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## **Harmony or Hierarchy?**

*An ecofeminist case study of the impacts of climate change on power  
relations in Tutimayu, Bolivia*

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## **Abstract**

Focusing on the complexity of power relations is fundamental to understand and address the effects of climate change. For this reason, this thesis focuses on understanding how climate change impacts affect power relations both between men and women, and between people and nature, in the context of Tutimayu, a territory in rural Bolivia. To provide an adequate analysis of these two types of power relations a case study has been designed. The data, gathered through observation and semi-structured interviews, has been analyzed using three concepts: perceived causes and effects of climate change, harmony between humans and nature, and gender roles and responsibilities. These concepts are embedded in ecofeminism, the theoretical approach used in this work which also draws from Buen Vivir as representation of the local indigenous understandings of the human-nature relationship. The analysis highlights an increased ‘feminization of agriculture’, which, for women, means increased low-paying workload, but also more decisional power and access to the land. Furthermore, the analysis shows shifts in the relationship between humans and nature, underscoring the need for alternative ways of production. This thesis aims at engaging with development discourses on the importance of power relations in the design and implementation of projects and policies.

**Key words:** Ecofeminism, Power Relations, Climate Change, Bolivia, Buen Vivir, Gender.

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## List of abbreviations

<b>ASPEm</b>	<i>Associazione Solidarietà Paesi Emergenti</i> (Solidarity Association of Emerging Countries)
<b>CEDAW</b>	Convention on Elimination of All Forms of Discrimination against Women
<b>FAO</b>	Food and Agriculture Organization
<b>GAMS</b>	<i>Gobierno Autónomo Municipal Sacaba</i> (Autonomous Municipal Government of Sacaba)
<b>INE</b>	<i>Instituto Nacional de Estadística</i> (National Institute of Statistics)
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>JGEST</b>	<i>Jefatura de Gobierno Electrónico y Sistemas Tecnológicos Sacaba</i> (Directorate of Electronic Government and Technological Systems Sacaba)
<b>LUMID</b>	Lund University Master in International Development and Management
<b>MMAyA</b>	<i>Ministerio de Medio Ambiente y Agua</i> (Ministry of Environment and Water)
<b>NGO</b>	Non-Governmental Organization
<b>SDC</b>	Swiss Agency for Development and Cooperation
<b>SDG</b>	Sustainable Development Goal
<b>SEI</b>	Stockholm Environment Institute
<b>UDAPRO</b>	<i>Unidad de Análisis Productivo</i> (Productive Analysis Unit)
<b>UNEP</b>	United Nations Environment Programme
<b>UNFPA</b>	United Nations Population Fund
<b>UNICEF</b>	United Nations International Children's Emergency Fund
<b>UN WOMEN</b>	United Nations Entity for Gender Equality and the Empowerment of Women

## 1. Introduction

Climate change is impacting communities worldwide, disrupting ecosystems and putting at risk economic and social stability (Atkinson & Atkinson, 2023). In general, it is the most vulnerable populations that suffer largely from the effects of climate change. This vulnerability stems not only from their exposure to extreme environmental events but also from the socio-economic implications of climate change (Escalante & Maisonnave, 2022a).

On one hand, rural communities, that often rely on agriculture as both a source of income and as mean of subsistence, are considered vulnerable populations facing the effects of climate change. As a matter of fact, rural communities see their food security and livelihoods directly at risk (Atkinson & Atkinson, 2023). Bolivia is no exceptional case, different factors contribute to generate vulnerability of rural communities situated both in the region of the Andes as well as settled in the amazon region (Escalante & Maisonnave, 2022a). These factors include lack of means of adaptation, high incidence of extreme events, high rates of deforestation, as well as widespread poverty and poor or absent infrastructure, mainly water collection and irrigation systems (Painter, 2020).

On the other hand, women represent one of the most vulnerable groups facing climate change, even more so in rural areas. As a matter of fact, they face a dual vulnerability, stemming from both their gender and their residence in rural areas (Escalante & Maisonnave, 2022a). Having limited access to the labor market, being dependent on the land and having the burden of the care work are some of the factors that influence the vulnerability of women in relation to climate change in rural Bolivia (ibid.).

The intersection of these layers of vulnerability influences, and is influenced by, the power dynamics existing in the selected context. For this reason, this study focuses on the discourse about gendered power relations and the power dynamics between people and nature, in relation to climate change. These two categories of power relations are to be considered in the specific context of rural Bolivia since they are both part of the local culture through what can be defined as *Buen Vivir*. Moreover, the ecofeminist approach that is used in this study also focuses on both these power relations. It is important to recognize that various factors beyond climate-related issues can influence power relations. These factors encompass shifts in the market, alterations in the ways of production, and the processes embedded in urbanization. This complexity is difficult to disentangle, and this study does not aim to do so, whereas it aims to show it while giving centrality to the effects climate change.



Recognizing the significance of research and the dissemination of findings for advancing the Sustainable Development Goals (SDGs) this study aims to contributing to discussions and research primarily centered on SDG 5, Gender Equality, and SDG 13, Climate Action, through an ecofeminist intersectional approach. Furthermore, this works aims at highlighting the need for development practitioners and policymakers to incorporate and give centrality to power dynamics in the design and implementation of projects, programs and policies that address climate change in rural areas.

### **1.1 Research Questions**

This research takes on a social ecofeminist approach, with an intersectional perspective, to understand how gender, nature, and climate change are connected, and how they influence each other. The focus is on power relations, later defined into two categories. The ecofeminist approach shaped the design of the Research Question and the three Sub-Questions hereafter presented:

RQ: How do climate change impacts affect power relations, between men and women, and between people and nature, in rural Bolivia?

- Sub Question 1: How do women and men in the Tutimayu community perceive the causes and effects of climate change?
- Sub Question 2: How is the harmony between humans and nature influenced by the impacts of climate change in Tutimayu?
- Sub Question 3: How does climate change impact gender roles and responsibilities in Tutimayu?

### **1.2 Thesis Outline**

Following the introduction, this thesis is composed of seven other sections necessary to generate an adequate answer to the main research question. First, the Context is presented, analyzing both the Municipality of Sacaba and the Tutimayu Sub-Central in their geography and population characteristics. Second a literature review is presented with a focus on climate change and gender issues in rural Bolivia. Third, the Theoretical and Conceptual Approaches are described. Fourth, the Methodology is presented through a description of the case study design, the data sources, as well as the methods of analysis used in this study. Fifth, an analysis of the generated data is presented following the outline of the sub questions, which are then summarized and put in relation to the literature and the wide development discourse in the following section. Lastly, a conclusion to the work is presented.

## 2. Context

This section outlines the geographical and socio-economic setting of the Municipality of Sacaba, along with detailing the structure, organization, and key features of the Sub-Central Tutimayu, which has been chosen as the focus for this case study.

### 2.1 Sacaba Municipality: geography and main socio- economic characteristics

The Department of Cochabamba, one of the nine Departments that compose the Plurinational State of Bolivia, is located in the central part of the country and is the only department without international borders. Due to its location, it features diverse topography ranging from the high-altitude regions, followed by the inter-Andean valleys, to the Amazonian forests and floodable savannas (UDAPRO, 2009). The name Cochabamba derives from the Quechua word “*Kocha Pampa*”, which means "Land of Lakes", because it was known for its great abundance of water (ibid).

Sacaba is the third most populous municipality in the Department of Cochabamba, after the municipalities of Cochabamba Cercado and Quillacollo. As of the last census, that of 2012, the population of Sacaba was of 172.466 people (JGEST, 2020); the municipality estimated in 2020 a growth rate of 3.65% until 2026 which means that the projected population for 2024 is of 265.096 inhabitants (ibid.). The municipality consists of 12 districts, including 6 urban (Distrito 1, Quintanilla, Pacata, Huayllani, El Abra and Villa Obrajes) and 6 rural (Distrito 5, Palca, Lava Lava, Aguirre, Ucuchi and Chiñata), making it a diverse territory with specific characteristics in each district (GAMS, 2023). The Bolivian National Institute of Statistics considers urban districts as those characterized by having more than two thousand residents, while rural areas are defined as having less than two thousand inhabitants (Heredia, 2014). According to the Autonomous Municipal Government of Sacaba (GAMS, 2023), the municipality is experiencing rapid expansion, with some rural districts like Lava Lava and Chiñata beginning a formal transition from rural to urban. Census data from 2012 indicates that 44% of the inhabitants of the Municipality of Sacaba belongs to a native indigenous population, primarily Quechua (77%) in the case of the rural population, almost 100% are Quechua (GAMS, 2020). In Fig.1 it is possible to see the division of the Sacaba Municipality in districts, divided in urban and rural. The rural district of Ucuchi is presented in gray, as it is where Tutimayu, focus of this case study, is located.

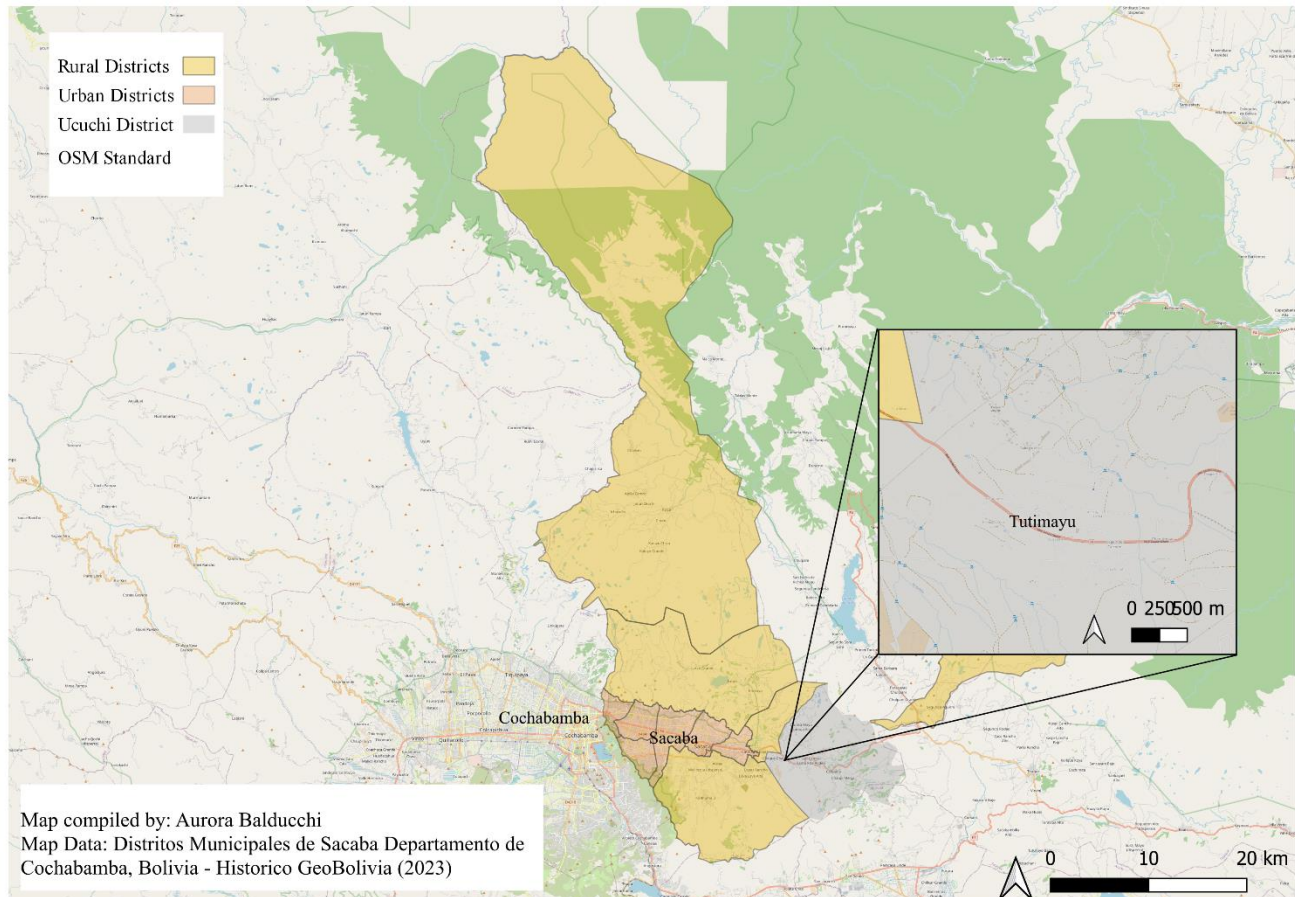


Fig 1. Map of the 12 districts of the Municipality of Sacaba. Balducchi A. (2024)

