege I have of spending time in another country for research purposes. The experiences I gained during that time will be forever memorable and educational. It has pushed me to deal with cultural issues on my own and to seek the boundaries of my comfort zone. I think it is powerful to fully emerge yourself in a new culture and be open to new experiences. The whole process has contributed to my personal growth, of which this thesis is only the beginning of my professional career in academics or otherwise.

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How conservation policies shape living conditions in Santa Cruz, Galapagos

Sarah van Druten

Abstract

This research examines how conservation policies shape the living conditions of residents of Santa Cruz, the most populated island of the Galapagos Island in Ecuador. By using a political ecology framework, this research aims to understand how the economic and political factors of conservation policies shape local living conditions. Through a combination of in-depth interviews, observations, and informal conversations this research sheds light on the complex trade-offs between conservation and human development. The creation of the Galapagos reserve resulted in a significant shift in power dynamics, moving authority from locals to foreign organizations and, eventually, the Ecuadorian government. Later, the government's economic interest in tourism has driven its expansion alongside conservation. The prioritization of nature conservation and the development of a tourism-friendly island have overshadowed investments in local services and increased competition over resources. The unequal power dynamics intensifies the situation as locals experience unequal distribution of benefits and burdens. Conservation policies contributed to the transformation of traditional livelihoods towards the service sector. Furthermore, policies also shaped human-environmental relations of residents. Local disempowerment and the commodification of nature have resulted in a disconnection towards their surroundings. Another result of the unequal power allocation and conservation policies is the discontent among some residents which results in resistance and non-compliance of some rules. The findings of this research contribute to a broader understanding of the socio-environmental challenges and opportunities in conservation policy implementation, with implications for sustainable development and to create more inclusive development strategies in the Galapagos and similar contexts around the world. Future efforts should stress environmental education, local agency, and collaborative nature-society relations.

Keywords:

Introduction

In the late twentieth century, a global movement emerged focused on nature conservation and environmental sustainability. A pivotal moment was the release of the influential Brundtland report in 1987, which shaped the discourse on Sustainable Development, stressing the inseparability of environmental concerns from development efforts, particularly in developing nations (Brundtland, 1987). Consequently, nature conservation has become a recurring theme in International Development studies. Acknowledging the intricate links between poverty and environmental degradation, it is imperative to recognize that conservation cannot be studied in isolation from poverty (Duraiappah, 1998). Zingerli (2005) further argues that conservation initiatives can inadvertently lead to social injustice and deprivation for resource-dependent communities, questioning the assumption that conservation programs always yield positive outcomes for both the environment and local communities. This underscores the necessity of critically evaluating potential social impacts and inequalities arising from such initiatives. In a world where biodiversity conservation and sustainable development are integral to a globalized understanding of nature, institutions have arisen to mediate the relationship between humans and their environment.

One approach to conservation involves creating protected areas, serving as tools to control human activities and interactions with ecologically sensitive areas. The management of these areas necessitates strong governmental structures for effective conservation management, yet it often results in a separation between humans and their environment. This view has profound implications for communities residing near these protected zones (Tian et al., 2019; West., 2006). These communities are often influenced by external entities, primarily decision-making authorities. The global conservation movement, with direct engagement with national governments and supported by international donors, further exacerbates this external influence. In the context of developing nations, where poverty, population growth, and political instability prevail, these dynamics intertwine with international forces to shape the functioning of protected areas. Therefore, a comprehensive analysis of conservation policy management must consider both economic and political factors, and their impact on local communities.

The economics of conservation are deeply influenced by globalization and neoliberal reforms. Tourism, as a potential economic stimulant, particularly for islands, can facilitate development. However, the disparity between anticipated and actual benefits for local communities often exists, as

governments also seek a share of available funds (Adams & Hutton, 2007). Yet, tourism-driven economic growth around protected areas can lead to unequal cultural exchange and Westernization, thereby commodifying local nature. The complex scenario places conservationists in a challenging position, necessitating alliances with local communities while protecting resources and advocating sustainable policies. The state also benefits from protected areas by retaining control over natural resources. This dynamic often results in local disempowerment and environmental injustice as conservation and tourism focus takes precedence (Vaccaro et al., 2013). Stakeholders engaged in conservation activities encompass diverse groups, each with distinct needs and desires. While powerful actors frequently favor protected area establishment, local communities often hold different perspectives due to their reliance on the resources within and around such areas. Conflicts often revolve around the balance between conservation and human development among diverse stakeholders (Naughton-Treves et al., 2005).

The Galapagos Islands exemplify the complexity of balancing conservation and human development. Recognizing their ecological fragility and value, conservation efforts have intensified to protect the islands' unique biodiversity. Protected areas such as the marine reserve and the Galapagos National Park have been established to safeguard this natural heritage. While these initiatives contribute significantly to the economy, they also introduce challenges for local communities. This includes limitations on resource extraction, socioeconomic stratification, and pressure on public services. The ongoing need for sustainable practices and responsible tourism fuels the demand for conservation initiatives, further impacting local dynamics.

This research contributes to filling a crucial gap in the discourse on conservation policies by investigating their effects on local living conditions and human-environment relations in Galapagos. While previous studies have explored conservation efforts' impact on biodiversity and economic shifts, there's limited understanding of their equality and inclusivity, particularly concerning local communities. This study seeks to explore and comprehend how the residents of the Galapagos Islands are influenced by conservation policies driven by political and economic factors. By investigating this complex interplay, the research aims to shed light on the intricate relationship between conservation efforts and human development. Galapagos, with its emphasis on preserving unique biodiversity, limiting human intervention, and attracting tourism, provides an ideal context for understanding how economic and political forces shape local living conditions within the conservation framework. The findings can

enrich conservation strategies, aligning them with the well-being and livelihoods of local populations. Moreover, it contributes to political ecology debates on environmental justice, influencing discussions about equitable conservation strategies that account for local populations' needs and desires. With the rapid changes in environment, tourism, and socio-economic factors, understanding the social impacts of conservation policies becomes crucial for informed and nuanced decision-making, not only in Galapagos but also in similar settings globally.

Methods

The study focuses on Santa Cruz, the most populous island in the Galapagos archipelago, with a population of 15,071 residents out of 33,042 in the region (Herrera, 2022). The island's population is primarily concentrated in the urban area of Puerto Ayora, while others reside in the rural highlands of Bellavista and Santa Rosa. This selection allows for an in-depth exploration of how the local community navigates the challenges posed by conservation policies. Furthermore, the island's rich biodiversity and unique environmental setting make it a captivating location for researching the interplay between conservation policies and residents. The intricate relationship between the island's human population and its rare ecosystem offers a compelling context for examining how conservation efforts influence both human-nature relations and community well-being.

Data Collection

Qualitative data collection methods were utilized to investigate the influence of conservation policies on living conditions. The research incorporated informal conversations, observations, and semi-structured interviews to gather a nuanced understanding of the subject.

Exploratory Research

The initial phase of fieldwork consisted of exploratory research, during which informal conversations were conducted to gain insights into the lives of residents and their surroundings. This process aided in refining the research design and conceptual framework. Observations played a pivotal role in capturing everyday experiences, uncovering how political and economic factors shape these experiences. This approach facilitated the exploration of societal interactions, key insights, stakeholders, and daily behaviors within the research site. The observations highlighted attitudes towards nature, interactions between individuals, and responses to conservation policies. As part of the immersive experience, the researcher spent time on a local farm, engaging with residents and expanding their
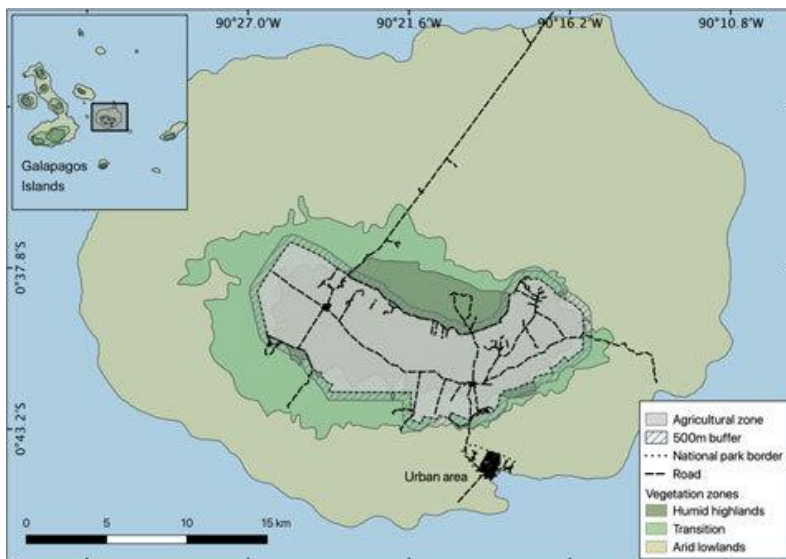
Figure 6. Map of Sante Cruz (Pike, 2022).

perspective. Additionally, interactions with residents on the streets and through personal connections provided valuable insights. The research also sought to assess how local communities responded to economic growth and tourism impact, particularly within the realms of local livelihoods and infrastructure development. The observations were conducted across different areas of the island to capture diverse perspectives, including the urban center of Puerto Ayora, and the rural regions of Bellavista and Santa Rosa.

Semi-Structured Interviews

In-depth insights were obtained through semi-structured interviews with residents in tourism, fishing, agriculture, and other sectors. Interviews with community intellectuals, such as a priest and a high school teacher, helped explore prevailing ideas and values shaping the community (Gramsci, 2011). These interviews were designed based on a political ecology framework that categorizes changes experienced by communities in administrative, demographic, economic, and infrastructural dimensions (Vacarro et al., 2013). Questions revolved around individual livelihood choices, experiences of living on the island, and the impact of protected areas. Purposive sampling and snowball recruitment were employed to ensure diversity among participants.

Data Analysis

The research embraced both deductive and inductive coding strategies to analyze the collected data. The initial analysis focused on fieldnotes, informal conversations, and the fieldwork journal. These notes were organized into themes related to politics, economics, conservation policies, and cultural values. For semi-structured interviews, qualitative data analysis techniques were employed. Transcribed and translated interviews were analyzed using NVivo software to identify patterns and themes. The deductive coding method linked the interview framework to predetermined categories, while inductive coding revealed emerging themes.

Conceptual Framework

The study adopted a political ecology framework to examine the effects of conservation policies on the residents of Santa Cruz Island. This framework emphasizes the interactions between nature and society, elucidating power dynamics between stakeholders, institutions, and actors. This perspective sheds light on the unequal distribution of environmental resources and highlights the political-economic nature of conservation projects (Harvey, 1993). By exploring how political and economic factors shape societal living conditions, the research aims to enhance understanding and awareness of the multifaceted dynamics at play.

