

In the eye of the storm

A gendered study on climate change adaptation in small-scale farming in Thái Bình, Vietnam

Josephine Ylipää

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Abstract [en]

Vietnam is one of the countries in the world that is projected to be most impacted by climate change. Extreme weather events such as storms and floods are predicted to increase with the changing climate. As such, climate change adaptation is crucial, especially for farmers who are relying on vulnerable livelihoods to climate change. This thesis investigates gendered patterns within the province of Thái Bình in Vietnam in relation to climate change impact, connecting them to national strategies and provincial implementation. The research was conducted in collaboration with a Vietnamese NGO in Hanoi by combining interviews with national stakeholders and farmers in two communes within a coastal district in the Thái Bình province through the lens of feminist political ecology. FPE allowed me to create a site-specific analysis on the case of Thái Bình, which has been beneficial for the whole research process; it has instructed the awareness of several perspectives concerning the topic of the study, including dimensions that could have been overlooked by choosing a theory without a gender perspective. The findings show highly gendered rights and responsibilities among farming livelihoods in Thái Bình, leading to unequal opportunities and mobility depending on gender. Young people and men are leaving the agrarian society of Thái Bình to find prosperity, older women are left behind which leads to a feminisation of farming. Female farmers have higher responsibilities and work more, but lack control and ownership of the work they do. This leads to unequal capacities between women and men, where women are impacted on a higher level by climate change in a sense of restricting opportunities, devaluation of farmers' knowledge, particularly the knowledge of female farmers. I argue for gendered climate change adaptation acknowledging capacities and impacts depending on gender; feminisation of farming; an aging generation; and the local knowledge and experiences. Through the policy analysis it is clear these factors are not considered in the Vietnamese strategies that are mainly addressing technical solutions to climate change adaptation, while ignoring the complex relations affecting the capacity for adaptation of the agrarian society in Thái Bình. I question the unsustainable future for farmers in Thái Bình due to labour migration, pressure for higher production and low profitability of farming which will be exacerbated by climate change impacts, while the support is not considering the capacities of the farmers.

Tóm tắt [vn]

Việt Nam là một trong những nước trên thế giới bị ảnh hưởng nhiều nhất bởi biến đổi khí hậu. Nếu mực nước biển dâng lên một mét, 3% các khu vực ven biển sẽ bị ngập lụt, sẽ trực tiếp tác động đến 10-12% dân số. Các sự kiện thời tiết khắc nghiệt như bão và lũ lụt được dự báo sẽ tăng lên cùng với biến đổi khí hậu. Thích ứng với biến đổi khí hậu là rất quan trọng, đặc biệt là đối với những người nông dân đang làm việc với những sinh kế dễ bị tổn thương nhất đối với biến đổi khí hậu. Luận án này tìm hiểu các mô hình có liên quan đến giới trong việc thích ứng với biến đổi khí hậu của các nông dân ở tỉnh Thái Bình, Việt Nam, kết nối nó với các chiến lược quốc gia và thực hiện của tỉnh. Điều này được thực hiện bằng cách phỏng vấn các nam và nữ nông dân ở hai xã trong một huyện ven biển thuộc tỉnh Thái Bình, cùng với các bên liên quan khác và cuối cùng thông qua phân tích chính sách. Những phát hiện này cho thấy quyền và trách nhiệm được giới tính hóa cao trong sinh kế nông nghiệp ở Thái Bình, dẫn đến những cơ hội và tính di động không đồng đều tùy theo giới tính. Thanh niên và nam giới đang rời bỏ xã hội nông nghiệp ở Thái Bình để tìm kiếm sự thịnh vượng, những phụ nữ lớn tuổi bị bỏ lại phía sau dẫn đến sự nữ hóa trong nông nghiệp. Các nữ nông dân gánh nhiều trách nhiệm và làm việc nhiều hơn, nhưng thiếu kiểm soát và sở hữu công việc họ làm. Điều này dẫn đến năng lực không đồng đều giữa phụ nữ và nam giới, nơi phụ nữ bị ảnh hưởng ở mức độ cao hơn bởi biến đổi khí hậu theo nghĩa hạn chế cơ hội, mất dần đi kiến thức của nông dân, đặc biệt là kiến thức của nữ nông dân. Tôi tranh luận về thích ứng biến đổi khí hậu có giới hạn thừa nhận năng lực và tác động tùy thuộc vào giới; sự nữ giới hóa trong nông nghiệp; một thể hệ dân số đang già hóa; kiến thức địa phương và kinh nghiệm. Thông qua phân tích chính sách, rõ ràng những yếu tố này không được xem xét trong chiến lược của Việt Nam. Các chiến lược chủ yếu tập trung vào các giải pháp kỹ thuật đối với biến đổi khí hậu, trong