Sacaba is located in a valley, within the Central Eastern Mountain Range, which covers the entire extent of the municipality where different landscapes can be identified; the Central Eastern Mountain Range is characterized by mountains of structural origin, and deep valleys as a result of fluvial and glacial erosion processes (GAMS, 2020). The city center is situated at an elevation of 2700 meters above sea level, however, some rural communities in higher areas are located at over 3500 meters above sea level, creating a variety of ecological floors within the municipality (GAMS, 2023). Sacaba is situated within the Maylanco sub-basin, a component of the Rocha River basin, which is considered of great importance in the country, since it is home to the 13% of the total population of the Country and it is part of the headwaters of the Amazon River basin (SEI, 2018). Within the Maylanco River basin, nearly 59% of recharge areas have become impermeable, primarily due to the expansion of urban areas and the resulting construction and development activities (Alem & Vildoza, 2020). The Maylanco River Basin, as many others within the Cochabamba department, is characterized by the excessive utilization of resources that

has led to a decrease in available water, soil impermeabilization, and the destruction of natural areas (Angulo & Saavedra, 2018). Furthermore, according to Angulo & Saavedra (2018), river pollution is hindering water use, and, as a matter of fact, the issue of water is a top priority at both national and local agendas, as both climate change and the urbanization processes are affecting water supplies.

## **2.2 The Tutimayu Sub-Central: structure and organization<sup>1</sup>**

The Tutimayu Sub-Central, a term used in the Bolivian jurisdiction to define territorial units that represent a conjunction of communities, located 11 km west of Sacaba, is situated in the rural district of Ucuchi. It covers a complete sector of one of the municipality's watersheds, including high valley territories and areas closer to the city of Sacaba; therefore, the territorial characteristics within the Sub-Central vary, encompassing both rural and peri-urban sectors (GAMS, 2023). Tutimayu comprises 10 communities (Ch'aquimayu, Lloquemayu, Pampa Temporal, Alto Mirador, Cruz Loma, Inca Corral, Virgen del Carmen, César Loma, Laquiña and Ch'allamayú), each composed of about 100 families, with a noticeable variation between communities located in the high part of the watershed, less populated, as Alto Mirador and Ch'allamayú, and communities located in peri-urban areas that result more populated, as Virgen del Carmen and Cruz Loma. In each community there are different levels of administration and organization: most of the communities have a community leader (*dirigente*), which is usually elected with a two-year mandate, and that represents the community in front of the municipal institutions. Community leaders do not have decisional power, as a matter of fact, all the decisions are made together with the members of the community, represented by one member for each household, usually the man, at the regular meetings that usually take place once a month. The Sub-Central as a whole also counts with a leader, for the current mandate (2023 – 2024) this charge is occupied by a woman. Moreover, communities are organized in other types of associations, the most common are the irrigation association and agricultural producers' associations, that mostly serve as coordinator for the sale of surpluses. In terms of irrigation associations, they include members of different communities that receive water from the same source. These associations work through participatory systems, members pay a maintenance fee and are required to participate in community work to maintain their right to get water. Water is distributed by inundation, there are no technified irrigation systems in any of the communities of Tutimayu. Six of the ten Sub-Central communities rely on irrigation water from the Ch'allamayú, Limón Mayu, and Pilancho dams, the other four rely on the Larati Lagoon, which is managed by a different Sub-

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<sup>1</sup> The information presented in this section, if not otherwise mentioned, is the result of fieldwork conducted in Tutimayu for both work and research purposes. More detail on fieldwork in the methodology section.

Central. In 2023, according to the community leaders, the dams were only at 30% of their capacity despite an expected capacity of over 50%.

Agricultural production, which is the main economic activity of the Sub-Central, consists of the growth of different crops such as potatoes, corn, green peas, green beans, onions, oca, forage oats, vegetables, and flowers (GAMS, 2023). Most of the production happens through monoculture practices which often leave the soil without nutrients and reduce the productivity of the land, also favoring the spread of diseases (Milesi & Jarroud, 2016). Moreover, the cultivation of tumbo, a local fruit used to produce juices, jams or for direct consumption, has gained popularity in recent years due to its high profitability (GAMS, 2023). However, current agricultural production relies heavily on the excessive use of chemical pesticides, posing health risks to both consumers and producers, and polluting both groundwater and surface waters (Barrios, 2022). Additionally, the use of chemical pesticides leads to the development of resistance to diseases and infestations, as well as pollution of the atmosphere and the soil (Alem & Vildoza, 2020). The forestry activity is also of economic importance within the district of Ucuchi and more specifically in Tutimayu; logging, mainly pine and eucalyptus, from both communal and family-owned plantations provides substantial income over the medium and long term (GAMS, 2020). Household level reforestation is conducted annually, forming an integral part of the yearly activities for many families (ibid).

Tutimayu is located near the Tropic of Cochabamba (Chapare), a tropical region in the southern part of the Department of Cochabamba, where the more humid climate and flatter terrain facilitate fruit and vegetable production. The proximity to this area prompts residents of Tutimayu and surrounding areas to migrate during productive seasons, leading to temporary depopulation; those who migrate are usually the head of the households, leaving kids and minors with other members of the household as grandparents or older aunts and uncles (GAMS, 2023). Moreover, the Sub-Central is characterized by the lack of employment and entrepreneurial opportunities, prompting young people to migrate to nearby urban centers (GAMS, 2020).

### **3. Literature Review**

This section provides a brief introduction on previous research focusing on gender, climate change and power relations, along with a concise summary of other case studies conducted with a similar focus to that of this thesis. Additionally, this section delves into climate change impacts and gender-related issues within rural Bolivia, drawing insights from prior research.

#### **3.1 Research Background**

Previous case studies have been undertaken analyzing the intersections of gender, climate change, and power relations. Different perspectives and theoretical approaches have been used to problematize and analyze these intersections depending on the context and focus of the research. Concepts drawing from Political Ecology and Ecofeminism are frequently used when studying these types of dynamics. Several analyses take into account gendered impacts in relation to agricultural production, food security, health, water and energy sources, migration and conflict (Goh, 2012). Considering studies carried out in the Global South, many have taken place in Africa and Asia (Glazebrook, 2011; Babugura, 2008; Omari, 2008; Matos, et al., 2023; Quang, 2022; Hung & Bayrak, 2022; Ray, et al., 2022), taking a focus on adaptation and mitigation strategies, as well as policy and decision-making processes and how these should be more consistent with using gender perspectives.

As of Latin America the literature concerning gender and climate change seems to be growing (UNEP, 2021; Lima & Loeb, 2021; Dueñas, et al., 2022). The topic is studied using a variety of approaches that aim at creating bridges between empirical data and the wider discussion on gender and climate change. Regarding Bolivia, there seems to be an increased interest on the topic in recent years, prompting researchers to analyze how climate change impacts women's poverty, food security, access to resources, and domestic burden (Escalante & Maisonnave 2020; 2022a; 2022b; Rojas, 2023; Painter, 2020). The increased interest can be considered due to rising frequency and severity of natural calamities like floods, droughts, and landslides that have led to notable economic setbacks, particularly impacting rural agriculture increasing rural women's vulnerability (Escalante & Maisonnave, 2022b). Bolivia represents an interesting case since its morphological composition, that includes regions of high Andes, valley areas and regions of forest, and its different cultures, the Aymara and the Quechua for instance, create a heterogeneous context that can be analyzed through an intersectional approach that takes into account specificities and interconnected dynamics among various social, cultural and environmental factors.

### **3.2 Climate change in the Sacaba area**

Climate Change, defined by the IPCC (2007, p. 1760) as “a change in the state of the climate that can be identified by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer”, is a current pervasive issue in Central and South America (Agramont, 2023). Despite possessing a moderate level of exposure, Bolivia stands out as one of the Latin American nations particularly vulnerable to climate change due to its inadequate capacity for adaptation and its exposure to the effects of climate change (UNICEF, 2019). This inadequacy stems from Bolivia’s heavy reliance on agriculture as a mainstay of its economy, coupled with a low gross domestic product, insufficient inter-institutional coordination, generally weak institutional frameworks and elevated levels of poverty and inequality (ibid.). The most tangible effects of climate change in the country include the increase in temperatures, especially in the Andean region, causing a reduction in water regulation provided by the Andean glaciers, which have lost between the 40% and 50% of their ice volume in the last decade (Agramont, 2023). As a matter of fact, the current scenario is resulting in a decline in aquifer replenishment, leading to reduced water flow in slopes, ravines, and small streams (Angulo & Saavedra, 2018). Another of the main effects of Climate Change is the shift in precipitation patterns. In general, it rains less and at different times of the year compared to just a few years ago, and, when it rains extreme events are likely to occur (Agramont, 2023). For instance, in July 2023, Sacaba declared an 'orange alert' due to the lack of precipitation during the supposed rainy season and the low accumulation of water in lakes and dams, along with well droughts. This jeopardizes regular water supply for human consumption and irrigation, leading to severe droughts affecting the production of crops (Redacción Central, 2023). At the end of February 2024, two of the rural districts of the Sacaba Municipality, Ucuchi and Chiñata, had been hit by torrential rain that generated landslides, inundation and floods forcing many to abandon their homes. For this reason, the two districts had been declared disaster zones (Revollo, 2024).

The impacts of climate change are exerting significant pressure on traditional agricultural practices, particularly in the Altiplano area and the inter-Andean valleys, to which Sacaba belongs (MMAyA, 2021). This means that food security is greatly affected, especially in rural areas, where people depend on agriculture for their own consumption and as a source of income. As a matter of fact, natural disasters like frosts, hailstorms, inundation and reduction of the precipitations, impact both agriculture and livestock production (ibid.). Moreover, the lack of water is also generating social turmoil and questioning

customary practices of water consumption, since more people, that before would depend only on rainfall, also need water for irrigation (GAMS, 2020).