Limitations and Risks of the Research

Several limitations and risks affect the findings of this study. The language barrier, although addressed through assistance from residents, may have influenced the accuracy of communication during interviews. Additionally, the study's confined scope to a specific protected area limits the generalizability of findings to other regions in Ecuador. The absence of insights from current political institutions may result in an incomplete understanding of the policy landscape. The study also acknowledges the researcher's positionality as a potential source of bias, particularly due to cultural differences and perspectives.

Reflection of Positionality

The subjective nature of qualitative research requires careful consideration of researcher and participant positions and their potential influence on collected data. Cultural differences between the researcher and participants may have affected trust and information accuracy. Strategies like conducting interviews in participants' preferred locations and engaging in
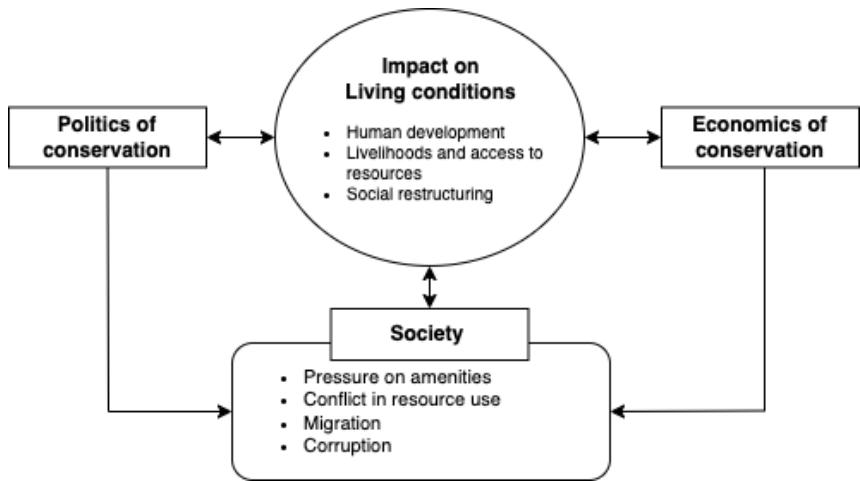
Figure 7. Conceptual model of political ecology framework by author.

informal conversations were employed to mitigate this. Continuous reflection ensured that findings were as unbiased as possible.

Results and discussion

This study explores the impact of conservation policies on the living conditions and well-being of individuals residing near conservation areas. The primary objective is to unfold the equilibrium between conservation efforts and human development, yielding insights that can facilitate the formulation of policies that foster sustainable livelihoods, alleviate poverty, and uphold social equity not only in the Galapagos but also in similar locations worldwide. Through the application of a political ecology framework, the study explores the way residents are influenced by conservation policies. By dissecting the political and economic elements of these policies, the study recognizes that the Galapagos residents are largely influenced by resource conflicts, pressures on public amenities, and economic interests originating from external stakeholders. The predominant emphasis on nature conservation, coupled with institutional instability, has led to a situation where investment in conservation endeavors often supersedes investments in improving living conditions. The findings also shed light on the transformation of livelihoods and social structures among islanders. Residents' means of subsistence have shifted towards the service sector due to constraints on resource access. The once-strong connection to the local environment, which translated into a

47

profound sense of responsibility, clearly diminished. The study thus establishes that conservation efforts and human development are intricately interlinked, necessitating a nuanced comprehension of their conflicting and interconnected dynamics.

Political Economy of Conservation in the Galapagos

The establishment of the Galapagos reserve resulted in a shift of power dynamics between various groups and the socio-ecological landscape. Previously managed by international organizations, control was transferred from these entities to the state, as external pressure led to the reserve's creation for ecological preservation. Consequently, both non-governmental organizations and governmental bodies wield significant influence over conservation policies and decision-making processes in the Galapagos. The state's authority spans over 97% of the designated area, leaving a limited scope for local autonomy. This imbalance highlights the political dimension of conservation, where government policies play a pivotal role in mediating the equilibrium between residents' rights and environmental protection. Additionally, the dominance of national governance over local administrations exacerbates the loss of local empowerment. This aligns with political ecology theories that emphasize the politicization of the environment and the power struggles that dictate access to natural resources. The study emphasizes that such dynamics result in uneven distribution of control and benefits among stakeholders, a characteristic common in conservation initiatives.

Even with the primary focus on conservation initiatives, tourism has flourished, establishing itself as a crucial catalyst for the economy. The rapid growth of the tourism sector has led to substantial alterations in migration patterns, demographics, infrastructure, and the local economy. Consequently, tourism's ascendancy has replaced other economic activities as the primary driver of growth, reshaping the way of life for many locals. Tourism's financial contributions fund a significant portion of conservation activities, thus establishing a symbiotic relationship between conservation and economic interests.

Conservation vs. Human Development: An Inherent Conflict

The complex interplay between conservation and human development in the Galapagos entails varied outcomes for diverse stakeholders, shaped by their roles, perspectives, and interests. This complexity arises from the involvement of a diverse range of stakeholders, each with distinct agendas, resulting in a conflict of interest. International conservation organizations, the Ecuadorian government's alignment with conservation and economic

considerations, and the tourism industry's dependence on environmental health for economic prosperity contribute to divergent viewpoints. This divergence is exacerbated by the prioritization of conservation efforts, driven by the tourism sector, which may divert resources, attention, and funding towards projects catering to tourist preferences. Although protecting the unique environment remains a central focus for conservationists, the local populace contends with challenges due to limited employment opportunities and constraints imposed by conservation measures. The research underscores the tension and complex interactions between conservation and human development, highlighting the inextricable connection between the two. The study concludes that, in the Galapagos, conservation often takes precedence over human development, perpetuating existing power disparities and hindering local development objectives. These findings reflect the assertions of previous studies that highlight the potential for nature conservation to undermine human welfare, exacerbate power imbalances, and marginalize local communities. Conservation initiatives often serve as tools to reinforce existing political and economic disparities, allowing external entities to exploit the resources of local communities. The power dynamics identified align with theories of political ecology that emphasize the role of power struggles and capitalist interests in the commodification of nature.

Culture and Conservation: Local Perspectives on Living Conditions and Social Transformation

The socio-economic and political factors embedded in conservation policies significantly influence people's living conditions and their relationship with their environment. In the Galapagos context, different parties are competing for access to the environment, viewed variously as a commodity for tourists, an ecosystem requiring preservation, or a resource for utilization such as fishing or agriculture. The unequal distribution of power among stakeholders impedes equitable access and benefits from the island's natural resources. The implementation of territorial restrictions and regulations, particularly those affecting fishing and agriculture, disproportionately impacts residents while favoring tourists and commercial endeavors. This disparity highlights the unequal allocation of influence and benefits, emphasizing the need for an understanding of power dynamics and their impact on conservation outcome.

The unequal distribution of power has implications beyond resource allocation; it engenders a growing sense of alienation among locals. The erosion of empowerment, exacerbated by the dominance of foreign interests in conservation and tourism, fosters a sense of detachment from

their environment (Sperber, 2003). This is consistent with theories of alienation, which posit that individuals disconnected from the means of production and decision-making become increasingly isolated. Moreover, the study sheds light on the resistance and non-compliance emerging as a response to the unequal power dynamics imposed by conservation policies. This resistance reveals the complex interplay of power dynamics and conservation measures. The study also highlights the transformation of human-environment relations in the Galapagos, indicating the prevalence of inherent contradictions between economic growth and environmental conservation. These contradictions are fueled by the imposition of Western ideals of wilderness, leading to conflicts between human economies and ecological preservation (Adam & Hutton, 2007; West, 2006).

Considering these findings, the study suggests the integration of environmental education to restore the sense of community and connection to the environment. The focus should shift from imposing strict regulations to fostering a sense of responsibility and collective action among residents. This approach aligns with existing calls to abandon the historical perspective of humans as separate from nature, exacerbating conflicts between conservation and development. The study underscores the importance of considering diverse cultural values and addressing complex power dynamics when formulating conservation policies. In conclusion, the research unveils the intricate interactions between human-environment relations, power dynamics, and conservation policies, offering insights into shaping harmonious coexistence between humanity and nature in unique island contexts like the Galapagos.

Conclusion

The significance of biodiversity conservation is universally acknowledged and has gained attention from policymakers and academics. This study aimed to explore how conservation policies, driven by political and economic factors, impact the lives of Galapagos residents. The research underscores the role of power dynamics in shaping human-environmental relationships. The Galapagos reserve altered power dynamics, transferring influence on international organizations and the government. The growth of tourism alongside conservation efforts has reshaped the islands, impacting migration, development, and livelihoods. However, unequal power relations have led to resource competition and skewed development.

The tension between conservation and human development persists, with economic interests often overshadowing local well-being. Conservation's focus on biodiversity preservation is evident, yet tourism's rise adds complexity. The state's economic stake in tourism has led to unequal

resource allocation, neglecting local needs. Therefore, it can be concluded that the unequal power dynamics stems from political and economic factors associated with conservation policies. These unequal power dynamics have fundamentally reshaped Galapagos' social fabric. The transformation of nature into tradable commodities, driven by market forces and a staunch political commitment to conservation, has redefined the relationship between humans and their environment. While these conservation policies prioritize the environment, they inadvertently marginalize island residents, altering livelihoods and resource access. The prioritization of business ventures and tourist attractions over essential services such as healthcare, education, and infrastructure emphasize inequality. Non-compliance with conservation-related expenses fuels a contentious environment and resident resistance. The transformation has increased feelings of alienation, particularly among long-term residents, fostering an environment of tension and resistance. The locals' diverse perspectives and the commercialization of the islands have added layers of complexity. A holistic approach is crucial, addressing power dynamics and promoting coexistence between humans and nature. Strengthening environmental education can foster responsibility and inclusivity. However, the influence of political and economic factors persists, necessitating greater resident agency in shaping nature-society relations amidst challenges.

This research extends beyond Galapagos, illuminating power dynamics' interplay with conservation and human development. Conservation's impact on power dynamics exemplifies its potential to disempower native populations. Tourism's counterbalance to conservation poses economic-environmental conflicts, risking local welfare. Unequal power distribution underscores resource competition's implications. A comprehensive strategy considering socio-economic-political elements is vital. Inclusion of local perspectives, engagement, and responsibility cultivation is crucial. A participatory approach aligned with organizations and policymakers could enhance understanding and lead to innovative coexistence strategies for improved living conditions alongside nature.

Reflections

Through this research, I have delved into the complex relationship between conservation policies, human development, and their impact on residents in the Galapagos Islands. This study highlights the need to move beyond viewing conservation in isolation from poverty, recognizing how economic and political forces shape these dynamics. The Galapagos case underscores the delicate balance between protecting unique biodiversity and meeting the needs of local populations, especially in developing countries. This

research matters as it underscores the significance of considering local perspectives in conservation policies. It reveals the unintended consequences that conservation initiatives can have on communities dependent on protected resources. The study emphasizes the importance of inclusive strategies that address power dynamics and prioritize social well-being alongside environmental preservation. Experience has shown me that understanding the multifaceted connections between humans, economics, and the environment is vital for crafting effective policies. Furthermore, reflecting on cultural issues highlights how the global conservation movement must navigate complexities in diverse socio-cultural contexts, avoiding cultural commodification and unequal exchange.