khi không thông qua các mối quan hệ phức tạp ảnh hưởng đến khả năng thích nghi của xã hội nông nghiệp Thái Bình. Tôi đặt câu hỏi về tương lai không bền vững của xã hội nông nghiệp ở Thái Bình do di cư lao động, áp lực sản xuất và cạnh tranh cao hơn nhưng không mang lại lợi nhuận đồng thời dự đoán gia tăng tác động của biến đổi khí hậu tới nông dân, trong khi chưa có đủ hỗ trợ để đáp ứng được năng lực của nông dân.

Keywords: Gender; climate change adaptation; livelihoods; policy; sustainability; Vietnam

Word count: 13 990

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List of Abbreviations

CC	Climate Change
CCA	Climate Change Adaptation
FGD	Focus Group Discussion
FPE	Feminist Political Ecology
GA	Gendered Adaptation
KI	Key Informant
NGO	Non-Governmental Organisation
NS	National Strategy(ies)
NSCC	National Strategy on Climate Change
NSEG	National Strategy on Gender Equality
PI	Provincial Implementation
RRD	Red River Delta
SDS	Vietnam Sustainable Development Strategy
UNWFP	United Nations’ World Food Programme

1 Introduction

Climate change (CC) has globally been manifested over the past 10 years, human induced greenhouse gas emissions are projected to increase the effects of CC on a global scale (El-Batran & Abounaga, 2015). The change of weather patterns impact human and ecological systems on global to local levels (Van Mai & Lovell, 2017). Vietnam is considered one of the countries that will be most impacted by CC, both through the risk of gradual change such as sea-level rise and abnormal temperature change, but also more extreme weather events as flooding and storms (Christoplos, Ngoan, Sen, Huong, & Nguyen, 2016; Nguyen et al., 2017; Thi Hoa Sen & Bond, 2017).

As a step to act on CC, Vietnam has ratified the Paris Agreement (“United Nations Treaty Collection,” n.d.), which includes the goal to enhance adaptation capacities and reduce vulnerabilities to CC by strengthening national adaptation efforts and international cooperation (UNFCCC, 2015). Further, the national government has formed climate strategies for adaptation (Christoplos et al., 2016). Climate change adaptation (CCA) being the response to current and future CC impacts, seeking to decrease and/or avoid harm by adjusting human and natural systems (IPCC, 2014). The strategies are part of the national target programme, which are directed to provincial levels with the expectation to implement the plan through location-based strategies (Christoplos et al., 2016). According to Christoplos et al. (2016), the strategies have not mapped out the vulnerabilities; vulnerability being the lack of capacity to meet the CC risks and impacts (IPCC, 2014). Mapping vulnerabilities can be used as a measure to address capacities useful for reducing inequalities and poverty (Jerneck, 2017). Adaptation is complex; as it is not only about financing, but also about socio-ecological issues (Jerneck, 2017). Previous research shows that agriculture and aquaculture are highly vulnerable to the effects of storms and sea-level rise (Nguyen et al., 2017), therefore, CCA will be crucial for the continuation of food and fibre production in Vietnam (Thi Hoa Sen & Bond, 2017). 70% of the Vietnamese population live in the countryside and around 60% of this rural population rely on agriculture as their livelihood (Bergstedt, 2016; Mishra & Pede, 2017). This means that farming as a practice is a significant part of Vietnamese society: financially, culturally and politically (Bergstedt, 2016), therefore adaptation of this sector is a pressing issue for Vietnam and people relying on it as a livelihood (Christoplos et al., 2016) that is largely run by women (Bergstedt, 2016).

Understanding impacts of and responses to CC, including social factors and power structures, are important when determining which types of adaptation strategies could be useful for specific cases (Jerneck, 2017). Not only is adaptation gendered, but globally women are also affected differently and perceive CC in other ways to men (Carvajal-Escobar, Quintero-Angel, & Garcia-Vargas, 2008; Vincent et al., 2014), due to unequal power dynamics in access to land, gendered disparities in rights and

responsibilities, different capacities to adapt and other stressors (Jerneck, 2017; Vincent et al., 2014). At the core of gendered adaptation (GA) lies a range of intersectional inequalities based on age, class and gender, which relate to the impacts of and responses to CC (Jerneck, 2017). This inequality creates a skewed base for individual adaptation capacities, which needs to be taken into consideration when developing policy (Jerneck, 2017).