### **3.3 Gender issues in rural Bolivia**

Although Bolivia has ratified several International human rights agreements regarding women's rights, including the Convention on Elimination of All Forms of Discrimination against Women (CEDAW), gender inequality is a widespread phenomenon (UN WOMEN, 2023a). As a matter of fact, women in Bolivia lack recognition as economic agents and bear a great burden of caregiving (ibid.) Moreover, women (considered for the purpose of this study as adult female aged 18 and above) in rural areas have historically been marginalized in decision-making in the public and private sphere holding subordinate positions to men (considered for the purpose of this study as adult male aged 18 and above) (ibid.). Since 2013 Bolivia counts with the Law 348: Comprehensive Law to Ensure Women a Life Free of Violence (*Ley Integral para Garantizar a las Mujeres una Vida Libre de Violencia*), which contemplates comprehensive, psychological, social, legal, free, and specialized care and focuses on prevention, attention, protection, reparation, prosecution, and punishment of violence (Guzmán, 2021). However, there is still a high incidence of gender-based violence; women in Bolivia suffer of different types of violence, being physic, mental, and economical the most common (ibid.). Bolivia, as reported by UN WOMEN (2023), is the second most violent country in Latin America considering the number of feminicides.

In rural Bolivia, traditional gender roles persist, which means that women hold heavier workloads and domestic responsibilities; caregiving to children, the elderly and the sick remains mainly attributed to women (Castilleja-Vargas & Talamas, 2023). This situation generates economic dependence and lack of opportunities for women to enter the job market (ibid.). These responsibilities also influence access to education, as a matter of fact, according to the last household survey (INE, 2022), the literacy rate of women in rural areas is the 83%, considerably less than the 97% registered for men. Women in rural areas are primarily engaged in commerce and services, followed by agriculture, and unskilled labor (Castilleja-Vargas & Talamas, 2023). However, it is clear that the role of women has been changing in the last decades, there is evidence of what is called “feminization of agriculture”, which means that women have been more actively participating in agricultural work, not only from a practical perspective, but also in decision making (Rojas, 2023).



The National Confederation of Peasant Indigenous and Native Women of Bolivia “Bartolina Sisa”, which had the original goal of organizing rural and indigenous women into an integrated and unified entity (Sánchez Echevarría, 2015), is a strong rural women’s organization that has local branches throughout the country, mainly in the Western region of the Andes and valleys (ibid). Currently, the organization reaches mainly women in rural areas that are organized in local groups, for instance, a group of 90 women are organized in the Tutimayu Sub-Central and promote their rights and work toward the creation of alternative sources of income for the women of the community (Vega, 2014).

## 4. Theory and Concepts

This section delineates the theoretical framework employed to design the research, and presents the key concepts utilized in the analysis, articulated in a conceptual framework. More specifically, it defines the theoretical underpinnings guiding the analysis and discussion necessary to answer the research questions.

### 4.1 Theoretical Approach

The term ecofeminism was introduced in 1974 by Françoise d'Eaubonne in her work "*Le féminisme ou la mort*" (Feminism or Death), where the French feminist analyzed the environmental consequences of 'development' and highlighted women as central figures in this transformation (d'Eaubonne, 1974). Since the first definition, many theoretical elaborations of the term ecofeminism developed. Building on the assumption that there are different environmental theories and different feminisms, it is natural to define ecofeminism also as a plural thought (Varengo, 2022). Each different branch of ecofeminism has its own perspective and offers its unique view on the mechanisms and reasons behind the domination of women and nature, as well as suggesting the required actions to realize a society more aligned with feminism and environmentalism (Smith, 2001).

All the interpretations of ecofeminism are based on the parallel between subordination of women and the oppression of nature, which means that ecofeminists believe that the marginalization and exploitation of nature closely mirror those of women (Gaard, 2001). Moreover, the standpoint of ecofeminism lays in the idea that the history of exploitation of female and nature has exacerbated the oppression and domination of other human beings, for the benefit of the elites, often represented by men (ibid.). According to Plumwood (1993) ecofeminism underlines the necessity to analyze and support both the social and the environmental causes in a coherent way that considers both the necessities of human beings, and more specifically of women as more oppressed, in relation to men, and those of nature.

According to Allison (2017) four branches of ecofeminism can be identified and differentiated by how they understand nature and human connection to it, as well as by their epistemological perspectives, they are: liberal, cultural, socialist, and social. These branches allow for an analysis of the power relations that historically brought to the oppression of both women and nature and theorize different possibilities and approaches to environmental protection that is gender centered (Merchant, 2005). First, liberal ecofeminism, rooted in the liberal feminist movement, that is historically considered a strong branch of feminism since the 17<sup>th</sup> century until the 1960s, understands the human-nature relationship as hierarchical, where the humankind dominates nature, but science, technology and progress are considered

as valuable means to contribute to solve environmental issues only if also women's contributions are taken into account (Allison, 2017). This approach considers that women have historically been excluded from conversations surrounding climate change policy even if they are disproportionately vulnerable to its effects. It also outlines suggestions that leverage women's unique insights and capabilities as decision-makers and leaders in addressing climate change challenges, emphasizing their concrete knowledge and agency in this regard (Gaard, 2015). Second, cultural ecofeminism, is centered on direct social action that gives priority to both the liberation and protection of nature and the rights of women (Allison, 2017), more specifically its goal is that of creating women centered spiritualities that take into account the interconnections of women and nature. Moreover, cultural ecofeminists, express their anti-patriarchal standpoint not only through their thoughts and ideas but also through the style of expression; they resist the traditional academic discourse by employing a personal style that uses counter hegemonic language. An example is the use of the first person and the involvement of the researcher in the work (ibid.). Third, socialist ecofeminism gives centrality to the concept of reproduction, in opposition to that of production, for the creation of a sustainable world. This is based on a critique of the patriarchal-capitalistic system as opposite to the historical interaction between women and nature as food, fuel, water, medicine collectors and as preparers of food which gave women strong and deep knowledge of nature (Merchant, 2005). These last two approaches, cultural and socialist, are both critical of technology, even if they do not essentialize it, if used in a destructive way that damages the environment and puts at risk human rights, as well as the industrial development that is only growth centered (Allison, 2017). Lastly, social ecofeminism, envisions a decentralized and decolonized system where no form of domination exists; in order to create this type of context it is necessary to have a constant conversation and update that keeps up with the unknown nature of the nature which is unpredictable and wild. In contrast with cultural ecofeminism, the social branch of ecofeminism, which is the one of most recent development, also pushed by approaches from the Global South, is based on the idea that there is a strict connection between nature and both men and women, despite historical inducted and biological differences between the two sexes. This branch of ecofeminism is related both to environmental activism and to indigenous movements, creating a transcultural, intersectional, and democratic approach (ibid.).

These are only four of the many facets of ecofeminism; having diversity and plurality within this theoretical approach is seen as a positive matter as it allows for the inclusion of a variety of voices and perspectives that represent diversity. One specific aspect that gives value to the diversity and variety within ecofeminism, is that it has been able to include and highlight the work of women of color and

from the Global South, which allowed for the integration of the voices of women that do not necessarily fall into the category of white, middle-class and able bodied, something that had not been greatly and explicitly considered in previous ecofeminist research (Cuomo, 1992). As a matter of fact, ecofeminism also developed a Latin American perspective, including theological and community feminism nuances (Arguedas-Ramírez, 2016). Latin American ecofeminism is a growing branch of feminism, it focuses on significant environmental issues in the region, particularly highlighting the disproportionate impact on the most marginalized and vulnerable groups that suffer mainly due to exploitative practices and harmful ideologies, taking on an intersectional approach that does not only consider “women” but women in class, age, location, ethnicity, etc. (ibid.).

Critiques of ecofeminism are also relevant, especially those that focus on the critique of the binarism between man and women and on the critique of the assumptions on gender roles assigned to women; moreover, ecofeminism is sometimes criticized to be essentialist and utopian (Sargisson, 2001). Of the four approaches described above, social ecofeminism is the one I considered to be the most appropriate for the analysis to be done in this research. As a matter of fact, social ecofeminism takes into account economic and social hierarchies, trying to fight them, and analyses the private-public dichotomy (Merchant, 2005) that is also taken into account in this research. Social ecofeminism is also relevant in this analysis since it takes on a non-patriarchal approach that also considers different worldviews and understandings of nature, following a decolonial viewpoint as well as an intersectional perspective that is hereafter discussed (Allison, 2017).

#### **4.1.1 Intersectionality**

Intersectionality is embedded in the ecofeminist thought, but it is only in recent times that it has been made more explicit that ecofeminism has a clear intersectional approach. However, not all the ecofeminist approaches explicitly consider intersectionality in their theorization: the social ecofeminist approaches take on intersectionality as one of their main characteristics, for this reason it is the one used for the purposes of this research. Intersectionality serves as a lens to highlight how race, class, gender, disability, sexuality, caste, religion, age, and any other specific characteristic or peculiarity of human beings, and their diverse manifestations, are interconnected, shedding light on their impacts on women's discrimination, oppression, and identity, as well as on nature (Kings, 2017). Intersectionality, within the social ecofeminist theory, addresses gender issues in the context of environmental degradation, taking into account the intersections of other layers of oppression embedded within the capitalistic and patriarchal system (Gaard, 2014). The ecofeminist approach to intersectionality is relevant since it sheds

light on the necessity of working on different levels that include both the human and the nature level, thing that has been often neglected by feminist studies; moreover, intersectionality is a tool to analyze how different positions of power interact (Lykke, 2009). As Kings (2017) acknowledges, the intersectional lenses allowed ecofeminism to confront some of the critiques that have been made to the theory, mainly the allegation of being essentialist and exclusionary. An intersectional approach to ecofeminism has been used to explain and show how women and nature are mutually and distinctively oppressed and degraded, especially those already in situation of particular vulnerability and at the margins of society, experience the consequences of environmental degradation and climate change with greater intensity (Kings, 2017).

#### **4.2 Conceptual Framework**

Three concepts that are embedded within the ecofeminist approach and are functional for the aim of this research are hereafter presented. The description of these concepts is made taking into account their conceptualization within the social ecofeminist approach, but also drawing from other academic definitions that result efficient and useful for the purpose of this research as they help understand how the effects of climate change shape power relations within a rural context. Drawing from ecofeminism, the focus is posed on two types of power relations: between men and women, mainly at the household level, and humans-nature power relations. The three concepts considered for the analysis of power relations are: gender, as of gender norms and gender roles and responsibilities, perceptions of causes and effects of climate change, and harmony between humans and nature. Fig 2. is a graphic representation of the conceptual framework, useful to show the interconnections between the three concepts and their influence on power dynamics. The three concepts and the way power dynamics are analyzed are discussed hereafter.