In conclusion, this research offers insights into fostering sustainable conservation practices that empower local communities and create equitable outcomes. By combining academic understanding with on-the-ground perspectives, there is an opportunity to contribute to a more harmonious coexistence between nature and humanity.

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Inclusive Social Impact Assessment Process

Brent Sandtke

Abstract

The Masang II Hydropower Project will be constructed in Western Sumatra. To assess and mitigate the projects' impacts, Royal HaskoningDHV has been appointed to conduct the Environmental and Social Impact Assessment (ESIA). In my research I assisted them in developing effective and culturally appropriate mitigation measures, addressing the impact on affected vulnerable groups. The findings of the study revealed two affected vulnerable groups: Women and Non-landowners. Gathered data methods like surveys and focus groups discussions highlighted various vulnerability aspects including income inequality, gender-based division of labor, and power imbalances within the domestic realm. While conducting this research, I have taken a closer look at the level of inclusivity in contemporary social impact assessment, looking for improvements. I recommend allocating substantial resources to identify all vulnerable groups in the project area and gather sufficient data through appropriate channels. Also, equal attention should be given to both social and environmental aspects during the ESIA process. The inclusion of Gender Impact Assessment should be paramount to addressing vulnerabilities faced by women and recognizing their socio-economic positions in these kinds of big scale development projects. A comprehensive perspective, incorporating both local customs and international guidelines, can lead to inclusive development initiatives that could yield bigger support from populations and governments.

Keywords

development projects · social impact assessment · social inclusivity · vulnerable groups.

Introduction

The Indonesian government is working to establish ways of obtaining renewable energy, to meet the predicted rising energy demand of the next decade. One way to do this is Hydropower. Producing electricity by using fast-running or falling water and converting the gravitational potential or kinetic energy of a given water source into electrical power (Egré & Milewski, 2022). Perusahaan Listrik Negara (PLN), a government owned company with the monopoly on generation and distribution of most of the electricity, plans to carry out the Masang II Hydropower Project (MHPP) in the Western part of the island of Sumatra (Indonesia Investments, n.d.). The Indonesian branch of the international consultancy company Royal HaskoningDHV was

appointed by PLN to carry out the Environmental and Social Impact Assessment (ESIA) and Land Acquisition and Resettlement Action Plan (LARAP). At the time of conducting this research, the project was in Stage 3: Baseline surveys. During this stage is the second stakeholder engagement phase took place. Earlier research pointed out the right location and feasibility for the project energy generation. In the final feasibility study is reported that by comprising a 20m high diversion weir on the Masang river, leading to an intermediate pond (a 46m high dam wall), it would provide daily storage to support daily peak generation. Despite efforts to prevent a change in river flow and fish population, it does not cover the fact that local people will be affected by the construction and consequences of this project, consequences that are benefits but also limitations. Which leads to the following main research question: *What effective and appropriate mitigation measures can be developed for the vulnerable groups that will experience the most significant impacts from the Masang II Hydropower Project?* After identifying and exploring the different stakeholders, impacts and mitigation measures in the subchapters, the main research question was answered by listing the mitigation measures that would both be; appropriate in the cultural context, and effective in mitigating the impacts on the vulnerable groups involved in MHPP. By doing so this research aimed to contribute to the theory on social impact assessment and analysis, and in doing so taking a step towards a more inclusive impact assessment, while showing and researching the Masang Hydropower Project case study as an example of where challenges lie in creating a more inclusive Social Impact Assessment process. In this research multiple sub questions have been formed to support the earlier mentioned main research question:

- Who are the specific groups affected by the Masang II Hydropower Project?

- What are the several types of impacts, both beneficial and limiting, that are already visible and how do these vary between different groups?

- What are mitigation measures used and lessons learned in similar projects to address the needs of vulnerable groups while considering cultural context?

Relevance and importance of research

ESIA is a process that is used to evaluate and identify social and environmental impact of projects prior to them being carried out. The goal is to understand and evaluate the significance of potential impacts, and in response develop mitigation measures. This research will focus on the ESIA

that is being carried out, and specifically the social impact part of this or SIA to see how diverse groups are affected by MHPP. Vanclay (2015) describes that anything can potentially have a social impact as long as a specific group value it as being important (e.g., impact on environment, well-being, culture, way of life, etc.). Therefore, there is a lot to be taken into consideration when carrying out a SIA (Vanclay, 2015). Social scientists emphasize the importance of the social dimension of projects, for in many projects this remains underrepresented, with a tendency to focus more on the environmental side. Khan (2020) explains this is partly caused by the facts that; ESIA teams often have more engineers and economists than they have social scientists, there are no obligatory regulations for social impacts assessment, it is for many projects perceived as an extra financial and administrative hurdle, and due to the current climate crisis, the environmental aspects are still considered to be the priority focus, also for securing funding (Khan, 2020). For example, a case study presented by Hill et al. (2021), where the authors argue that conventional ESIA processes were not able to identify possible impacts on women, fails to analyze the implications of possible impact on gender norms or power relations.

It is important to understand in which ways the rights of vulnerable groups, like women, can be or are being abused in the context in which the project is taking place, even if this abuse is not immediately visible or obvious. The people who are affected because of the planned project, but are excluded because of, for example, cultural barriers, must be considered in the decision making and re-establish their agency. However, Khan (2020) also writes about the fact that the social dimension often receives less attention in developing countries. Rickson et al. (1990) point out that this is partly due to the fact of the SIA model being incompatible with the established political and cultural institutions of these developing countries since the models used are mostly based on the socio-economic state of developed countries. So, to manage and mitigate impacts of vulnerable groups we must consider the cultural context of West-Sumatra to create fitting and appropriate measures, which can hopefully contribute to the creation of a more inclusive Social Impact Assessment process.

Methods

In this research the following two research philosophies have been implemented: interpretivism and postmodernism. This research wanted to understand and acknowledge the role of social context and power relations in the shaping of the context of the livelihoods of the people in the project area.

The main source of primary data comes from the qualitative research method, focus group discussions. These are interactive discussions between participants. The point is to acquire a bigger range of views on the expected impacts of the MHPP, for focus groups are an effective way of uncovering unique perspectives on issues and impacts. During a total of nineteen focus group discussions three different topics were discussed: Livelihood and Daily Activities, Natural Resource Utilization, and Perception of the Project.

Another source of primary data is the results of the social questionnaire. There are different components to this survey of which examples are background variables like, age, gender, education, income, property ownership. There are also variables that focus on vulnerability aspects, like; Impact on residents whose land is partially affected by Project, resident's perception towards the benefit and negative impact, affected cultural objects (registered and unregistered), and who oversees the household. By putting these two sorts of variables next to each other, the data from over 120 respondents was used to find correlation between gender and perception of impact, or occupation and way of being affected by the project.

For the selection of the respondents for the focus group discussions and surveys we were relying on the Nagari (community) leader to supply us with contacts and help us to reach out to respondents. In this sense we are bound to forms of non-probability sampling. This means each research population member does not have a known probability of being selected in the sample (Bhardwaj, 2019). There are several types within the category of non-probability sample, as opposed to probability sampling (where there is a chance for every member of the population to be selected). In this research the type of Convenience Sampling is used which implies that respondents are selected based on their convenient accessibility. This type of sampling is often used for pilot testing.

To answer the sub- and research questions, both qualitative and quantitative research methods were utilized to gather data and information. Besides that, secondary data was utilized, collected through literature and existing- and self-made data quantitative dataset. Whereas primary data will give a more bottom-up view, secondary data will provide general theory to test and identify the impacts in this project. They complement each other in a way that can generate interesting research of mixed methods.

In the first week meetings were held with the leader of each Nagari. The purpose of these meetings was to dentify potential stakeholders, inform the Nagari leader about the project, the data collection, the stakeholder

engagement, but also to share maps and acquire their assistance in identifying relevant landowners. Through these meetings invitations of participants were sent and discussions held with them to get a first sense of context of the livelihoods of people in the community. However, this way of selecting and finding participants comes with some limitations. A frequent problem with this way of sampling compared to random sampling is that the target population is considered homogeneous, saying there is no difference to whether the respondents are selected this way or randomly. However, authors like Mackey and Gass (2021) point out that this way of sampling cannot automatically be considered representative.

In the second phase of the site visit, FGD's with multiple separate groups were held. The initial plan was to organize around 5 FGD's per Nagari. This number was chosen based on the focus groups selected beforehand, Women, Farmers, Youth, Elderly, Local Entrepreneurs, Vulnerable Groups, Non-Title Holders. The idea was that by inviting all these groups an inclusive, broad image of the livelihood of the Nagari could be represented. It turned out to be challenging to get the same composition of groups per Nagari. Students from Andalas University assisted in noting and translating the information that came forth from these FGD's. The notes from these sessions are the main source of our meetings.

Research site

The regency in which MHPP will take place is called Agam and has some 500.000 inhabitants, which are almost exclusively Minangkabau and Muslim. The Minangkabau culture, as mentioned before, is the most prominent culture in West-Sumatra, and especially in the project area. In this society, Adat plays a significant role, being the ideal pattern of behavior. The Adat consists of all the elements that have been absorbed throughout the history of West-Sumatra, in the end being a set of local customs (Abdullah, 1966). The Nagari is the most important form of institution in the Minangkabau culture in West-Sumatra. This institutional body was repowered in 1998 after having disappeared as an authority under colonial and post-colonial rule. The 1998 regional autonomy laws brought the power of the Nagari back, reproducing the authority of the Adat and Minangkabau culture alike (Smith, 2008). At the same time, also reinforcing the inequalities in place in an institutional way, leaving some groups more vulnerable than others. The Minangkabau population is made up of some five hundred self-sustaining communities, called Nagari's (Chadwick, 1991). Within the Nagari, women have always seemed to play a significant role, because from the traditional aspect they are the guardian of communal ownership within the matrilineal inheritance (Azwar, 2017). In the

highlands of West-Sumatra where this project is taking place, the lineage system is divided into different clans and sub-clans. These clans consist of one or multiple women, their daughters, and the children of their daughters. The head of the household is the eldest brother of the mother or grandmother who is referred to as Ninik Mamak. Looking from the Minangkabau cultural perspective, women inherit land and property and therefore should play a crucial role in decision making and family economy (Hakam, 2021). They are symbolized as the central pillar of the traditional cultural environment (Sanday, 2002). However, over time this tradition has changed in dynamics due to socio-political changes. Islam, with its strong patriarchal tradition, became a significant influential discourse in the West-Sumatran culture, causing women in present times to still be seen as person of importance, however this importance is limited to the domestic sphere, they are learned not to interfere in the public sphere (Schrijvers & Postel-Coster, 1977). Which comes down the fact that women are associated with the family, and the village, while men are associated with public life, politics, and leadership (Hakam, 2021).