To address some of the complex challenges embedded within CCA in Vietnam, this research is focused on Thái Bình as a case study. Thái Bình is a coastal province located in the Red River Delta (RRD) in Northern Vietnam, that is largely rural and in a pressing need to adapt to CC (Hai et al., 2015; Le Trinh Hai et al., 2014; McElwee, Nghiem, Le, & Vu, 2016). In this thesis, I focus on GA through addressing human systems by social change in livelihood activities with the aim to protect lives, property and income (Lackner, Chen, & Suzuki, 2017), as previous research mainly focus on adaptation through natural systems there is a knowledge gap on human systems considering impact, vulnerability (Abdulkadir, 2017) and GA (Jerneck, 2017). Thus, I am addressing an angle of the case that is requiring further research; knowledge and experiences that are underrepresented in research and policy development through the lens of feminist political ecology (FPE), exploring gendered CCA as a measure to reduce inequalities and achieve sustainability for farmers in the Thái Bình province.

1.1 Research objective

This thesis investigates gender dimensions in livelihoods made vulnerable by CC such as agriculture, aquaculture and animal husbandry in Thái Bình through the lens of FPE; with the aim to identify potential connections and/or discrepancies between gendered CC impacts and adaptation capacities among farmers and national CCA strategies and provincial implementation (PI).

1.1.1 Research questions

- How are the rights of and responsibilities for livelihood resources gendered among female and male small-scale farmers in Thái Bình?
- What are the gendered climate change impacts from extreme weather on small-scale farmers in Thái Bình?
 - How do small-scale farmers, women and men in Thái Bình, experience, perceive and act upon climate change?
- How are gender differences, as identified in the case of small-scale farmers in Thái Bình, addressed and represented in the national strategies and in provincial implementation of climate change?

1.2 Contributions to sustainability science

Sustainability science is working with the challenges of sustainability by looking into the complexity of socio-ecological systems with the aspect of intergenerational justice by sustaining the planet's life support systems (Isgren, Jerneck, & O'Byrne, 2017; Kates, 2011). CC is a transboundary phenomenon that demands solutions, agreements and efforts on multiple levels (Jerneck, 2017). To realise a sustainable response to CC, it is necessary to understand the interactions which are taking place in Thái Bình. The focus on gendered CCA thus makes my thesis highly relevant for sustainability science as I both consider the complexity of socio-ecological systems through a FPE lens and study this on multiple levels, from local to national, through a participatory approach by engaging with relevant stakeholders such as non-governmental organisations (NGOs), research institutes and farmers in Thái Bình.

1.3 Thesis outline

To set the stage I start off in chapter 2 with an historical assessment of land use and agriculture in Vietnam, thereafter the administrative levels of Vietnam and finally the rural life of Thái Bình. In the third chapter I present the theory FPE that I have used as an overall framework for my methods of data collection and final analysis of the material to reach to my conclusions. The fourth chapter goes step by step through the data collection and data analysis methods I have carried out. Finally, the answers to my research questions are discussed in chapter five divided in three sections: the gendered agrarian society; gendered CC impacts and policy analysis of national strategies and provincial implementation.