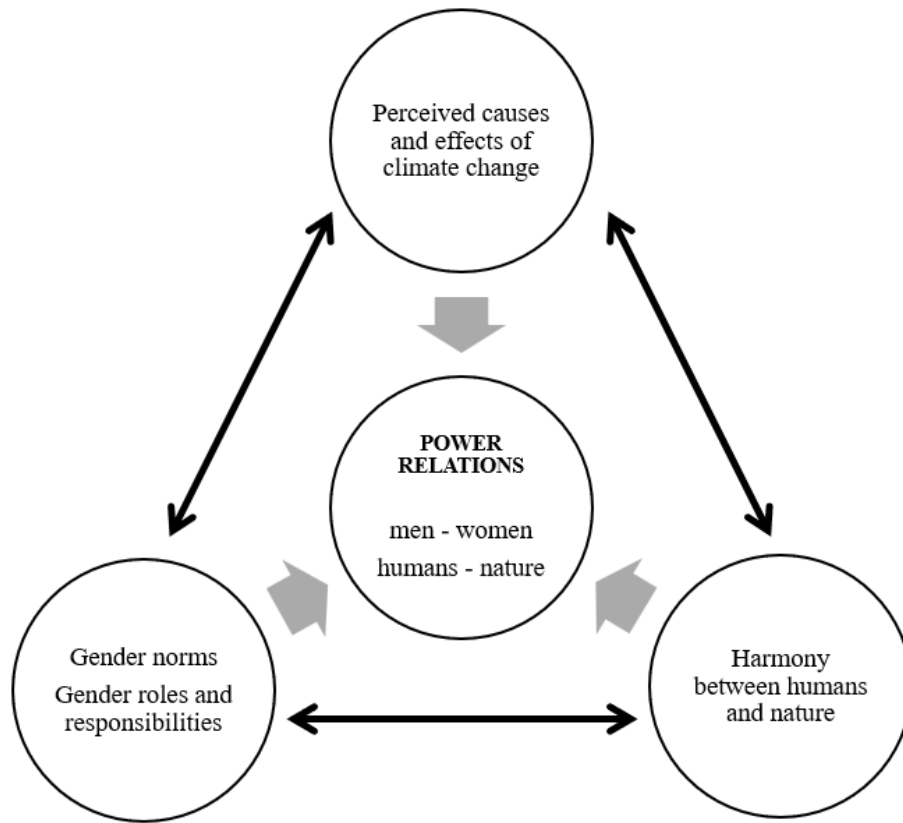


Fig 2. Graphic Representation of the Conceptual Framework. Balducchi A. (2024)

#### 4.2.1 Gender

For the purposes of this study, gender is not considered as a fixed category, it is seen as a social construct whose characteristics are context dependent (Leder, 2022). Gender is considered what defines how men and women should behave, present themselves and the jobs and tasks they should perform. This is what is defined as gender norms which are typically internalized from an early age, gender norms are embedded in context specific dynamics (UNICEF, 2020). Gender norms, which fall into the category of social norms, are to be considered as informal rules and shared expectations that shape tasks, roles, and responsibilities (ibid.). Moreover, gender norms are to be considered in the interaction with other types of relations related to age, ethnicity, religion, etc. (Cookson, et al., 2023). Usually, men and women fulfill distinct responsibilities within households, communities, and society in general. These roles require diverse resources—such as natural, economic, political – that are often not equally accessible to men and women (SDC, 2003). Examining how roles, responsibilities, resources, and values are assigned and

structured for women and men is necessary to define and identify gender relations (ibid.). Gender relations are dynamic and subject to change: economy, law, politics, and environment can influence how gender relations evolve throughout time. Moreover, gender relations are to be considered power relations (ibid.). Gender norms cannot be defined as good or bad, however they can be defined as having a positive or negative impact on gender equality and therefore shape gender relations in different ways (Cookson, et al., 2023).

#### **4.2.2 Harmony between humans and nature**

Harmony between humans and nature is analyzed to understand the power relations that exist, and that shift, between people and nature. Through the concept of harmony, this study wants to take on a decolonial approach that takes into account local perspectives, by considering the traditional ways of understanding nature and the way people relate to it. Since 2009, Bolivia has included the concept of '*Sumak Kawsay*', which translates into Spanish as '*Buen Vivir*', and in English as 'Good Living' (Gudynas, 2011), in its Constitution. There is not only one interpretation or application of *Buen Vivir*, as a matter of fact it has its specificities and declinations according to the cultural and historical setting other than the environmental characteristics of a context; but, the idea that stands at the basis of this approach is that of alternative perspectives on the relationship between humans and non-humans, rejecting the conventional division between society and nature (Cochrane, 2014). *Buen Vivir* can therefore be considered as the union of two components: a social element and an environmental element (Vega, 2014). The former element brings the idea that one cannot live well if the others do not live well, giving centrality to the concept of community, the latter comprises the idea of harmony and balance with what surrounds humans (ibid.). Moreover, *Buen Vivir* considers gender aspects as central, as a matter of fact, it poses the complementarity and reciprocity between man and woman as an aim, considering women as integral individual that are not to be considered simply as projections of men (ibid.).

Lastly, *Buen Vivir* conceives the idea of harmony through the perspective of *Pachamama* (Mother Earth). According to this notion, humans are to be considered as an integral part of the whole that is Mother Earth, and therefore human life unfolds in harmony with nature (Haidar & Berros, 2015). These conceptualizations dialogue with ecofeminism, especially considering the concepts of equal relationship, at both the household and community level, the absence of domination between man and women, but also humans and nature, and the fight against patriarchy, capitalism and the creation of an harmonic relation with nature (D'amico & Pessolano, 2013). Moreover, through a social ecofeminist approach nature is to be considered through the lenses of the local people, by understanding their view and their

own specific and peculiar perspective. It is possible to say that “*ecofeminism and Buen Vivir go hand in hand*”<sup>2</sup> (Arguedas-Ramírez, 2016, p. 139), in the sense that both consider the earth as a sacred living body, that serves as the connection between all living beings (ibid.).

#### **4.2.3 Men and women’s perceptions on the causes and effects of climate change**

According to Carr & Thompson (2014), although most people who depend on agriculture are impacted by climate change in some way, not everyone perceives the causes and effects of climate change consistently. This is due to different factors, such as social status, class, entitlement, gender, and gender roles, that, intersecting and overlapping, generate differences in the perceptions of the effects of climate change giving place to ‘differentiated vulnerabilities’ (ibid. p.183). Gender and power are therefore strictly connected to the perceptions of climate change. Moreover, women within the ecofeminist approach, tend to be considered closer to nature, and this is reflected in the roles they assume within the household, as being responsible for the preparation and obtaining of food, and therefore also in relation to agriculture (Rojas, 2023). This makes women in rural settings, perceive the causes and effects of climate change through different lenses compared to men (ibid.). It is interesting to see which are the perceived causes and effects of climate change in rural areas to understand if men and women are aware of the implications of their own actions as well as to acknowledge their understanding of the power of their own action to adapt or mitigate the changes happening.

The discussion surrounding environmental change is intricate, involving various factors beyond just climate change. Socio-economic transformations, such as those linked to urbanization, also play a significant role. This complexity must be acknowledged as it is intertwined with the ongoing processes within rural areas, making it challenging to isolate the effects solely attributable to climate change. Consequently, environmental changes are not to be understood only through the lens of climate-related alterations but require a broader perspective to grasp the full scope of transformations taking place. Although what people perceive as a cause or effect of climate change might also be due to a variety of other factors that concur to generate change, it is still relevant to acknowledge these perceptions especially in relation to gendered perceptions.

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<sup>2</sup> Own translation



#### 4.2.4 Power Relations

Power imbalances and power relations are not always addressed in relation to climate change and environmental degradation (Arora-Jonsson, 2011). This can generate agendas, policies, or interventions that do not truly take into account an inclusive gender perspective (ibid.) Therefore, as Quinn (2002) suggests, it is necessary to conceptualize and understand the power relations that shape a specific context in order to fully acknowledge its complexity and structure. Moreover, Djoudi, et al. (2016) underline that gender and climate change can be analyzed thoroughly when considering and understanding the power relations of a specific context. As mentioned above, the power relations to be considered are not only those concerning people, but also those between humans and nature.

Power relations are studied across different disciplines, going from social studies, environmental sciences and political sciences to human geography and gender studies. It seems like in the literature across several disciplines is focusing the discussion on power categorizing it in three dimensions: power-over, power-with and power-to (Pansardi & Bindi, 2021). Follet (1940) has been the first to define a distinction between power-over, seen as a coercive power, and power-with, considered as collaborative, and therefore coming from the action of multiple people. Power-over is associated with hierarchies and repression; social categories as gender, age and ethnicity are factors that generate situations where one of the parts can exert power over the other (Pansardi & Bindi, 2021). Patriarchal societies, which is also the case of Bolivia (UN WOMEN, 2023a), generate the perfect environment for men to exert their power over women, at the household, community, and political level. In the same way, capitalism generates the perfect environment for humans to exert power over nature, by exploiting it and overconsuming (Arguedas-Ramírez, 2016). Power-with involves identifying shared goals to enhance collective efforts, rooted in mutual aid, solidarity, and cooperation (Pansardi & Bindi, 2021). This is something that is embedded in the Bolivian culture, where the sense of collaboration within communities, between men and women and also between humans and nature, is predominant (D'amico & Pessolano, 2013). The Bolivian context is therefore characterized by this dualism of power-over, embedded in the patriarchal and capitalist structures, and power-with, which is something cultural especially in rural areas, where the sense of community, collaboration, and harmony with nature are strong (Ruiz, 2017). Hence, by recognizing the indigenous perspectives, it becomes evident that the traditional understanding of the complementary roles of men and women isn't inherently negative (D'amico & Pessolano, 2013). However, when these roles intersect with the pressures of capitalism and patriarchy, complications arise. This is primarily because the demands enforced by the capitalist system restrict access to economic and

social opportunities to those with monetary resources. In rural settings, this often results in men having greater access to resources, as women typically bear the responsibility of household duties and unpaid labor (Arguedas-Ramírez, 2016). Power-to is also something to consider, and it can be defined as the individual potential to improve one's own life and situation, it is something that has been defined as empowerment, deriving from education, training, and leadership development (Pansardi & Bindi, 2021). The analysis in this thesis will mainly focus on power-over but will also take into account possible forms of power-with and power-to that have been changing or developing due to the effects of climate change.

Social ecofeminism does not see power relations only as sprouting from one single system, which could be capitalism, neoliberalism, patriarchy, but it considers a structure of different types of oppressions that come together (Gaard, 2001). Power structures and oppressions are present at different levels and in different types of relations that go from the institutional level to the individual level, going through communal and household levels (Kaijser & Kronsell, 2014). Plumwood (1993) makes explicit, in the form of dualism, some of the power structure that build oppression and that lead to the domination of both nature and women. Some of these dualisms are self/other, male/female, public/private, human/nonhuman, rationality/animality, heterosexual/queer. These dualisms are considered as hierarchical, meaning that one of the two parts exercises power-over the other, and are to be considered not as individual pairs but in their whole, in a way that the interlinked connections and oppressions can be analyzed more in depth and on different levels (Gaard, 2001).

## **5. Methodology**

This section presents how, in practice, the case study has been designed, how the data has been collected and how the interviewees have been selected. Moreover, I hereafter acknowledge my positionality, the ethical considerations, and limitations of this research.