Azwar (2017) problematizes the implication of women being stuck in this assigned gender role which in the end creates a social subordinate situation for women and a dominant role for men. This domination of the social sphere then gets institutionalized resonating into social life, becoming a reality for women that this oppression is normal and acceptable (Azwar, 2017). Aspects like this create inequality, at least in family relations. Unable to access the public sphere and economy women can end up in vulnerable positions. Extra attention was paid to these aspects of the cultural context in which MHPP is taking place, also considering gender roles in the development of mitigation measures and looking for more groups that show signals of being a vulnerable group.

Findings

Vulnerable groups within MHPP and the impacts they experience

This study aimed to assess the social impacts of MHPP and develop appropriate mitigation measures for the affected vulnerable groups that will feel the most significant effects. The first part of the research tried to reveal a level of homogeneity between the respondent population that we talked to and the actual project area population. Analyzing demographics of the diverse groups in the MHPP project area revealed the presence of two vulnerable groups within the communities: women and non-landowners. By employing two data gathering methods, Focus Group Discussions and Social surveys, multiple vulnerability aspects within the two identified groups were identified. Such as the income gap between men and women,

the gendered division of labor and power imbalances in the domestic sphere. As social impacts can contribute to the reproduction of socio-economic vulnerabilities, mitigation measures should aim to prevent this unintentional continuance and reproduction of the vulnerability.

Even though this ESIA is taking place to actively try to mitigate impacts, not every impact is equally controllable. Some are hard to predict both in magnitude and outcome (waste pollution, gender-based violence, deforestation, etc.). Others, like compensation, job opportunities, and economic growth can be influenced by the decision-making process that follows, which is partly influenced by this research and other research concerning the project. The impacts do play out differently amongst the affected groups, for instance the fact that the impacts of job opportunities are predominantly beneficial for men. Case studies point out that mitigation measures can sometimes cause unintentional consequences, for example in the case study in Uganda from Hill et al. (2021) where the project work for a male workforce also made the unpaid domestic labor of women increase, also causing more girls to be pulled out of school to assist in this labor. It is crucial to consider the cultural context in understanding and addressing these impacts.

Both to create appropriate and effective mitigation measures but also to try to enhance inclusivity in the SIA process. This research proposes multiple mitigation measures, thought to fit within the cultural context. The mitigation measures that could empower women's socio-economic position are, sourcing the project needs, like food, drinks etc. from female-run establishments, providing women with acceptable job opportunities within the customary standards, making sure there is no gender pay-gap between the hired men and women in the project. These impacts could be considered economic growth, but this can negatively affect non-landowners, potentially leading to inflation and economic difficulties, reproducing their vulnerable position. Regarding compensation, directly handing monetary compensation to women could allow them to manage their entitlements, despite their decision-making power being limited. In the case of non-landowners, an alternative system must be established to ensure compensation would reach them, which would prevent them from being left empty-handed, in case of loss of livelihood aspects. An influx of outside (male) workforce for this kind of projects could also have unintentional undesirable cultural, social, health-related effects (World Bank, 2020). These effects of an outside workforce that is moving into a community can be referred to as "boomtown effects" (Ruddell, 2017). These "boomtown effect" can be minimized or even prevented by prioritizing a local workforce. This would lead to maintaining continuation and reduction

of possible disruptions to the communities. Regardless of whether the workforce comprises local or non-local workers, it is important to ensure that they are well-informed regarding national laws and customary norms, by applying a workers-code, hiring security, and offering training and educational programs. It is also important to consider the fact that most of the identified impacts are of a temporary nature and will at some point decline or cease to exist.

In conclusion, this study has aimed to provide insights into the social impacts of MHPP and offer mitigation measures that are tailored for the vulnerable groups in their current socio-economic position. By considering the cultural context and learned lessons from theory, it aimed to contribute to the development of appropriate and effective measures while actively promoting inclusivity in the Social Impact Assessment process. The vulnerable groups identified are not the only groups whose livelihoods end up in a vulnerable position. Due to a lack of time and resources this research failed in identifying all the vulnerable groups that might be there. The whole purpose of the project is to benefit the people's interests, but at what cost? Is it okay for a project to displace people in the first place, to affect people's livelihoods in a negative way?

Contribution to Inclusivity in SIA-Theory: Challenges and Lessons from the Field

This research furthermore aimed to contribute to the body of theory on inclusivity in social impact assessment. According to Dendena and Corsi (2015), the Social Impact Assessment process has not been fully considered by the scientific community due to the shortage of research on this topic. They speak about how further research would add to scientific theory in a twofold way. On the one hand, future research would provide theory to fill the knowledge gap on social impact theory and impact assessment research. On the other hand, future research would contribute to the process of refining the SIA procedures that take place in a complex and ever-changing reality (Dendena & Corsi, 2015). Often, there seems to be a tendency to consider communities as a homogenous unit, in which the needs of different groups and individuals fail to be considered (Lahiri-Dutt & Ahmad, 2011). This case study helped me identify some of the present vulnerable groups in this project, but it also brought to light some of the inclusivity challenges faced in a SIA process, which can be relevant to increase the extent of inclusivity within social impact assessment in general. These are the three kinds of challenges this research has been able to identify.

Identification of Vulnerable Groups

Ideally, the stakeholder engagement would involve every single affected individual in the project area during the data gathering phase of the SIA. Social scientists emphasize the significance of the social dimensions of development projects, for a critique on Impact Assessment research is that it often stays underrepresented (Dendena & Corsi, 2015). Khan (2020) ascribes this to the fact that ESIA teams often still have more engineers than social scientists. There are no obligatory regulations for SIA, the social side is sometimes still considered a financial and administrative hurdle, and finally environmental focus still gets priority due to the current climate crisis (Khan, 2020). Morrison-Saunders and Bailey (2009) remark how inadequate resources (financial but also staff shortage) could limit the researchers from gaining a broader understanding of the stakeholder's purpose and role. They even write how further erosion of staff and resources would endanger the whole Impact Assessment system with consequences for stakeholders, industry, and consultants alike (Morrison-Saunders & Bailey, 2009). To properly identify all vulnerable groups, present in the project area, a considerable number of resources (money, time, staff, materials, etc.) should be made available. The social aspect of ESIA should receive an equal amount of attention to the environmental aspect, causing all stakeholders to be involved, but also creating awareness of the presence of vulnerable groups in the communities involved.

Appropriate Venues

In the remote area where this project is taking place, the possibility of an appropriate venue was often limited. This meant in most cases meetings were hosted at the town hall, but sometimes hosting meetings in one of the local mosques was the only option. In 2013, Shah emphasized the importance of trust-building with all involved stakeholders throughout assessment procedures. Enhancing the consultants' roles to improve receptive interaction with all the stakeholders could contribute to better quality assessment and decision making (Erickson, 1994). However, neither of the consultation venues are necessarily inclusive. The mosque being the most obvious one, mostly due to the fact this location is assigned to Islam, but also because men and women are somewhat segregated, on a physical and intellectual level. In this cultural context women are associated with the family and the domestic realm, while men are associated with public life, politics, and leadership (Hakam, 2021). This also accounts for the town hall where the gendered division of power is still in play. Both locations might also be an unsafe, uncomfortable, or even unwelcome place for vulnerable groups like migrants, minorities, women etc. In this case study, the Nagari

Leader needed to arrange stakeholder engagement venues, which also led to venues that are non-inclusive but nevertheless the only option, considering the size of the respondent population. To engage with all stakeholders, project planners should attempt to find inclusive venues in their project area to prevent these kinds of challenges from taking place.

Ideas of Inclusivity

The third and final challenge in this research is the ideas of inclusivity. The Oxford Dictionary defines inclusiveness as following: "The fact of deliberately including people, things, ideas, etc. from all sections or society, points of view, etc." (Oxford, 2023). Actively trying to not only include but also involve all affected stakeholders in all the stages of this kind of project, while aiming for sustaining or improving affected livelihoods. However, the current international standards used for inclusivity guidelines amongst others, like the WBESS (World Bank Environmental and Social Standards), are not applicable in every cultural context. To what extent can international guidance for equal treatment be imposed when this guidance collides with local customs? Are projects like this in danger of adhering to a neocolonial Eurocentric perspective of progress, reinforcing a Western hegemony, assuming non-European societies to inherently be less developed (Hague, 1999)? An example that was given earlier is the idea that in the community's women have more work in hours (adding their domestic labor), while the men carry out the work that is heavier in energy. This custom was mentioned in multiple of the conversations with the respondents from the area communities, as an understood and accepted division of labor that keeps the household in balance. By applying the international standards of inclusivity that are applied in West-Europe, the aim should be to have gender equality in the workforce, while in the local customs, this could cause conflict and friction in the domestic sphere. There are many possibilities of collision between the international guidelines coming from the top-down institutes involved in the project and the more bottom-up local customs of the respondent population. Therefore, the importance of focusing on the cultural context to develop policy- and decision-making measures appropriate in the cultural context in which a project is taking place should be emphasized. Authors like Roque (1986) and Boyle (1998) wrote about the willingness of policies and programs devoted to development in developing countries, and how this is more seen as a response to Western development projects than actual perceived necessity (Roque, 1986). For the countries that do aim to genuinely address some of the environmental and social problems, it is more difficult to get educated, informed, mobilized public and governments to demand and support these kind of development projects (Boyle, 1998). So, to enforce international guidance, possibly creating

tension, collision, or conflict, would only intensify the public and governmental support in a way. This is not an advocacy towards the idea that international guidelines should be discarded, but by partly adjusting them to local customs, it might trigger a more supportive attitude towards the ideas of development funded and executed by non-locals.

Relation to the Field of Development Studies

In the past few decades, the field of development has received various forms of criticism that point towards the field not being inclusive. Examples are research that pointed at neglecting or downplaying gendered dimensions of development (Moser, 1993). Accusing the field of development studies of perpetuating colonial legacies through power imbalances and hierarchies (Mohanty, 1988). Critiquing the field of western centric approaches, based on perspectives and experiences from Western countries (Escobar, 1995). Authors like Escobar and Sen, started to emphasize that development should be understood in terms of enhancing peoples' capabilities and freedoms. The focus shifted to seeing the importance of human rights, social justice, and inclusivity in the development process. Many social scientists occupied themselves with this topic in the decades that followed. Which caused a turn in focus towards recognizing the importance of the perspectives and voices of marginalized groups. Critical reflections and various other factors have led to changes in theory and practice. Which brings us to contemporary development studies. In the introduction lecture of the master, International Development Studies, students are told about some principles of the Critical Trans-Local Perspective on Sustainable Development. An inclusive and sustainable perspective to apply on development. One of these principles is the idea of doing research through a bottom-up lens, focusing on actors and agency. This ensures the priority is on contextual understanding and participation of locals, to assist communities in shaping their own development trajectories. Another principle is the importance of 'being there,' to interact and create both an emic and etic perspective of the research that is conducted. But one of the principles that received attention in this research is the idea of human centered development, that is fair and just, and aims to enhance the quality of livelihoods. This research has tried to apply many of the principles of this Critical Trans-Local Perspective on Sustainable Development in my research. By addressing inequality and marginalization, strengthening local capacities and resilience, fostering sustainability, and working together with local actors, the field of development could still improve greatly. Hopefully, this research will contribute to this new form of development research, which will grow increasingly inclusive in the next years to come.