2 Case Study Context: Farming in a Thái Bình

Managing land division has been a central aspect to achieve a desired future for the political and economic power for Vietnam (Bergstedt, 2016). After the end of the war in 1975 an economic crisis followed with high inflation, food shortages and low productivity (Mishra & Pedde, 2017). This was the start of the process that led to the economic reforms called 'Doi Moi' in 1986, which was the opening for a market-orientated economy (Bergstedt, 2016; Mishra & Pedde, 2017) that intended to stop previous collective farming (Bergstedt, 2016; Luong, 2010). A part of the 'Doi Moi' reform was a transformation of agricultural systems from subsistence farming towards market-oriented production (Hanh, Azadi, Dogot, Ton, & Lebailly, 2017). Farmer households became individual economic units that had to answer to the market economy, farmers gained more control over their production (Christoplos, Sen, & Ngoan, 2014; Hanh et al., 2017). Ten years after 'Doi Moi', rice production soared and Vietnam became the second largest rice exporter in the world (Christoplos et al., 2016, 2014; Mishra & Pedde, 2017). This rapid growth in the agricultural sector enabled the country to develop economically, decreasing rates in poverty and hailing Vietnam as a beacon of the green revolution (Mishra & Pedde, 2017). The overall rural policies the past 40 years focus on food security and have shaped how the state, local governments and farmers have made decisions; from reforming traditional agriculture to ensure food security, to contemporary concerns regarding CC (Christoplos et al., 2016). Despite changing the strategies since the policy on collective farming, agricultural and other land-use sectors have and are been formed by pre-determined production and development targets set by the government (Christoplos et al., 2014; Poussard, 1999). The green revolution failed to address complexities inherent within socio-ecological systems and was therefore never a sustainable long-term solution (Lambin & Meyfroidt, 2010). The continuing desire for growth in the agriculture sector, specifically in rice production, has led to the overuse of pesticides and herbicides, higher input costs and increased use of water (Mishra & Pedde, 2017). A situation that is highly relevant to the CCA for farmers in Thái Bình today.

2.1.1 Administrative units of Vietnam

Due to the focus on national strategy (NS) and PI of CCA in this thesis, it is important to understand the administrative divisions in Vietnam. The country is officially divided into three different administrative tiers which are governed by a top-down approach (Table 1). For example, the national policies are above the province level and apply to all provinces that further applies to the provincial city, all towns and rural districts within that province (see Table 1).

Table 1: The Administrative Hierarchy of Vietnam. The relevant units for this study are marked in bold and the names of the places in italic. Source: Own table on the base of Vietnam Statistics Office, 2018.

Tier	1 st	2 nd	3 rd
	Province <i>Thái Bình (Tỉnh)</i>	Provincial city <i>Thái Bình</i>	Ward
		Towns	Communes
		Rural district <i>Huyện</i>	Ward
			Communes
			Township
			Communes <i>Xã 1</i> <i>Xã 2</i>

Thái Bình is both the name of the province and biggest town in the province of Thái Bình and is a part of the RRD region (Thái Bình Statistics Office, 2017). The second tier of the administrative hierarchy is the district level. Thái Bình consists of seven districts (Thái Bình Statistics Office, 2017) whereof I chose for one for this study. Within the district there is one township and over 30 communes (Thái Bình Statistics Office, 2017), two of which I studied: Xã 1 and Xã 2¹.

2.2 The province of Thái Bình

Thái Bình is a densely populated low-lying area around 70 km southeast of Hanoi (see Figure 1) with agriculture being the main source of income and having the highest level of rice productivity in the RRD (McElwee et al., 2016). The province has already been exposed to numerous flood events during the past ten years, which have impacted and damaged farming households (McElwee et al., 2016). With CC, floods are forecasted to increase in the coming decades due to changes in precipitation, storms and sea-level rise (McElwee et al., 2016).

Agrarian life in Thái Bình

The studied district in Thái Bình: Huyện², is a coastal district with around 200.000 residents with an area of over 200 km² whereof 51% is allocated for agricultural land (Thái Bình Statistics Office, 2017). The land for farming has been allocated after reforms in 1988 and 1993



Figure 1: A map of Vietnam with the province of Thái Bình marked in red. Source: Wiki/User:TUBS, 2011.

¹ Xã, meaning ‘commune’ in Vietnamese. I have chosen to anonymise the district, communes and people interviewed in this thesis due to the uncertainty of sensitivity. I am following the manner of other similar research done in Vietnam where the location and people have been anonymised (Bergstedt, 2016).

² Huyện, meaning rural district in Vietnamese.

based on the household size and career: more land per new born child for parents who were not industrial workers or state employees, a family of four would generally have around 1000 m² of land (Bélanger & Li, 2001; Luong, 2010). In 2001, all land had been distributed among farmers which meant that larger families would no longer be entitled to more land (Bélanger & Li, 2001). Today, the division of land is mainly based on marriages where parents of the couple give land as a wedding gift (Bergstedt, 2016). Otherwise, to access more land farmers can rent land where the common currency is a percentage of the outcome of the produce (Bergstedt, 2016). The current use rights of land are under the 'Land Law' from 2014, stating that current households have access to their land for 20-50 more years with the uncertainty if the state is will realise a new land allocation in the future (Bergstedt, 2016).