### **5.1 Case Study Design**

A case study has been chosen for this research as it allows for a detailed and intensive analysis of a social phenomenon in a specific context (Bryman, 2012). Even though case studies can be defined by both qualitative and quantitative research (*ibid.*), in this case only qualitative research has been used to reach the aim of the investigation combining different sources including interviews, newspapers, literature and direct observation. These sources, used for qualitative data collection, are thought to be beneficial for creating a thorough, in-depth analysis of a case (Creswell, 2013); moreover, the use of different types of sources allows for multiple viewpoints to be used to examine the problem, revealing and understanding different aspects of it (Baxter & Jack, 2008). According to the categorization made by Bryman (2012), the present case study can be considered a representative or typical case study, since this type of case study is used to exemplify a broader dynamic. Bryman (2012) underlines the fact that the representative case study is not chosen for its uniqueness, rather it is chosen because it either serves as the best example or it offers an appropriate setting in which to examine specific research issues. In the case of this research, the selected context, that of the Tutimayu Sub-Central, located in a rural district, is considered appropriate to examine how the effects of climate change impact power relations. This is because the effects of climate change are tangible, as described above mainly in relation to water scarcity, and social construct related to gender and exploitation of nature are present in rural areas.

The selection of this research design is also the result of fieldwork that I have done during a period of six months as an intern at an Italian Non-Governmental Organization (NGO), ASPeM (Associazione Solidarietà Paesi Emergenti). The NGO, based in Cochabamba, has been working in Bolivia since 2001 and has built a network of partnerships with other international organizations and local actors, including municipalities, universities, and civil society organizations. Arriving on the field, I had previous knowledge of Spanish, since I had already lived in Bolivia, in the urban context of Santa Cruz de la Sierra, this allowed to be able to communicate fluently with the local population. It is important to note that in rural areas of Sacaba, as mentioned in the Context section, most of the population is Quechua, which means that their first language is often Quechua. Because of rural areas increasingly relying on

urban centers, a significant number of people in rural regions now comprehend and speak also Spanish, which enabled me to communicate directly with them as well. In the rare cases of Quechua-only speaking individuals, I could always rely on gatekeepers, usually members of local partners of ASPeM, to guide me in the conversation as well as in the social instances to be followed. Throughout the fieldwork, I had the opportunity to get directly involved with the local communities, both for practical work, such as planting trees or installing water collection systems, and also for bureaucratic work, which allowed me to understand the policies and procedures applied in the context. Access to the field was therefore granted by my hosting organization and its local partners, with whom I collaborated. The prolonged engagement in the field also allowed me to reflect on my positionality in relation to the work and research I have done in Sacaba.

### **5.1.1 Positionality and Decoloniality**

I acknowledge my positionality of individual from Italy, that counts with a specific cultural background different from the one of the research sites. Having lived in Bolivia for about a year prior to the research gave me the opportunity to know the country context and be familiar with some cultural aspects. Understanding the cultural context has been central to comprehend how gender is defined and experienced locally, and how the relationship between humans and nature is perceived in rural settings. Moreover, the direct observation and interaction with the participants gave me further knowledge about specific cultural aspects, ahead of conducting the interviews and interacting with the local population as a researcher. It is necessary to note that I understand gender as fluid and not as a mere binary of man and woman, considering other possible forms of gender expression. I kept this in mind throughout the fieldwork period and considered it thoroughly when analyzing gender dynamics. I considered my positionality at all stages of the research, reflecting upon the privileges and preconceptions that I could have stemming from previous work and personal experiences. Reflexivity is considered necessary to avoid influencing in an inappropriate way the research (Holmes, 2020). Considering all these aspects, I assumed a decolonial approach throughout all the stages of the research, and mainly during the design of the research, as I tried to have “*a more critical understanding of the underlying assumptions, motivations and values which inform research practices*” (Smith, 2012, p. 606). This means that I did not only consider my positionality and reflected upon it, but I also considered the history of coloniality that oppressed Bolivia for centuries (ibid.). Moreover, I designed my research taking into account, analyzing and understanding research and theory developed by researchers from the Global South, more specifically, with a Latin American background (Thambinathan & Kinsella, 2021).

## 5.2 Data Sources

As mentioned above, different types of sources of data have been used for this research including interviews, newspapers, literature, and direct observation: all these sources allow for a deeper understanding of the issue to be analyzed (Creswell, 2013). It is to note that data has been generated<sup>3</sup> together with the participants of the study, including both the interviewees and the whole Tutimayu Sub-Central.

### 5.2.1 Observation

Observation, a primary data collection method (Taherdoost, 2021), has been conducted during a period of six months, during which I have been collaborating with Yachay Chhalaku, a local Non-Governmental Organization, partner of ASPeM, the hosting organization of my internship. Yachay Chhalaku since 2001 has been implementing projects in Tutimayu and in other districts of the Municipality of Sacaba. Throughout the months of collaboration, I had the opportunity to cooperate in the implementation, monitoring, and evaluation of two projects that the organization has been executing in the territory of Tutimayu. One of such projects, the *Buen Vivir: Fase III*, (Living Well: Phase III) has two lines of intervention: (i), gender-based violence in rural districts, and (ii), promotion and support of agroecological small scale business, which are mainly led by women. The other project that Yachay Chhalaku has been implementing, *Promotoras/es Comunitarias/os, juntas/os por una vida libre de violencia* (Community Promoters, together for a life free of violence), is focused on gender-based violence in schools. These projects allowed me to observe gender dynamics and agroecological practices within the Tutimayu Sub-Central.

Moreover, I collaborated in a participatory data collection for a project proposal that Yachay Chhalaku is to present to the Italian Agency for Development Cooperation. From this, I have been able to attend focus groups and interviews with key actors of the Tutimayu Sub-Central regarding water and forest management. This turned out to be essential to the development of this research because, through consistent observation it has been possible to gather relevant information in a natural setting (Taherdoost, 2021). All the beneficiaries that I encountered also during this period of observation have been orally informed that some of the information gathered during the meetings could be used for this research. Collaborating closely with the beneficiaries of the projects and individuals familiar with the environment

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<sup>3</sup> The term 'collected' or 'gathered' might also be used when presenting the different sources of data. It remains important to underline that it has been a collective participatory generation of data.

enabled me to understand the expected behavior necessary for engaging with this particular community (McLennan, et al., 2014). This has been fundamental when it comes to designing and conducting the specific fieldwork for this research. Additionally, during the observation period I have been consistently observing the news, considering both local (Los Tiempos, Opinión, La Voz) and national (El Mundo, Unitel) media retrieving secondary data. The newspapers have been used to gather information on climate related events and on gender-based violence, from the perspective of policies and interventions but also local reports. The news helped me to have a broad overview of how local people frame facts related to climate change, mitigation, and adaptation, as well as gender related issues.

### **5.2.2 Sampling and Interviews**

Through the NGO Yachay Chhalaku it has also been possible to identify a fieldwork assistant that has been of great help for the practicalities of data collection, mainly as a translator for Quechua speaking participants and the sampling, but also in establishing connections with the participants, as well as with safety, and travel arrangements. My fieldwork assistant, a middle-aged male, that has been working for over twenty years in Tutimayu, is well known in the area. He has been focusing his work on education and gender-based violence, he is therefore aware of how to touch upon specific issues. He accompanied me when needed, but also stepped aside when he thought it was more appropriate to have a one-on-one conversation between me and the interviewee. As one of the primary obstacles I faced was establishing direct communication with participants to arrange interviews, having a fieldwork assistant familiar with the Tutimayu Sub-Central and well-versed in the context has been of great help. The interview method used in this research is semi structured interviews, which provide enough flexibility to adapt to the answers of the participant and expand the set of questions established in the guideline (Bryman, 2012). The guideline, that can be found in Appendix C (English) and Appendix D (Spanish), was formulated based on theory, and interview questions designed to address the research questions (ibid.)

A generic purposive sampling approach has been used to identify the participants (Bryman, 2012), therefore the fieldwork assistant played a fundamental role in the selection, as he guided me in the identification of individuals that could fall into the needed categories for the data collection (McLennan, et al., 2014). The criteria used to select the participants are sociodemographic, gender, age and occupation, and also geographical, meaning that a sample of individual belonging or living in different communities within the Tutimayu Sub-Central have been selected (Bryman, 2012). A total of fifteen interviews have been conducted: seven are men (age 22 to 78) and eight are women (age 29 to 68). Of these fifteen people, eight are married couples of man and woman living within the same household; two,

a man and a woman have never been married and live with their parents; three people, two men and a woman have never been married and live by themselves; and two people, a man and a woman, have been married but do not live with their partners and do not hold relationship with them anymore<sup>4</sup>. The variety of ages, relationship status and occupation allowed to have a variety of perspectives to be analyzed. All the interviews have been conducted physically in a location selected by the participant, which has been either their home or workplace. Thirteen interviews have been fully conducted in Spanish, whereas two of them mixed Spanish and Quechua, the fieldwork assistant collaborated with the translation.

### **5.2.3 Data Analysis**

The interviews have been transcribed in Spanish, using the transcription tool provided by the online version of Word. The interviews have not been translated to English for their analysis since, as recommended by Ryan & Bernard (2003), it is useful to look for local expressions, metaphors and analogies, that are more difficult to encounter if the text is translated. This is necessary, together with coding, to find recurrent themes, which are categories defined within the data generated that relate to the research questions and help to answer them (Bryman, 2012). More specifically, the analysis done is thematic: the interviews have first been analyzed through two coding cycles: the first cycle allowed to identify specific attributes and create a codebook with several categories, whereas the second cycle allowed for a smaller number of categories to be created (Saldaña, 2013). The second cycle codes have then been classified in themes, using the three sub questions as thematic areas. During fieldwork and observation, I took notes that I then transcribed on a laptop and coded using the same codes used for the interviews.

### **5.3 Ethical Considerations and Limitations**

I consider three primary ethical considerations for this study. First, all participant information remains anonymous, and personal data is not disclosed, ensuring privacy in accordance with Lund university's master in International Development and Management's (LUMID) confidentiality standards. Secondly, participants provided informed consent verbally during the direct observation and fieldwork to ensure awareness of the potential academic use of the gathered information. Lastly, while conducting interviews with women, especially when they happened within their homes, me and the fieldwork assistant identified a private space where the women could focus on the interview and feel secure in sharing their private information. This has been necessary since some of the questions in the interview guide could

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<sup>4</sup> See Appendix E for further details on the interviewees.

disclose personal information and positions that could be perceived in a negative way by others living in the household.

The greatest limitation encountered for this research is that of considering gender as a binary. This binarism, in the feminist and, more broadly, in the social science literature, is considered as a social classification that can be viewed as more fluid (Carr & Thompson, 2014). Moreover, the literature makes it clear that women's vulnerability is not embedded purely in the duality of men against women, but it is also determined by the intertwining of other social categories such as identities, roles, and responsibilities (ibid.). This is why the present study is based on an intersectional approach that does not only consider the opposition of men and women per se but takes into account other aspects that generate vulnerability and affect power relations. However, in the Andean cosmovision and in the Buen Vivir, which translates in how relationships are shaped and how rural communities are built, there is a duality between men and women, called *chacha-warmi* (D'amico & Pessolano, 2013). This duality means that men and women have different defined roles, responsibilities and obligations imposed by society, and need to respect them (ibid.). According to Carrasco (2020) in rural Bolivia this dualism permeate society. Therefore, although I am aware of the fluidity that gender can assume, fluidity has not been used with the participants as it could generate confusion and result anachronistic. However, other aspects have been taken into account in the analysis such as age, occupation and location of housing, which can influence how gender is experienced in a rural area.