Limitations and Biases

As mentioned, most meetings were hosted in town halls. The alternative to townhalls were local mosques, but neither of these options is fully inclusive. The location may have altered the data in some ways, for example that people would not feel comfortable expressing themselves, or more importantly that certain groups or individuals would not feel welcome attending these meetings in the first place. More neutral stakeholder engagement venues could have resulted in a more diverse respondent population or thorough data. Another form of limitation in the research phase was cultural constraints. Doing unmentioned work without consulting the communities could result in conflict which does not benefit any of the stakeholders. To strive for and achieve the upmost respectful towards the culture this research is taking place in, but that also means not asking certain questions to, not put people in an uncomfortable or vulnerable position, only being able to do meetings on certain times of the day, having all the work interviews conducted in Bahasa Indonesia or Minangkabau to later be translated to English (with the danger of losing context in translation). The other limitations that should be discussed are the ones that originate in my positionality as a researcher. The language barrier being the most obvious, because of this I could not communicate directly with the respondent population, which causes my positionality to remain an outsider. The cultural constraints also made it more difficult to speak from men to women, the contact preferably going from women to women and from men to men causing me to never directly speak with the women amongst the respondents.

All the aspects and stages of the SIA process would benefit from additional recourses, like extra workforce, budget, deductive and inductive research, time, etc. This case study, shows that the current ESIA process that is being applied in this project, has partly failed to identify all the vulnerable groups and what implications the expected impacts will have on them. But the fact that the need for inclusivity in SIA is growing already says a lot about the progress the field has made in the previous decades.

Future Research Recommendations and Conclusion

In conclusion there are a few research recommendations that come forth out of this research. These are some lessons learned in this case study and aspects that should be emphasized. For future research, first, the importance of substantial recourses, including financial, personnel, material resources, to effectively identify all (vulnerable) groups within the project area and gather sufficient data through the right channels cannot be expressed enough. Second, it is important to devote equal attention to both

social and environmental parts of the ESIA process, hopefully improving the stakeholder engagement significantly. Third, to promote effective inclusive stakeholder engagement, project planners should proactively seek neutral venues within the project area to prevent potential conflicts or challenges. By providing accessible and inclusive spaces, meaningful participation and cooperation can be facilitated. Fourth, while adhering to international guidelines is important, it is also vital to consider partial adjustments to the international guidelines to make them align more smoothly with local customs. The implementation of development initiatives and projects that respect and even integrate local traditions and customs could yield bigger support from both the government and even more importantly from the affected public. This way, mitigation measures will not only aim to maintain or improve livelihoods but also do it in a way that might create a supportive environment towards development projects. So, a more flexible approach that acknowledges and integrates local cultural contexts from the start of the ESIA process is advisable. Coming to the fifth and final, most important recommendation. Hill et al. (2021) wrote about the inclusion of Gender Impact Assessment in the overall Impact Assessment process by project developers. To overcome certain limitations of established ESIA processes and beforehand define what the customary gender division looks like in the specific cultural context. This would potentially add to a minimization of negative impacts on girls and women and emphasize the implications of the impacts on this specific gender group that are in many places around the world considered to be in a vulnerable socio-economic position. This research proposes that, on top of adding a Gender Impact Assessment to every ESIA process, there is need for an innovative approach that acknowledges and tries to understand the cultural context in which the project is taking place. Extensive research on the way the cultural context is shaped and how it functions. That way the whole ESIA could be considered from a perspective that aims to develop mitigation measures integrating both the local customs and international guidelines.

By putting some more focus on inclusive stakeholder engagement, contextual adjustments, and incorporation of extra approaches that focus on vulnerable groups like Gender Impacts Assessment, future research could contribute to achieving more sustainable and inclusive development initiatives. The field of SIA has already taken a leap forward in the past decades but has not yet reached a point of overall inclusivity. The rise in publications related to SIA gives an optimistic perspective for the scientific field to keep improving soon and slowly grow to become increasingly inclusive.

Reflections

Embarking on the research journey I have made for this project, has been a transformative experience, shaping my perspective as a researcher. Collaborating with Royal HaskoningDHV, I have had the opportunity to delve into the complex interplay between cultural and environmental elements of development.

This research has been a steppingstone in my academic journey, teaching me that true impact lies in blending local insights with international standards and perspectives. I came to understand development has a nuanced and multifaceted nature, which has inspired me to pursue and contribute to this field by prioritizing inclusivity and sustainability. Spending time in Java and Sumatra has been a memorable experience from which I draw inspiration and motivation daily.

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Learning from experts

"Stay true to yourself" - A journey in development studies of Dr. Guus van Westen

Julia van den Berg

Starting his academic career in 1975 at Utrecht University as a bachelor's student (by then under the old Dutch system as *kandidaats*), Dr. Guus van Westen has experienced rapid changes in the field of International Development Studies. Through his extensive research in field sites around the world and the establishment of various international partnerships and projects, his contributions extend and inspire far beyond the classroom. It is, therefore, our honor to dedicate this article to shed more light on IDS' rich history and reflect on Guus' most memorable moments and academic achievements during his time at Utrecht University.

Dr. Guus van Westen

Let us start with the beginning. Can you share a bit about your early career and what led you to pursue a career in academia?

When I was nearing the end of my studies, I was asked if I was interested in a PhD project they were preparing, and for which they were looking for a candidate. So, I think the honest answer is that there was an appealing opportunity for something after finishing my studies. When I started my PhD, I was also taking over teaching duties from a colleague who went to Mali for fieldwork. Then, I started working for the United Nations' *Associate Expert Program*. This is a system in which the (Dutch) government funds the employment of some of their young nationals to work for the UN, for which I spent two years in Micronesia, then two years in the headquarters in New York, in Malaysia for one year and a briefer period in Dubai. Before leaving for Dubai, I was re-employed by Utrecht University as a lecturer and researcher, and temporarily seconded to the UN.

While at SGO/IDS, I have always been heavily involved in teaching. In the master, Development Theories soon became my thing, initially together with other colleagues. At the bachelor level, teaching apart from Development Studies also focused on Political Geography and Globalization and Regional Development, among other courses. In research, my original urban orientation (PhD on the link between housing and socio-economic life histories in Bamako, Mali) shifted to the role of institutions in economic development (we also had a program on International Economics and Economic Geography), comparing outcomes in similar regions with different institutional frameworks, especially in South-East Asia. For instance, we researched the border area between Malaysia and Thailand and two different islands in the Philippines. Subsequently, I worked on land rights issues, a matter of concern when foreign investors started to acquire large land holdings in the Global South. This was also my last 'big' project, which looked at the effects of foreign investments in farming on local food security.

Speaking of IDS at Utrecht University, it has a rich history. Can you tell us about its funding and evolution over the years?

IDS has deep roots in teaching programs aimed at educating civil servants and others for colonial administrations. After the decolonization of Indonesia and later others the tropical expertise present was reoriented towards 'non-western studies,' in geography as well as other disciplines. In the course of the 1960s the geography department started to expand, a young scholar, Jan Hinderink (1932 – 2022) was appointed explicitly as a professor focusing on development issues. Or rather, *Human Geography of Developing Countries* as it was called until early this century. Hinderink was the founding father of this sub-discipline in the Netherlands, soon followed by similar programs in Amsterdam and Nijmegen. With explosive growth in student numbers and staff, human geography was separated into different specializations in the Western world, developing countries, education, and cartography. The first batch of students went together with the staff on fieldwork in County Donegal in Ireland. I think already the second batch of students, for a few consecutive years, went to do fieldwork, also together with staff, in Cape Coast in Ghana. Together they wrote a monograph about the geography of Cape Coast, covering themes such as education and infrastructure. Over ten years, different faculty members were recruited, taking over different subjects and specializations in various areas; Indonesia, Latin America, and Africa. And thematically, in rural issues (e.g.,

the effects of agricultural commercialization) and urban ones (the evolution of housing over time under different legal and economic conditions) Adding to that, in 2002, we had a change in the higher education system with the introduction of the bachelor-master system. Before that, there were *kandidaats* (candidate), which took four years, and *doctoraal* (doctoral), which took two and a half years to complete. It was also the moment we moved from Dutch to English as an instrument of teaching. Before, there were few international students, if only for the language issue.

Your career at IDS of Utrecht University spans several decades. What are some of the key changes you witnessed during your tenure, both in the scientific and social context?

One thing that is of interest for students is that it is all much faster. This change followed when the bachelor-master system was introduced. It was a logical corollary of higher education becoming a 'must,' enrolling ever larger shares of the population. Continued growth in student numbers triggered plans to shorten curricula in order to keep the costs in check. On paper, it is better constructed, more systematic and thought through. There are separate skillsets defined. Programs are explicitly designed in such a way that all the skills and substantive subjects are systematically taken on board. This was less the case before, when universities were also less concerned with success rates (number of diplomas issues as share of student intake). The big negative point is that studying now is more like a steeple chase. A lot of things, I know that from my own courses, are just passing by. A few sentences in a lecture or article and on we go. So, for some students, it is more of a treadmill now, with little time for reflection. So, although on paper a better program, I am not sure if it actually results in more. The time of digesting and playing around with something and getting stuck for a month is near fatal now.

Another change is the grading system. In the bachelor program, we had three exams in a year: everything of the first three months in one exam, then the second three months, and then the third three months. That was a full day exam. It was even an improvement upon the ancient system in which you just had one exam at the end of the whole program: the candidate exam and the doctoral exam. So, two exams for a seven-and-a-half-year program. We also had additional sub-disciplines. For instance, in my bachelor's degree we had required physical geography courses and cartography course, which had separate exams. With *Human Geography of*

Developing Countries, there was an oral exam with the professor which all students had to pass. Students now tend to shy away from oral exams, but I think it's actually much nicer to conclude a course with a discussion between student and teacher, rather than answering standard questions. At that time, in the 1970s – 1980s, this was possible as numbers were smaller. We were a group of 20 to 30 students.

Can you share a memorable moment or achievement from your career at IDS, or in general, from Utrecht University?