It is to note a second limitation that arose while analyzing the data generated. Although the design of the research was made with an intersectional approach, the data did not allow for a thorough intersectional analysis, which is a great limitation to the analysis. It is however necessary to mention that addressing issues of gender and climate change and analyze how these two spheres are related, can be considered an intersectional analyses per se. In the data analysis, certain intersectional factors like education level and age were considered in some instances, albeit not as extensively as initially intended.



## 6. Perceptions, Harmony and Gender: acknowledging complexity

This section aims at answering the three sub questions presented in the introduction, by analyzing the data generated through interviews and observation during fieldwork. Additionally, it seeks to acknowledge the intricate network of cause-effect relationships inherent in the examination of climate change impacts.

### 6.1 How do women and men in the Tutimayu community perceive the causes and effects of climate change?

The perceptions on the cause and effects of climate change have been analyzed through intersectional lenses, taking into account not only gender perspectives but also other factors such as occupation, age, and considering where the interviewees' household is located. This is because, as mentioned by Carr & Thompson (2014), experiences and perceptions related climate change depend on roles, responsibilities, and expectations shaped by a variety of factors, where gender plays a considerable role.

Both men and women in Tutimayu, regardless of the occupation, level of education, and age, recognize that climate change has been caused by humans even if they recognize that, to a certain extent, nature runs its course and there are events that are considered to be natural.

*“Clearly, we are experiencing noticeable climate changes because, perhaps, we have generally neglected nature or harmed it ourselves. Naturally, there are changes that occur due to nature itself, which cannot be prevented, although there are moments when human intervention plays a role.” (Interviewee 4)<sup>5</sup>.*

As mentioned earlier, the perceived effects of climate change might also in reality be due to the complex changes happening overall in rural areas. Some of the changes happening are, as a matter of fact, due to urbanization, that, in the area of Tutimayu, has been prominent in the last decade (GAMS, 2023), this means a change in the landscape due to the increased presence of houses, paved streets and therefore increased number of vehicles circulating, increased air pollution but also land and water pollution (GAMS, 2020). Both men and women recognize urbanization, primarily as the increase of the pollution generated, as a cause of climate change. This is highlighted mainly by those living close to the end of the valley, whereas those living at the top of the valley present concerns over depopulation.

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<sup>5</sup>As mentioned in the above section, all the interviews were conducted in either Spanish or Quechua (with the support of the fieldwork assistant), the translations of all the interviews' direct quotes reported in this work, are own translations.

Men relate their experience to extreme events such as wildfires and inundations caused by neglect and voluntary damage to nature. Men tend to adopt a wide perspective, acknowledging that climate change must be considered from a broad perspective that includes more than just small-scale local actions.

*“The intervention of humans has largely been causing all natural disasters, such as forest fires and water scarcity. I think that the causes are both at national and international level” (Interviewee 1).*

Women propose an interpretation that is closer to the local context, expressing concern regarding waste management and acknowledging that in the community there has been a growing tendency in the use of single-use plastic, diminishing the older practices of washing and reusing. Moreover, another concern brought up only by women is related to the absence of a sewerage system, which is considered something that has been damaging nature.

*“The pollution comes from us, we are the ones who create it” (Interviewee 5).*

As to the perceived effects of climate change, both men and women have strongly underlined that the main perceived effect is related to water scarcity, due to changes in the patterns of precipitation, which means that the rain season starts later and is shorter. This has been causing a reduction in agricultural production and, therefore, in the income of families, undermining food sovereignty and increasing the need to import more products both from other departments of the country, being Santa Cruz the most prominent, and from other countries. Both genders also note that the temperatures are rising, that it is warmer for longer periods of time, and picks of cold temperatures ruin the harvest and plantations. People living in communities located further up the valley also underline an increased presence of wind.

*“Everything has changed. Before, the seasons were more fixed; the cold would start around April until June and then it would pass. But not now, not now. Now it is still cold in September. And then the rain, in October, the rains used to start, but now the rain has shifted” (Interviewee 8).*

Although men and women both acknowledge the effects of climate change in relation to agricultural production, men do it mainly from the point of view of the efficiency in the production, whereas women also touch upon social and health-related effects.

Agricultural practices are not changing only because of the effects of climate change, as well as the ways of preparing food are not only changing because of a shift in agricultural practices, since also access to the market and to alternative sources of energy impact food consumption and preparation. However, in

relation to traditional gender norms, it is interesting to note that a female interviewee brought up the topic of food preparation in relation to a question on the effects of climate change.

*“The production is diminishing in agriculture; it has declined quite a bit. And besides, fertilizer has gone up a lot. The price of potatoes, too. Same with maize” (interviewee 5).*

This concern for the price of products, both those produced and those needed for the production, as the fertilizer, is related to the role of women within the household. Being the responsible for the purchase and preparation of food, is one of the household duties of women in rural areas (Rojas, 2023), as well as being responsible for the sale of surpluses at local markets; which brings them to consider the shifts in prices as relevant in relation to agricultural production.

Two of the female interviewees with high school education, one involved in teaching and the other owning a small local shop, have raised health concerns. The two women stressed the idea of health-related issues due to heatwaves affecting the region and in relation to children’s health. This is also something to be considered through gender lenses, given the roles of care that women assume.

*“Right now, with climate change, there are more illnesses, more diseases. Children, even the youngest ones, are born with illnesses. It seems to me that it's something with illness, it seems to me that babies are born with a disease, they already have an underlying illness” (Interviewee 7).*

This quotation might not be accurate as the rise of health-related issues that this woman is perceiving could also be caused by other vectors of diseases and not only strictly related to climate change, which builds upon the complexity of cause-effect relationships to be considered when analyzing the effects of climate change. But it is worthy to mention here that it has been something that women brought up into the discussion and that therefore consider relevant for their life and the life of their children.

## **6.2 How is the harmony between humans and nature influenced by the impacts of climate change in Tutimayu?**

Buen Vivir is the underlying concept used to analyze the harmony between humans and nature, as explained in the theoretical section; however, during fieldwork, I realized that most people in rural areas do not have a clear conceptualization of Buen Vivir as it is theorized and called by the academia. As a matter of fact, when asked about it, most people could not give an explication of what they meant by Buen Vivir, but it is clear in their words and ways of living that the relationship with nature and the Pachamama are prominent in everyday life.

A clear example of the strong relationship between people and nature is enclosed in a *tutuma* (a vessel of vegetable origin, a fruit of the calabash tree). I have been invited during the interviews and in several other occasion, to share a *tutuma* of *chicha*, which is a maize fermented beverage. Before and after drinking *chicha*, you are required to spill some of the liquid to the Pachamama, as an offer to ask for prosperity and protection, as well as to thank the mother earth for the received goods. Both men and women participate in this offers equally, participating in the events and ceremonies together. These practices continue to be predominant in rural areas, where people ask to the *Pachamama* for more water and more prosperity of the fields, something they did not have to ask for a few years ago, when the practice was considered more of a form of gratitude.

There is a clear connection between the traditions and culture of people in Tutimayu and the Pachamama, or mother earth. This is evident because several of the interviewees talk about climate-related events, such as the first rain of the season, in relation to traditional events within the community or in surrounding communities. People acknowledge that now this is not happening since everything is more unpredictable, and that they cannot relate their traditions to climate events because everything is rapidly changing.

*“The rain began in the month of October, it was on a very specific date, Melga's [a neighboring community] day” (Interviewee 6).*

Another example is the relationship people have with fire. Decades ago, it was normal and well accepted in the valleys of Cochabamba to burn the land to make it more fertile and prepare it for sowing. Now people understand the dangers of doing so, especially in relation to the expansion and the lack of control they had on those fires. Fire is also associated to rituals, and it is considered a force of nature to which, as well as with mother earth, people can ask for benefits. For instance, there is one day in occasion of Saint Jhon's day, on June 23<sup>rd</sup>, something that has clearly been introduced after colonization and the introduction of Catholicism, where people ‘compete’ to see who can create the greatest fire. This day is close to the Andean New Year which falls on the 21<sup>st</sup> of June, which is also the beginning of winter season in Bolivia. There is therefore a clear overlap and mix of cultural aspects and traditions that lead to this specific tradition. The intention of lighting bonfires on the night of June 23<sup>rd</sup> in Bolivia serves the purpose of purify and attract energy, as well as ask for a good agricultural production (Opinión Bolivia, 2016). This is now downsized, as people understand the dangers of this type of activity both for the environment and their health. People have been chaining their ways of celebrating, being thankful and ask for prosperity as they recognize their role in damaging nature and acknowledge the relevance of their relationship with nature.

*“People focused a lot on the cultural aspect, for example, for the Andean New Year, everyone went out to burn a bonfire. It was a power competition; whoever had the biggest bonfire was considered better. [...] But little by little, more awareness has been gained, and automatically, one becomes aware, and realizes that what one does has an impact” (Interviewee 4).*

Another aspect to which people place a lot of attention is the use of agrochemicals, which appears to be something that has an impact on the relations and harmony between humans and nature. Agrochemicals influence the natural cycle of production and are considered a strong tool to face the impacts of climate change in the area. As a matter of fact, farmers use agrochemicals not simply to increase their productivity, but also to prevent or face illnesses that affect the plantation. Tumbo, a top product of Tutimayu, is becoming almost impossible to grow without the use of pesticides and agrochemicals since it is easily affected by plagues.

*“Because the tumbo is quite delicate. Sometimes, a tiny thing, an insect, climbs up and almost kills the entire plant, and you have to take care of it somehow. That's why you always have to spray it to make it bloom” (Interviewee 3).*

People recognize that their way of production has been changing with the introduction of agrochemicals, bringing immediate positive effects, meaning the possibility to produce even in adverse conditions, but negative effects in the long term, especially for the health of both people and the environment. Thanks to the effort of the municipality, local and international organizations, people are now more aware of the negative effects of the use of chemicals and started to shift again to an organic production, often through principles of agroecology, mainly agroforestry.<sup>6</sup> This changed again the way people in rural areas relate to nature, going back to a closer contact with the Pachamama. It is to mention that the transition to the use of natural pesticides or fertilizers is something that is still at the first stages, but it is considered beneficial by those that have started to follow this path.

*“Before, agrochemicals were widely used, but now with the situation we've had workshops for the management of organic fertilizers, as well as the handling of organic insecticides. [...] The situation forces us to return to a production previously made organically by our grandparents” (Interviewee 4).*

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<sup>6</sup> “Agroecological systems are highly diverse. From a biological perspective, agroecological systems optimize the diversity of species and genetic resources in different ways. For example, agroforestry systems organize crops, shrubs, and trees of different heights and shapes at different levels or strata, increasing vertical diversity.” (FAO, 2019, p. 4)

### 6.3 How does climate change impact gender roles and responsibilities in Tutimayu?

The lenses of gender norms are used to analyze the effects of climate change on power relations. It is therefore important to mention how the men and women interviewed and observed during fieldwork described and perceived their roles and responsibilities at the household level and how they have seen them change in relation to climate change.

Men interviewees, when asked about their roles and responsibilities within the household, only refer to their jobs and occupations, they do not take into account housework or support in the care of children or the elderly.