Three moments come to mind. Significant was when we set up 'LANDac' – the Netherlands Land Academy – and got it funded by the Ministry of Foreign Affairs. LANDac is a partnership with eight organizations based in the Netherlands concerned with fair land rights and did very well, with ongoing annual conferences, a summer school, and several PhD projects. Now, external funding is over, but the network still exists. Another highlight is what I did as a spin-off; the 'Follow the Food' project. This encompassed research on foreign investments in agriculture in developing countries, which often go hand in hand with land grabbing. The alternative being promoted was an inclusive agribusiness model, which means linking smallholders and family farms, in this case in Kenya, Ethiopia and Ghana, to the supply chains of big business. Before LANDac, I did a program on institutions in which we researched how the institutional setup in a few Asian countries resulted in different development outcomes, as I mentioned earlier. For instance, we researched the border area between Malaysia and Thailand. Two rather different countries; a former British colony and a country that was never colonized. In 1909, the border was drawn through what used to be a single region, and we can see what difference national institutions have made. Another case was in the Philippines; two different islands with different local business cultures linked to differences in local elites: large landowners in one and traders in another.

Come to think of it, jointly setting up the IDS master's curriculum, transforming the old SGO program into a new framework, was actually a memorable achievement. At the time it was not taken for granted that we would be able to survive the restructuring and budget cuts then raging in Dutch academia. The fact that the program became a success and managed to draw in many more students, also from far afield, is an accomplishment of teamwork.

Peak experiences are actually often small and individual. For instance, supervising a student who has great difficulty in writing a thesis, and who then manages to see the light and finally accomplishes the job with a high grade is very rewarding. Also, some of the trips I made leave good memories. An example is from Benin, where in less than two weeks I made *a tour du Bénin* through much of the country to see the impact of collaboration of Beninese and Dutch municipalities on land rights registration. As for many IDS students, my first fieldwork experience was also unforgettable. It was also the most difficult, in the historic town of Djenné, that was isolated because of flooding and had a food shortage.

Looking back, what advice would you give aspiring academics or researchers in development studies?

I think you have to stay close to what motivates you. Pursue your interests but also be practical in linking that with skills that may help you to be able to use them later. But do not pursue things that do not interest you. At least not as a student. I do think that you have to stay true to yourself, because that ultimately motivates you and decides whether or not you will be good at it.

How do you see the role of academia evolving in the coming years?

On the one hand, academic credentials have become more and more a requirement to pursue a career beyond the technical credentials. On the other hand, you also see that, especially in the more technical sciences, the forefront of research is moving outside of universities into private companies. Think of artificial intelligence, ICT, and medicine. It is no longer the universities that are the places where the most advanced research is taking place. It may be good that universities are becoming more part of the rest of society. But the trend is also dangerous as commercial, and possibly political pressures will be harder to resist. Universities have the advantage of offering places where knowledge and free thinking can be pursued for their own sake. The current emphasis is on valorization, research for predictable applications. That may be a good thing in itself, but also means that more and more terms are being dictated outside of academia. There is very little funding available for research something out of academic interest itself.

IDS is of course not at the frontline of subjects moving into the commercial sector. I think that whatever happens, there will be a need for people who are concerned with ultimately, the wellbeing of ordinary people. We now call it

development and that label may well change according to fashions, but the questions that we raise remain relevant.

Do you have any last message or statement that you would want to give?

Stay true to yourself.

Communication Materials

Corozal Sustainable Future Initiative (CSFI): Ecotourism Master Plan

Isa Plug and Wolf Bijen

COROZAL SUSTAINABLE FUTURE INITIATIVE (CSFI)

ECO**TOURISM** MASTER PLAN

& COMMUNICATION PRODUCT

WRITTEN BY **ISA PLUG** AND **WOLF BIJEN**

EXECUTIVE SUMMARY

The following document is established by the authors to provide contextual feedback on potential ecotourism developments for the Corozal Sustainable Future Initiative (CSFI) in Belize. This document draws from the MSc thesis about ecotourism and livelihoods by Plug (2023) and the MSc thesis about ecotourism and environmental conservation by Bijen (2023).

This document is set up as follows. The contextual background opens with a discussion about the concept of ecotourism, its six principles, and the application of ecotourism in the context of Belizean livelihoods and conservation. Then, after a brief overview of the impact of the COVID-19 pandemic, the exact contributions of ecotourism for environmental conservation are reviewed. The contextual background ends with a brief exploration of the current neoliberal discourse in natural protected area management.

After the contextual background, a tourism plan and related recommendations for CSFI follows. This includes a review of tourism product development and human resources development, notes on a potential financial plan, comments on infrastructure development and a discussion about the importance of stakeholder consultation. This document concludes with several final recommendations and a comprehensive SWOT-analysis.

WHAT IS ECOTOURISM?

Tourism is the socioeconomic pillar of many nations around the world, and aids in promoting globalisation and (inter)national development, fosters environmental and intercultural awareness and appreciation, connects people from around the world and has alleviated many from poverty. However, tourism is a double-edged sword. Societies that rely heavily on tourism have showcased that it can have detrimental effects on local communities and the natural environment (Holden, 2016). Alternatives under the umbrella of **ecotourism** have posed a popular solution, as they propose a responsible way to travel to natural areas that conserves both the environmental and cultural heritage of the sights while delivering financial benefits and empowerment to local communities.

6 PRINCIPLES
OF ECOTOURISM
(DAS & CHATTERJEE, 2015)

1. Reduce **negative impacts** on the environment
2. Build **knowledge and understanding** of natural and cultural heritage
3. Offer **positive experiences** for both tourists and hosts
4. Provide **economic support** for nature conservation
5. Deliver **financial benefits and empowerment** to local communities
6. Increase **political, ecologic, and sociocultural sensitivity**

It is generally suggested that CBET in protected areas could, in theory, offer the resources that are required for its management by delivering economic benefits for local livelihoods and safeguarding the natural integrity through environmentally friendly, non-consumptive usage of regional assets (Stem et al., 2003). Furthermore, disputes involving protected area managers and local communities are prevalent across the world, yet ecotourism has served an important role in offering a solution for communities (Haddle, 2005). As a result, this combination of ecotourism and conservation efforts has garnered significant publicity in recent decades, particularly in developing countries, where a significant number of ecotourism initiatives are linked to protected areas and regional and community sustainable development initiatives (Ceballos-Lascurain, 1993; Haddle, 2005; Nenon & Durst, 1993; Xu et al., 2009).

ECOTOURISM & CONSERVATION

STATISTICS ON TOURISM
IN BELIZE
FROM 2018

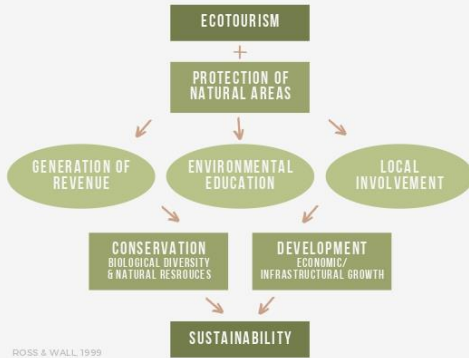| MORE THAN	NEARLY	ALMOST
40%	**40%**	**40%**
OF **BELIZE'S GDP**	OF BELIZE'S **TOTAL EXPORTS**	OF BELIZEANS
EXISTS OF TOURISM INCOME	COME FROM TOURISM	GAIN **INCOME** FROM TOURISM

ECOTOURISM IN **BELIZE**

Belize has championed sustainable forms of tourism since the 1980s, using its vast expanse of diverse and preserved tropical habitats as its main draw (Johnson, 2020). It has a wide range of tourist attractions, especially for travellers interested in natural and historical heritage (Lindberg, 1996). In capitalising on this asset, the country has chosen ecotourism as a preferred development approach rather than more conventional tourism (Lindberg, 1996). Belize's tourism sector has experienced tremendous growth since the turn of the century and is considered its strongest economic pillar (World Travel & Tourism Council, 2018).

ECOTOURISM, CONSERVATION & COMMUNITIES

While ecotourism can provide conservation NGOs with income, ecotourism can also benefit conservation. With tourism in Belize being primarily nature-based, conservation NGOs are safeguarding abundant natural

biodiversity for tour guides to showcase. As the Minister of Sustainable Development illustrated: "Whereas a fish can only be caught and eaten once, several tourists can pay to come and see the same fish repeatedly." While this also indirectly benefits livelihoods, the relationship between communities and conservation has also proven paradoxical. The introduction of protected areas is often accompanied by community resistance, as it limits profitable forms of extraction such as logging and fishing. As a result, disputes between conservation NGOs and communities are prevalent. However, ecotourism has posed a solution by providing an income alternative for locals that operates as a financial incentive to care for conservation objectives (Stone & Nyaupane, 2016). Various Belizean conservation NGOs have embodied these twin efforts, and aside from seeing exponential improvements in their funds have contributed significantly to local development through income generation and education. However, even sustainable forms of tourism have proven to be vulnerable, resulting in financial insecurity among conservation NGOs and communities.


```
        ECOTOURISM
            +
    PROTECTION OF
    NATURAL AREAS

GENERATION OF    ENVIRONMENTAL    LOCAL
   REVENUE         EDUCATION     INVOLVEMENT

   CONSERVATION      DEVELOPMENT
   BIOLOGICAL DIVERSITY   ECONOMIC/
   & NATURAL RESROUCES   INFRASTRUCTURAL GROWTH

        SUSTAINABILITY
```

ROSS & WALL, 1999

THE PANDEMIC'S INFLUENCE

Belizeans, of which over half live in poverty, largely depend on the tourism sector to sustain their livelihoods (Statistical Institute of Belize, 2021). Considering this, it is not difficult to imagine how severely Belize was impacted when the COVID-19 pandemic struck the country in 2020. Due to domestic and international pandemic-related restrictions, and a consequently plummeting tourism sector, already high unemployment and poverty rates were critically aggravated (The World Bank, 2020). It is said that the pandemic years have constituted the greatest external shock to Belize's tourism sector in history (Cheng & Zetina, 2021). Unemployment rates skyrocketed and people's decreased purchasing power became life-threatening to many. Community support in this period proved to be more powerful than government assistance. Moreover, the pandemic did not only have detrimental consequences for local livelihoods, but it also significantly impacted the environment. With many locals becoming unemployed, illegal activities increased that threatened protected areas. The pandemic, moreover, posed problems for the operation of conservation NGOs, especially for those that depend on ecotourism for a significant part of their funding.