*“Of course, here we're always the head of the household to guide the children and family. One is always looking at how to guide the family, what they need, working to support the family” (Interviewee 1).*

This quote summarizes how men perceive their roles and responsibilities within the household: being the ones who provide what is needed, economically, to their family. This translates to men always being the ones that need to have a paid job, be it formal or informal, to provide money for the other people living within the household. Mainly, it is men from communities located at the bottom of the valley that express this feeling of ‘being the head’ of the family, showing a great sense of economic responsibility toward women and children in the household. When asked about their involvement in caregiving responsibilities, which include caring for children and household tasks like cooking and cleaning, most men acknowledged that it's a shared responsibility, although they recognize that it is women who are primarily engaged in these activities.

On the other hand, when women are asked to express which responsibilities they have within the household, the majority, including those that also have paid jobs, underline the workload of care work, especially in relation to children.

*“I have to cook for my daughters, for both of them, for the afternoon, and if I go to the meeting, I have to cook. I have to leave the food ready. [...] It's my responsibility also leaving things prepared is my responsibility, for my husband too” (Interviewee 2).*

Most women interviewed, especially those that assumed, or have assumed in the past, active roles within the women’s organization “Bartolina Sisa”, recognized and underlined that women must take leadership and find their independency and acknowledge that the women of Tutimayu are capable of doing so. An example of this leadership as response to water scarcity is the fund obtained by the women’s organization

“Bartolina Sisa” through the Indigenous Development Fund (*Fondo de Desarrollo Indígena*), a monetary fund promoted by the Bolivian government for the productive development initiatives of Indigenous Native Peoples, Peasant Communities, Intercultural and Afro-Bolivian Communities (Rios, 2016). Through this fund, and the support of the local NGO Yachay Chhalaku, Tutimayu’s communities at the basis of the valley, benefitted in 2016 from the construction of two wells, that, up to now, allow households to have access to water for human consumption and for the irrigation of agroecological orchards, also implemented through the fund. Women part of the “Bartolina Sisa” take pride in this initiative, mentioning that it has been a fully female guided effort. This shows that women of the community are often aware of their condition of oppression and work toward the creation of possibilities for those that cannot escape the economic dependence from their male counterpart.

*“Oh, yes, right now I’m involved with a women’s association, “Bartolina Sisa”. And that organization has managed to get two water wells. [...] In that organization there are 83 affiliated women, and that project has been mainly achieved by women” (Interviewee 6).*

Although some women take leadership also at the community level, it is not always possible for them to escape from the responsibilities of the household. This is more evident for those women who have primary-level education, or even lower, and live in communities that are more isolated, meaning at the top of the valley. These women, the community leaders, and leaders of the “Bartolina Sisa” association, acknowledge that there are still women who suffer from economic violence and cannot develop leadership and independence due to the relationship with their husbands.

*“The problem is that many of these leaders are separated or widowed women, who are the ones who have been able to develop leadership. So, I do not know if it is because of the husband or something else, but if they are married with a family, they do not develop leadership” (Interviewee 14).*

Up until about a decade ago, households in rural areas relied solely on agriculture, which could adequately provide for their food needs and generate surplus for sale. This is not possible anymore, as noted above, due to the effects of climate change and other concurring reasons. As a matter of fact, the urbanization of the area of Tutimayu (GAMS, 2023), led to the generation of new markets, shifts in the prices and a closer involvement in the economy of Sacaba, the closest urban center. These factors have determined changes in food production systems, diminishing the significance of traditional family-based production. This shift is primarily driven by the declining prices in the market, favored by large-scale production mainly in the department of Santa Cruz (Florero, 2021).

Both men and women in Tutimayu indicate that they have had to change and vary their income sources over the past few years, as well as adapt their lifestyle compared to that of their parents; however, it is important to note that it is mainly men who look for an alternative source of income. Except for the elderly man interviewed, none of the men interviewed rely solely on agriculture for their livelihood anymore. Some of the interviewees never only relied on agriculture as a source of income, while others found themselves pursuing new employment as the environmental and economic conditions underwent significant shifts, with the effects of climate change becoming increasingly noticeable together with shifts in the market prices and increased importation from other departments of the country (Florero, 2021). It appears like most men in Tutimayu now work in different sectors at the same time being agriculture, the driving sector (taxi, mini vans, public transport etc.), and the construction sector the most common.

*“Previously, people mainly engaged in large-scale agriculture, planting extensively. Now, with water scarcity, we plant less, just a little bit, and we do not work as we used to. Some people, the younger ones, now pursue jobs as drivers” (Interviewee 13).*

The reduced men's involvement in agriculture due to the need to find an alternative source of income, creates a situation where women take on a more prominent role in agriculture, particularly those who lack an individual source of income or employment outside the household.

*"Yes, I'm handling it [farming] all by myself now" (Interviewee 8).*

Moreover, women do not only take on the farming work, but also keep on having the burden of household care. The situation becomes even more challenging when the man decides to relocate to another region of the country, in the case of Tutimayu, mainly to the region of Chapare, which, as mentioned above, is characterized by a more humid climate and a terrain more favorable for agriculture. In such cases, women are solely responsible for caring for the children and managing the household, as well as maintaining the land in Tutimayu.

*“Yes, most of them [husbands] go to the Chapare. Women stay when they have children in school, taking care of the children and taking care of the house” (Interviewee 12).*



## **7. Bridges: empirical data – academia – solutions**

This section aims at giving an overall answer to the main Research Question outlined in the introduction, by taking into account the considerations made in the previous section. The aim of this discussion is also to interact with the broader development discourse and engage with the academia, while focusing on possible solutions to the effects of climate change through a gender perspective.

### **7.1 How do climate change impacts affect power relations, between men and women, and between people and nature, in rural Bolivia?**

As mentioned above, the power relations to be considered are both those dictated by gender, therefore between men and women, but also, according to the ecofeminist approach and the Buen Vivir, those created in the interaction between humans and the environment. This section will also discuss the relationship this work of research has with the broad development discourses. To answer the main Research Question, the three categories of power, power-over, power-with and power-to are used.

Firstly, power-over, also considered power to control, in this case is related to the power that men exert over women at the household and community level (Pansardi & Bindi, 2021), as well as the forms of power exerted by people over nature. According to the analysis presented in the above section, it seems evident that both men and women in the rural area of Tutimayu had and keep on having to adapt to the complex changes happening caused by a variety of factors including the effects of climate change, and those due to urbanization, shifts in the market, access to technology and resources. All these together make it harder to maintain the household only through farming. As mentioned, it is men who generally go and find alternative sources of income, as a matter of fact, it is easier for them to find temporary job and to enter the labor market (INE, 2021). Women are therefore left not only with the responsibilities of care work, but also with the farming and agricultural work, that men do not consider as a primary source of income anymore. Therefore, the data generated supports the idea of ‘feminization of agriculture’ (Leder, 2022), for which women have more prominent roles and responsibilities in the farming sector. According to discourses on the ‘feminization of agriculture’ there are two opposite outcomes of this situation: on one hand, women increase their decision-making power in agriculture, which remains central in rural settings, however, on the other hand, women come out as losers from this situation which increases their labor burden (ibid.). This impacts the power men exert over women at the household level in two ways: on one hand, women keep on having to economically depend on men, since the work they carry on is not or poorly remunerated. As a matter of fact, importation from close departments where

extensive agriculture is more efficient, made the prices drop, resulting in minimal profits for small-scale producers, that also have higher costs due to the use of agrochemicals. (ibid.). This situation also often worsens the domestic violence that women in rural Bolivia already suffer, as a matter of fact, a loss of income that affects traditional ways of living, can aggravate domestic violence, and generate the rupture or debilitation of relations within the household. (Allen, et al., 2021). On the other hand, is necessary to note that women now have more access to land and also have more decisional power on matters related to food production and consumption within the household.

Examining the power dynamics between humans and nature reveals shifts in the synergy between these worlds, impacted by human intervention. This shift is acknowledged for instance in the relationship with fire, for cultural or agricultural purposes, has been changing due to the knowledge gained on the effects of fires. Furthermore, the use of agrochemicals has also been affecting and changing the harmony between people and nature. People have historically been exerting power over nature for cultural reasons but also for their own profit and benefit (Escalante & Maisonnave, 2022b). However, there's a current transition in both production methods and the perception of nature due to the recognition of the risks associated with certain actions (Carr & Thompson, 2014). The data gathered does not explicitly show a gendered differentiated relation to nature, in this case the focus is put more on the traditional knowledge people commonly have, that is losing its worth due to the rapid changes happening in the climate.

Recognizing this evolving landscape considering the relations people have with nature and ways of production, prompts an exploration of strategies required to address these changes, keeping in mind a gender perspective. Agroecology is a key that can be used to understand how to work with these issues and how to generate food sovereignty and resilience in the rural communities, while keeping in mind the social aspects of food production and gender equality (Toledo, 2019). Agroecology merges insights from both natural and social sciences while actively addressing issues of social inequality and environmental disruption (ibid.). As mentioned above people in Tutimayu are already approaching, supported by local and international institutions, agroecology as a path to follow. There is a tendency also in academia to consider agroecology as a feasible and optimal solution for rural populations to face the effects of climate change, considering the environmental and cultural characteristics of each context (FAO, 2019). Agroecology has a participatory approach for which the co-creation of knowledge is promoted by horizontal sharing of information, with an emphasis of local scientific innovation (Wezel, et al., 2020). At the same time, agroecology aims to create agricultural systems that are rooted in the culture, identity, tradition, social and gender equity of local communities (ibid.). More specifically “*agroecology seeks to*

*address gender inequalities by creating opportunities for women*” (FAO, 2019, p. 9), and this is even more relevant in a context where there is an increased women’s involvement in agriculture as the rural context of Tutimayu. Agroecology allows women to achieve greater autonomy through the cultivation of knowledge, collective efforts, and through commercialization, something that is usually a women’s role (ibid.).

Secondly, considering the power-with, or power of collaboration and synergies, the analysis is prompt to focus on both types of power dynamics considered (Pansardi & Bindi, 2021). On one hand, it seems like the collaboration that was once taking place between men and women in agriculture, has now been replaced by individual work in separate spheres, for which the opportunities of collaboration lack. On the other hand, there has been a clear shift in the harmony between people and nature, centuries of accumulated understanding of climate cycles and patterns are being interrupted and eroded by the ongoing and drastic changes in the climate, necessitating constant adaptation and the development of new knowledge while potentially compromising traditions and, at times, culture.

Lastly, as of power-to, it is clear from the analysis that some women, mainly through the Women’s organization “Bartolina Sisa”, have taken initiative and educated each other on environmental problems related to climate change and stepped forward to find solutions. This is an example of how empowered women can take the lead and face problems also by themselves, while giving solutions to the whole community. Here to mention, in relation to the broad development discourse, is the idea that empowering women as agents of change is something to aim for by taking into account their own knowledge, beliefs, needs and experiences (UN WOMEN, 2023b). However, it is becoming clearer that empowering women without working with men, is not so beneficial (ibid.). The direction that policies, programs and projects seems to be taking, goes a bit beyond gender mainstream and women’s empowerment, as they are also opening for the work with men, which results fundamental to eliminate traditional roles within the patriarchal system that generate unequal relationships, and promote environments of equality free from violence (SDC, 2018). A clear example is the work led by the United Nations Population Fund (UNFPA) and the United Nations Entity for Gender Equality and the Empowerment of Women (UN WOMEN) Bolivia, that aims to promote new masculinities<sup>7</sup> by interacting and empowering men, in order to fight gender inequalities and dismantle the principles of patriarchy.