INTERNATIONAL TOURISM, NUMBER OF ARRIVALS IN BELIZE
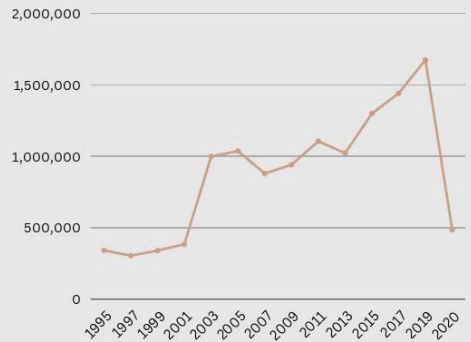### FROM 1995 TO 2020

FIGURE 1. Graph showing a rapid rise in the number of international tourists in Belize from 1995 until 2019, when, in line with the onset of the global COVID-19 pandemic, it quickly declined in 2020. This can be explained by worldwide international pandemic-related travel restrictions. Adapted from The World Bank Data (2023c).

ECOTOURISM FOR
ENVIRONMENTAL CONSERVATION

An expanding ecotourism sector between 1980 and 1990 made the Belizean state and private Belizean businesses and organisations realise that it was possible to capitalise on Belize's pristine ecosystems by using these ecosystems to host international ecotourists. To make sure these ecosystems stayed pristine, the Belizean state established 16 national parks, 13 protected areas, and 7 marine reserves between 1970 and 2010 (Gould, 2017). Today, these national parks, protected areas, and marine reserves are managed by private conservation organisations through co-management agreements with the Belizean state (Medina, 2015).

Revenues made through ecotourism prove a key source of financial resources that the private conservation organisations need to ensure effective protected area management, as the state itself does not have sufficient resources to directly fund environmental conservation (Medina, 2015). To this end, private Belizean conservation organisations utilize their protected areas to generate income by providing entrance or tours to international ecotourists in turn for entrance fees, ticket fees, or merchandise. These revenues are used directly to fund protected area management, for example through payment of salaries or equipment. In addition to ecotourism revenues, these private Belizean conservation organisations often receive grants from international interest groups, whose purpose is to improve global environmental conservation to protect natural landscapes and biodiversity worldwide.

MANAGEMENT OF THE PROTECTED AREA

↑

GRANTS FROM INTERNATIONAL INTEREST GROUPS

+

FINANCIAL SUPPORT BY ECOTOURISM REVENUE

+

CO-MANAGEMENT AGREEMENTS WITH THE STATE

↑

PRIVATE CONSERVATION ORGANISATIONS

NEOLIBERAL GOVERNANCE

The importance of the ecotourism sector for the Belizean economy led to significant state commitment to environmental conservation through co-management agreements with numerous private conservation organisations, with tourism revenues being the main resource to support management of the protected areas (Leikam et al., 2004). These co-management agreements, necessary because of the lack sufficient state resources to the state to manage protected areas themselves, resemble a governance model that is inherently neoliberal. This neoliberal model has shown, however, to obstruct state commitment to environmental conservation whenever more lucrative economic opportunities come around, as the neoliberal approach to conservation puts the Belizean state at relative distance of protected area management (Igoe & Brockington, 2007). This leaves environmental conservation in Belize dependent on the Belizean ecotourism sector and grants from international interest groups, which introduces vulnerability to the global market and potential shocks and crises. This vulnerability may pose severe challenges for Belizean conservation organisations whenever grants disappear or pandemics disrupt the global (eco)tourism sector.

VISIONS AND GOALS

Considering the relative dependence of Belizean conservation organisations on ecotourism revenue and potential international interest groups it is important for these organisations to set clear visions and goals to secure future financial opportunities. For the Corozal Sustainable Future Initiative (CSFI), this means to think about possibilities within the Belizean ecotourism sector. Although CSFI is currently secure in their provision of funds, this provision is based on personal relationships with a few European investors. As this relationship, and therefore the security of funds, in vulnerable in itself, it is wise for CSFI to work towards an established ecotourism plan. Several points should be considered by CSFI if they wish to continue with their plans for ecotourism to reach the goal of financial independence.

Firstly, CSFI should consider what **tourism product** they wish to sell, including what target audience they want to reach. Second, **human resources** for CSFI need to be improved upon in the areas of business, policy, skills, and interest.

This includes the importance of sufficient availability of personnel to provide in tourism development, which is currently lacking. Third, although not entirely within control of CSFI it is important to think about ways to improve **local infrastructure** to support the arrival of tourists. This may also include to consider ways to improve the connection between the CSFI headquarters and the Sarteneja community if tourists wish to travel between the two places independently. Fourth, as ecotourism revenue is a vulnerable resource, CSFI should work towards a **resilience reliability fund**. Fifth, considering the nearby Sarteneja community, CSFI should ensure effective **stakeholder consultation** from the start of any plans for tourism development. Finally, this document serves as a start to bigger ecotourism developments for CSFI. If initial explorations help CSFI to decide to continue ecotourism developments, a more **detailed and expansive tourism plan** should follow from research on opportunities for ecotourism in the area for an extended period of time, rather then the 10-week period on which this document is based.

TOURISM PRODUCT DEVELOPMENT

Before establishing any tourism developments, potential tourism entrepreneurs should have a clear image of what tourism products they want to sell. It is important, therefore, to know who the tourists are that need to be catered to. In this case, the entrepreneur should cater to the ecotourist. This means attention must be paid to the key values of ecotourism, which are to **support local livelihoods**, **support environmental conservation**, **protect biodiversity**, **use nature-based attractions**, **provide education**, and **provide economic benefits**. It is to this end that the potential entrepreneur must understand how to tick these boxes, for example by providing educational tours through the protected area, by hiring local community members as drivers and cooks, and so on.

ECOTOURISM

↓

LOCAL LIVELIHOODS

CONSERVATION

BIODIVERSITY

NATURE-BASED

EDUCATION

ECONOMIC BENEFIT

HUMAN RESOURCES DEVELOPMENT

Key to any established tourism operation is to ensure effective Human Resources development. Tourism ventures should have four main components in place to establish good Human Resources within their business, based on a Tourism Master Plan by Pacific Consultants International (n.d.). Component 1 concerns knowledge about entrepreneurship, in that personnel should understand what it means to be an entrepreneur and should be able to work towards effective business planning. Component 2 consists of knowledge about tourism business management to provide personnel with the necessary tools to aid them in policy making, decision making, and conflict resolution. Component 3 includes the option for personnel to undertake skill-based trainings when

needed, for example including housekeeping, cooking, bartending, and tour guide services, to be able to cater to guests' needs. Finally, component 4 should be in place to provide trainings to personnel about specific interests or needs, for example including waste management, sustainability, or disaster preparedness.

| BUSINESS | POLICY |
| SKILLS | INTERESTS |

FINANCIAL PLAN

INTERNATIONAL PARTNERSHIPS

FINANCIAL STABILITY & INDEPENDENCE

ECOTOURISM PROFITS

With government grants for conservation efforts being hard to come by in Belize, conservation NGOs are forced to find alternative ways of funding that give room for independent discission-making and are reliable as a continuous source of income. International grants are often allocated to specific conservation objectives, and as such, ecotourism can prove a more flexible financial resource. However, with the sector being vulnerable to external stresses and shocks, such as low seasons and epidemics, it offers less stability. An effective way of making it more reliable as a source of income is for NGOs to set up a resilience reliability fund, to which spare income is funnelled during high seasons. Combining international funding with ecotourism can therefore provide a predictable flexible, and independent means of supporting conservation efforts.

YEAR-ROUND FLEXIBLE RESOURCES

↑

RESILIENCE RELIABILITY FUND

↑

INCOME FROM ECOTOURISM

INFRASTRUCTURE DEVELOPMENT

Tourism operations are largely dependent on the improvement of the overall infrastructure in Belize, however, the state of infrastructure is a poignant issue in the country. Many roads in Belize, especially the northern districts, are either poorly constructed or poorly maintained. Infrastructure is not only important for the operation of conservation NGOS but also for tourism. Conservation sites that have better circumjacent infrastructure have significantly higher

numbers of visitors. Moreover, electricity and internet accessibility are in increasing demand for tourism destinations, and without these facilities, it is difficult to attract tourists. While NGOs have limited influence on regional infrastructure development, it is important that they lobby for improved accessibility. Moreover, they can make sure their internal infrastructure, such as the availability of ample water, food, guesthouses, electricity, and internet matches their tourism ambitions.

STAKEHOLDER CONSULTATION

Communities play an important role in the success of both conservation efforts and ecotourism projects. Therefore, good communication between NGOs and community members is vital. However, poor communication, leading to adverse or contradictory community perceptions, is a common problem in Belize (Holladay & Ormsby, 2011). Conservation NGOs often feel self-interested and closed-off to communities, and may lack enough on-the-ground engagement. Important to consider is that the establishment of ecotourism projects in communities will frequently result in both positive and negative outcomes in the same area. As such, communities will only earnestly collaborate when it is clear how they

will benefit. Therefore, having a clear plan of how the community can benefit, managing expectations and involving members in the development of collaborative ecotourism projects is vital, as is valuing local knowledge. As the setting up of tourism efforts requires investments of both time and money, it is important that the NGOs benefactors are supportive of the ecotourism plans. Whereas the Belizean government promotes ecotourism, international funders may be more difficult to get on board, as the relation ecotourism's benefits for conservation are indirect and come with threats, and as their funds are frequently only to be allocated to specific conservation aspects or objectives.

FINAL RECOMMENDATIONS

The numerous threats that are inherent to any form of tourism, whether it be a sustainable one or not, cannot be ignored by conservation NGOs. **First**, developing an effective framework for ecotourism requires a significant investment of time and commitment, in which NGOs need to be prepared to consult community members, on whom they are dependent for facilitating potential tourists. **Moreover**, it is important for NGOs to consider the impact of ecotourism on the natural landscape. Small routes through the jungle, for example, can cause large predators to avoid these pathways, causing food chain disturbances that affect the ecosystem. **Relating to this**, it is important to take visitor profiles into account. Nature enthusiasts are generally preferred over adrenaline seekers, and whereas young people prioritise internet access, elderly visitors will prefer accessibility. Diversifying one's visitor base, moreover, provides more resilience. The visitor profile will also determine how prospective visitors can be reached. **Furthermore**, it is important to establish and monitor key performance indicators (KPIs) to track the success of future ecotourism projects and make sure that any detrimental impacts on the environment or communities are avoided.

In all, ecotourism can prove to be a key resource for conservation NGOs to minimize their dependence on external investors or the state, if key elements, ranging from infrastructure to Human Resources, are in place.

SWOT-ANALYSIS
FOR CSFI

	HELPFUL	HARMFUL
INTERNAL	**STRENGTHS** • Good ties with government • Internal infrastructure to receive tourists in place • Large base of potential ecotourists • Network of potential local partnerships	**WEAKNESSES** • Limited Human Resources • Great amount of other responsibilities • Issues regarding surrounding communities • Need support from international partners
EXTERNAL	**OPPORTUNITIES** • New investments in surrounding infrastructure • Communities want to be involved • Sarteneja as potential cultural capital • Growing ecotourism sector	**THREATS** • Substandard surrounding infrastructure • Volatility of tourism sector • Community perceptions and unpredictability • Competition of more developed districts

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Justice in Wind Energy

Laurèle Schuurman

JUSTICE IN WIND ENERGY

How to incorporate energy justice in energy transition policy

ACKNOWLEDGE THE ENERGY TRANSITION AS A SOCIAL ISSUE

Approach the energy transition from a social perspective, as well as a technical one

Wind turbine parks have considerable impact on the living environment. This often leads to dissatisfaction with locals, social unrest, or protest. Awareness of this improves policy.

BURDENDS AND BENEFITS DISTRIBUTION

To ensure a just transition, burdens and benefits need to be distributed equally

The transition to renewable energy will produce and perpetuate existing inequalities. The winners will profit from cleaner energy resources, and the losers will bear the social and environmental burdens and lack access to opportunities. Often, these 'losers' are the ones living in the surrounding area of the wind parks. In many cases, local communities carry the burdens

LOCAL VERSUS GENERAL INTEREST

The energy transition will play out on local level

To reach internationally agreed upon goals concerning the energy transition, there will need to be made sacrifices for the greater good. Impacts will be felt locally. Therefore, decisions should be made with local interest at heart.

PARTICIPATION

Participation increases social acceptance

Attention for public acceptability typically only comes up when the project is met with resistance, in the form of protest for example. Instead, citizens should be consulted from the beginning. Participation also comes in the form of ownership, people can gain financial benefit and feel a sense of responsibility and agency.

Non-Migration: A Voluntary Choice Despite Environmental Risks

Yuan Sun

Voluntary non-migration of traditional fishermen community despite environmental challenges in southwestern Bangladesh

Executive Summary

The ongoing environmental issues and climate change impacts are increasingly exerting a pivotal influence on human migration and displacement. Rural communities dependent on natural resources, in particular, are likely to face more significant challenges due to the increasingly frequent and severe hazards and gradual but dramatic changes in regional climates. Despite this, empirical evidence suggests that a far higher percentage of people and communities facing adverse environmental changes continue to live in disadvantaged locations. Nevertheless, the underlying rationale for choosing to remain in one's place of origin (non-migration) has been largely overlooked in both development projects and scholarly discourse. While many studies have emphasized the involuntary dimension of non-migration, depicting those who stay as a "trapped population" due to limited resources or capabilities for relocation, it is worth noting that a significant portion of individuals who remain actually choose to do so voluntarily. **Voluntary non-migration** holds significant implications for **sustainable community development** and **local climate adaptation** as both an adaptation strategy and a livelihood goal of people who aspire to remain in place.

In the case of a traditional fishermen community named Gonali in southwestern Bangladesh, there has been constant short and long-term emigration from Gonali due to environmental, economic, social, and political considerations over the past few decades. One of the most significant livelihood challenges faced by the fishermen community was the degradation of the local rivers, which had historically served as their primary source of livelihood. Climate change impact is exacerbating the existing vulnerabilities of Gonali and poses further challenges to their livelihoods. However, a substantial number of fishermen are determined to stay in the locality voluntarily. They have endeavored to overcome various socio-environmental challenges in order to sustain their livelihoods and persist in their ancestral land. This resilience exists alongside their vulnerabilities. The voluntary non-migration experience of this fishermen community, along with their ways of living and the reasons underpinning their non-migration decision has significant implications for understanding environmental (non-)migration and climate adaptation in international development.

Key Insights

Dynamic Nature of Migration	Voluntary non-migration is not static; it responds to evolving contexts. Policymakers should recognize the adaptable nature of non-migration decisions.
Socio-Cultural Significance	Strong social bonds, cultural ties, and a sense of belonging contribute to non- migration decisions. Policies should acknowledge and enhance these local dynamics.
Livelihood Diversification	Non-migrants diversify their livelihoods to cope with challenges, indicating a desire to remain despite adversities. Supporting diverse income sources is crucial in local development and adaptation.
Local Solutions	Rather than focusing solely on migration as a remedy, policies should promote local solutions that enhance community and social resilience and sustainability.

Background

"I inherited three decimals of land from my forefathers, and this land has been part of our family for generations. I was born here; my grandfathers and fathers all lived here. It is a family heritage and I take great pride in it. Despite all the difficulties and struggles in life, living altogether in our ancestor's house is more important than anything else to me."

– Participant X1, 62 years old, former fisherman

Gonali has been a fishermen community for generations. It is located in southwestern Bangladesh, specifically within the Dumuria Upazila, Khulna district. Situated alongside the Bhodra River, which has historically

functioned as a crucial lifeline for the community, people derive their means of sustenance from this very river. However, the degradation of Bhodra and other waterbodies due to natural and anthropogenic causes has severely affected the traditional shing practices of these fishermen. Additionally, changing weather patterns and climate hazards such as waterlogging within the area disrupt agricultural activities and resource availability, further compromising livelihood sustainability. Over the years, Gonali has witnessed ongoing emigration driven by economic, social, political, and environmental factors. According to the participant, the number of households in Gonali has decreased by 30% since the independence of Bangladesh.

However, many fishermen and their families still opt to remain in their ancestral land voluntarily, despite all the socio-environmental challenges. The loss of the river has compelled many traditional fishermen to undertake arduous journeys to other internal water bodies or the sea, where they lead challenging and demanding translocal lives to continue their shing activities. This raises the question of why individuals who are facing environmental risks seemingly have much to gain from migration are opt to stay in their localities.

Why and how do fishermen opt to remain in place voluntarily despite environmental challenges that hamper their traditional and shing-related livelihoods?

By utilizing a case study approach, this research conducted twenty in-depth interviews and two focus group discussions in the eld as well as an extensive literature review to delve into the realm of voluntary non-migration with a traditional fishermen-centered perspective. It explores the factors that influence the decision-making process of voluntary non-migration and the dynamics that foster such attachment to land and place.

Impact of Climate Change

Climate change will continue to exert an ever more pivotal influence on human migration because of its interplay with social, economic, political, and other interlinked drivers. Bangladesh is ranked as the fifth most climate-vulnerable country globally due to its unique geographical location, high population density, and low climate resilience. Located in the plains of the Ganges river delta and borders the Bay of Bengal, which constitutes a vulnerable socio-ecological system, the country experiences at least one

A local household in Gonali

rapid-onset climatic event, such as cyclones and floods that could lead to the displacement of a significant number of people. On the other hand, slow-onset hazards such as drought, desertification, and saltwater intrusion related to climate change further exacerbate the degradation or outright loss of rivers and cultivable land. These challenges critically impact the livelihoods of communities residing in the affected areas, imposing additional hardships on their in situ livelihoods.

Main Findings

Despite livelihood risks, the voluntary non-migrants of Gonali demonstrate resilience and adaptability in situ, challenging the notion of "trapped populations" by expressing genuine aspirations to stay put in the first place. Except for a few who mentioned that they did not think about anywhere they could migrate or were scared of the idea of living in a new place, in general, most participants prioritized "retain factors" over "repel factors" or migration constraints as reasons for staying.

Most participants do not perceive environmental challenges as the main factor that would compel them to leave their land and community. Although the degradation of river Bohdra and the intensifying climate change impact have added to the challenges faced by the community, most fishermen are taking proactive actions and striving to adapt to the new realities to

continue their livelihoods in their birthplace. They would choose to remain in place as long as there is a viable livelihood option, which categorizes them as voluntary non-migrants. This finding reveals non-migration as both an active in situ adaptation process and livelihood goal that supports people to survive the increasing effects of environmental challenges,

Adaptative strategies such as livelihood diversification and transformation in response to environmental challenges help Gonali to achieve resilience and contribute to the aspirations of non- migration. Many of the fishermen strive to diversify their income opportunities or transition to various non-shing occupations in situ to increase the economic capital of their family. Moreover, support from local and government institutions reduces the probability of out-migration. Although the community is vulnerable in terms of economic poverty and lack of access to resources, the findings of the study suggest that there is an existence between vulnerability and resilience, and livelihood resilience was built within Gonali. It demonstrates how a seemly vulnerable area that is exposed to environmental degradation and threats posed by climatic risks can acquire profound significance and meaning to its inhabitants. This research has discovered how the social-cultural milieu, transcending mere financial constraints or political barriers, shapes the deep-rootedness of the community and empowers its people to combat risks and remain in situ. Family are the major determinant of migration in terms of the value of close relationships, cultural ties, caregiving responsibilities, and the preservation of traditions.

A home shrine in Gonali

A participant displaying photos of his five children, all now working in the cities in the educational sector

At the community level, the shared traditions, historical experiences, cultural practices, and social connections create a strong sense of belonging and attachment to their community among the fishermen. The strong social bond, government support, and community cohesion further foster resilience within the community and thus contribute to the inclination of people to remain in place. Moreover, the fishermen community finds hope and aspirations through local development in terms of the improvement of infrastructure and better access to education for the next generation. This positive transformation not only brings satisfaction with present status but also incites optimism and anticipation for the future, which contributes to the decision to non-migration.

Notably, it is significant to recognize that non-migration is fluid in nature. As demonstrated by the migration and non-migration experiences within Gonali, (non-)migration is influenced by ever-changing contexts and personal aspirations, the decisions of individuals to stay or move are thus dynamic and adaptable. Voluntary non-migration is determined by livelihood and social stability that builds resilience within the community. When opportunities for resilience exist, most locals would choose to remain and adopt adaptive strategies to improve their livelihoods in place. Non-migration here can be viewed as an adaptation strategy.

Policy Recommendations

Holistic Research Focus on Voluntary Non-migration

Researchers in climate adaptation, development, demography, and environmental sciences should allocate more attention to voluntary non-migrants and recognize their rights to stay. An in-depth understanding is essential to bolster their resilience and facilitate the preservation of their cultures, landscapes, environments, and livelihoods in the midst of climate risks.

Foster resilient and adaptive strategies

Future policy should focus on in situ resilient and adaptive strategies, rather than considering migration as the sole solution of dealing with environmental hazards. Awareness campaigns should underscore the significance of non-migration as a viable adaptive strategy that highlights not only the benefits of staying in place but also the socio-cultural and economic dimensions of local community development and preservation.

Integrated Policy Framework

A comprehensive policy framework that integrates elements of climate resilience, environmental conservation, livelihood diversification, social cohesion, and cultural preservation should be collaboratively developed by government agencies, local authorities, community representatives, and relevant stakeholders. This approach ensures a more holistic and inclusive response to the specific needs and aspirations of voluntary non-migrant communities.

Disclaimer

This brief was developed as part of the partial fulfilment of the Master's program International Development Studies at Utrecht University. The author conducted qualitative research with twenty in-depth interviews and two focus group discussions on the voluntary-non-migration experience in the context of social-environmental challenges, focusing on a traditional fishermen community in southwestern Bangladesh from January to August 2023. The author reports no conflict of interest.

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