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<sup>7</sup> New masculinities advocate for horizontality, consensus, and relationships among equals. They aim for every individual to be able to show their vulnerabilities without fear and to leverage the talents of others to work more effectively as a team, without the need for confrontation, as well as advocate for eliminating gender roles (UN WOMEN, 2021).

## 8. Conclusion

This research explored how power relations, both between men and women and between humans and nature, are shaped by the effects of climate change in the rural area of Tutimayu. Through a case study, it has been possible to collect data during extended fieldwork and during on-site interviews with inhabitants of the selected area of Tutimayu. To explore these two types of power relations, an ecofeminist approach has been used through a conceptual framework composed of three elements: gender, and more specifically, gender norms, harmony between humans and the environment, using the principles of Buen Vivir, and perceptions on the causes and effects of climate change. All these factors influence power relations and have therefore been considered in this analysis, which resulted in the evidence of an increased burden of work for women who participate in agriculture; but also, in a deeper understanding of the impacts of pesticides and fires on nature and the consequent shift in the relations people have with nature.

As a final remark, it is crucial to emphasize that for climate change responses to be truly effective and inclusive of gender perspectives, women and power relations must play a central role in any project, or policy, aimed at mitigating or adapting to climate change effects. Development practitioners should therefore keep in mind gender aspects when designing projects, always enhancing participatory approaches that truly take into account the context embedded needs, necessities, knowledge and beliefs of local women and girls. As emerged by this study, and as addressed by the literature, women are taking upon more responsibilities in agriculture, which cause the increment of their workload burden. Context specific solutions to these issues have to be presented addressing both the environmental and the social at the same time. This is possible by firstly understanding the reasons why women are now covering more prominent roles in agriculture considering both the benefits and downsides of this increased participation. Secondly, gendered power relations are to be taken into account, considering context dependent roles and responsibilities. Lastly, the way people interact with the environment surrounding them, the perceptions they have of the changing climate on causes and effects, is to be considered with gender lenses when designing project that tackle environmental issues.

This work contributes to providing more examples of how power relations are shaped by climate change in the Global South. Although I am originally from the Global North, the extended fieldwork, the support of a fieldwork assistant, and the direct participation of the interviewees give the research a local perspective with a strong focus on context specific characteristics. This thesis contributes to the current dialogue on gender in development practice as well as to the academia's discourses on the feminization

of agriculture and ecofeminism. In conclusion, by adopting an ecofeminist intersectional approach, the research contributes to the discourse surrounding SDG 5 (Gender Equality) and SDG 13 (Climate Action), by highlighting the necessity of recognizing the intertwined nature of power dynamics, climate change impacts, and gender inequalities.

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## 10. Appendixes

### A. Informed Consent English

#### Consent to participate in a Thesis at the Faculty of Social Sciences of Lund University

I agree to participate in a data collection for a thesis at the Faculty of Social Science at the department of Human Geography for the Mastrer's course: LUMID – International Development and Management. The provisional title of the thesis is: *Gender and Water Scarcity – how the lack of access to water affects gender roles in rural and periurban communities of the inter Andean Valleys of Cochabamba.*

I am conducting this interview in your community and would very much appreciate your time and participation in this discussion. The objective of my work is to analyze how the effects of climate change, particularly water scarcity, impact your daily life and whether these effects have gender implications. The thesis is a project I must lead to obtain my degree, and I will collect personal data exclusively for the purpose of organizing information and providing evidence if necessary.

#### Information on the processing of personal data

The following personal data will be processed:

- Name(s) and Last Name(s)
- Age
- Gender
- Belonging Community

No sensitive personal data will be processed.

Personal data will be processed in the following ways:

*Personal data will be kept in an external hard disk for 5 years, after this time it will be deleted. The information collected will be anonymized if there is a need for it to be used directly in the thesis.*

We do not share your personal data with third parties.

Lund University, Box 117, 221 00 Lund, Sweden, with organization number 202100-3211 is the controller. You can find Lund University's privacy policy at [www.lu.se/integritet](http://www.lu.se/integritet)

You have the right to receive information about the personal data we process about you. You also have the right to have inaccurate personal data about you corrected. If you have a complaint about our processing of your personal data, you can contact our Data Protection Officer at [dataskyddsbud@lu.se](mailto:dataskyddsbud@lu.se). You also have the right to lodge a complaint with the supervisory authority (the Data Protection Authority, IMY) if you believe that we are processing your personal data incorrectly.

I agree to participate in *Gender and Water Scarcity – how the lack of access to water affects gender roles in rural and peri urban communities of the inter Andean Valleys of Cochabamba.*

Location	Signature
Date	Name clarification

## B. Informed Consent Spanish

### Consentimiento para participar en una Tesis en la Facultad de Ciencias Sociales

#### Universidad de Lund

Acepto participar en la recopilación de datos para una tesis en la Facultad de Ciencias Sociales, en el Departamento de Geografía Humana, para el curso de Maestría: LUMID - Desarrollo Internacional y Gestión. El título provisional de la tesis es: *Género y Escasez de Agua - cómo la falta de acceso al agua afecta los roles de género en comunidades rurales y periurbanas de los Valles Interandinos de Cochabamba*.

Estoy llevando a cabo esta entrevista en su comunidad y apreciaría mucho su tiempo y participación en esta conversación. El objetivo de mi trabajo es analizar como los efectos del cambio climático, y en particular la escasez de agua, afectan a su vida diaria y si estos efectos tienen implicaciones de género.

La tesis es un proyecto que debo liderar para obtener el grado, recopilaré datos personales exclusivamente con el propósito de organizar la información y proporcionar pruebas, si fuera necesario.

#### **Información sobre el tratamiento de datos personales**

Se procesarán los siguientes datos personales (no se procesarán datos personales sensibles):

- Nombre(s) y Apellido(s)
- Edad
- Género
- Comunidad de pertenencia

Los datos personales se procesarán de la siguiente manera:

Se conservarán en un disco duro externo durante 5 años, después de los cuales se eliminarán. La información recopilada se anonimizará si es necesario utilizarla directamente en la tesis. **No compartiremos sus datos personales con terceros.**

Lund University, Box 117, 221 00 Lund, Suecia, con número de organización 202100-3211, es el responsable. Puede encontrar la política de privacidad de la Universidad de Lund en [www.lu.se/integritet](http://www.lu.se/integritet)

Usted tiene derecho a recibir información sobre los datos personales que procesamos sobre usted. También tiene derecho a corregir datos personales inexactos sobre usted. Si tiene una queja sobre nuestro tratamiento de sus datos personales, puede comunicarse con nuestro Oficial de Protección de Datos en [dataskyddsbud@lu.se](mailto:dataskyddsbud@lu.se). También tiene el derecho de presentar una queja ante la autoridad de control (la Autoridad de Protección de Datos, IMY) si cree que estamos procesando incorrectamente sus datos personales.

Acepto participar en "*Género y Escasez de Agua - cómo la falta de acceso al agua afecta los roles de género en comunidades rurales y periurbanas de los Valles Interandinos de Cochabamba*".

Lugar	Firma
Fecha	Nombre

### C. Interview Guideline English

Thematic Area	Questions
Gender Roles and power relations	<p>What is your role within the household? /What do you do within your household?</p> <p>What crops do you grow?/in which productive activities are you involved?</p> <p>Do you own the land?</p> <p>What is your role within the community? /What do you do within your community?</p> <p>How is your role (at household or community level) different from the role of the opposite sex?</p> <p>Who takes the decisions in your household? (household organization)</p> <p>Who takes the decisions at community level? (community organization)</p>
Climate change	<p>What do you mean by climate change?</p> <p>What do you think is changing?</p> <p>How did you gain knowledge about climate change?</p> <p>Since when have you been experiencing effects of climate change?</p> <p>Are there any initiatives within your community aimed at addressing these changes? / Have you done anything particularly in your community to address the problem?</p> <p>Have you been able to make any decisions on these initiatives?</p>
Gendered perceptions and adaptation	<p>Do you think that there is something you can do to minimize the effects of climate change?</p> <p>What changed in your daily life since these changes have been happening?</p> <p>How have your resources (economic and natural) changed since you started experiencing these changes?</p> <p>Do you think you have enough resources/knowledge/capacity to deal with the effects of climate change?</p> <p>Have the ways of relating within your household and/or community changed since climate changes have occurred?</p> <p>What do you think will happen to your community in the next few years?</p>



## D. Interview Guideline Spanish

Área Temática	Preguntas
Roles de género y relaciones de poder	<p>¿Cuál es tu papel dentro del hogar? / ¿Qué haces dentro de tu hogar?</p> <p>¿Qué cultivas? / ¿En qué actividades productivas estás involucrado/a?</p> <p>¿Cuál es tu rol dentro de la comunidad? / ¿Qué haces dentro de tu comunidad?</p> <p>¿La tierra que cultivas es tuya?</p> <p>¿Cómo difiere tu papel (a nivel familiar o comunitario) del papel del sexo opuesto?</p> <p>¿Quién toma las decisiones en tu hogar? (organización del hogar)</p> <p>¿Quién toma las decisiones a nivel comunitario? (organización comunitaria)</p>
Cambio Climático	<p>¿Qué entiendes con ‘cambio climático’?</p> <p>¿Qué crees que está cambiando?</p> <p>¿Cómo adquiriste conocimiento sobre el cambio climático?</p> <p>¿Desde cuándo has estado experimentando los efectos del cambio climático?</p> <p>¿Hay iniciativas dentro de tu comunidad dirigidas a abordar estos cambios? / has hecho algo dentro de tu comunidad para enfrentar este problema?</p> <p>¿Has podido tomar algunas decisiones sobre estas iniciativas?</p>
Percepciones y adaptación	<p>¿Crees que hay algo que puedas hacer para reducir los efectos del cambio climático?</p> <p>¿Qué ha cambiado en tu vida diaria desde que estos cambios han estado ocurriendo?</p> <p>¿Cómo han cambiado tus recursos (económicos y naturales) desde que has empezado a experimentar estos cambios?</p> <p>Piensas tener suficientes recursos/capacidades/conocimientos para enfrentar los cambios climáticos?</p> <p>¿Han cambiado las maneras de relacionarse dentro de tu hogar y/o comunidad desde cuándo se han verificados cambios climáticos?</p> <p>¿Qué crees que pasará en tu comunidad en los próximos años?</p>

### E. Table of Interviewees

	<b>Gender</b>	<b>Age</b>	<b>Belonging Community</b>
Interviewee 1	Male	37	Inca Corral
Interviewee 2	Female	58	Alto Mirador
Interviewee 3	Male	22	Virgen del Carmen
Interviewee 4	Male	43	Ch'allamayu
Interviewee 5	Female	35	Cruz Loma
Interviewee 6	Female	44	Ch'aquimayu
Interviewee 7	Female	50	Cruz Loma
Interviewee 8	Male	37	Laquiña
Interviewee 9	Female	40	Cruz Loma
Interviewee 10	Male	39	Ch'aquimayu
Interviewee 11	Female	66	Virgen del Carmen
Interviewee 12	Male	78	Laquiña
Interviewee 13	Male	37	Inca Corral
Interviewee 14	Female	29	Virgen del Carmen