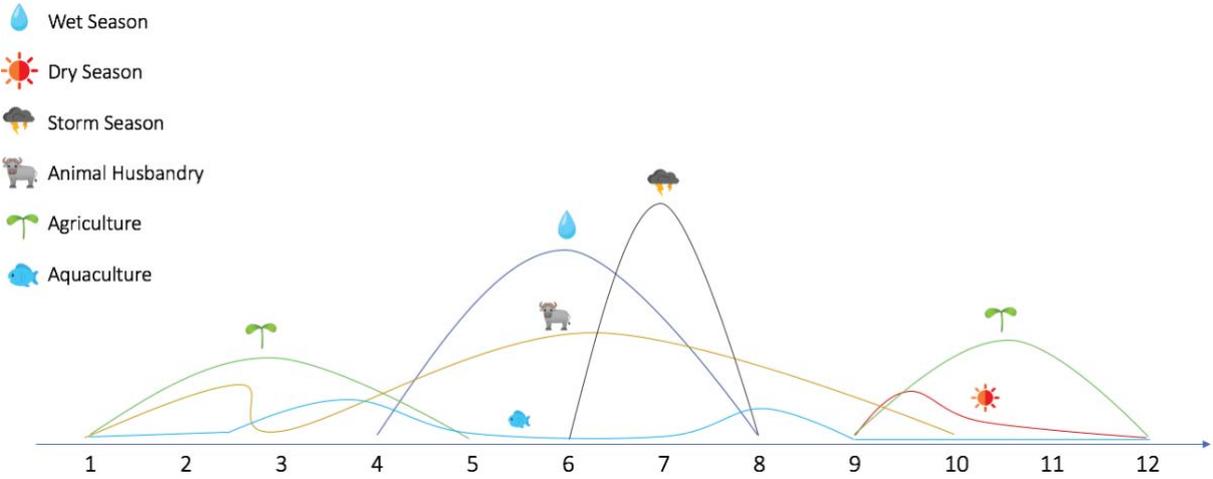


Figure 2: Seasonal calendar of the farming practises and weather patterns in Huyện. The numbers indicate the month from January to December. The height of the curve demonstrates the intensity of livelihoods and weather. Own illustration on the base of the farmers drawing from the exercise (See Chapter 4.3.4).

Thái Bình has four seasons and additionally wet season from April to August and dry season from September to December (Figure 2). Due to the variation in climate, farmers in Thái Bình have adapted to diverse livelihoods to have full occupation during the whole year; the three livelihoods are peaking during different times of the year but require maintenance most of the year (Figure 2). For example, scrimp takes four months to grow and are collected in May and September thereafter ponds are renovated to grow new scrimp. April to August is the time with highest risk of flood and explained as the most labour intense time of the year. During wet season agriculture and aquaculture are not prosperous (Figure 2), but due to the storms in combination with hot summer, work is harder for the farmers.

3 Theoretical framework

3.1 Ontological and epistemological considerations

The ontological and epistemological considerations of this thesis are based on feminist theory and method. The ontology discussed in feminist theory address social relations and power structures in which humans are constructed (Maruska, 2010; Wise & Stanley, 1993). Mehta (2016) explains: “Gender is not a pre-given fact but is a constructed phenomenon that is reproduced in and through practices, policies and actions associated with shifting and changing environments.” (p. 272).

Feminist theory does not perceive reality as a single available area unproblematically observed by researchers (Wise & Stanley, 1993). Knowledge is situated, meaning no one inhabits the quality of a ‘natural’ observation of reality (Haraway, 2004). People are affected by their experiences that shape their interpretations of their surroundings; experiences and interpretations which become the fractions of reality (Haraway, 2004; Wise & Stanley, 1993). Understanding different types of experiences and interpretations is therefore important for us to come closer to the understanding of reality (Wise & Stanley, 1993). This viewpoint of reality configures the epistemology of this thesis, an epistemology that entails feminist consciousness which values the standpoint of the vulnerable and marginalised (Wise & Stanley, 1993).

Finally, as a clarification, I am utilising the category ‘women’ as a common factor of oppression; it does not entail that all women have the same experiences, but rather share the experience of oppression by being female (Wise & Stanley, 1993). Oppression is more complex than the single category ‘women’; the social and physical context also plays a major role, i.e. livelihood, income level, age etc. (Wise & Stanley, 1993). With this clarification, I want to display that the category ‘woman/female’ in this thesis is based on a specific social context (rural farmers in Northern Vietnam) that cannot be generalised to a universal category.

3.2 Feminist political ecology

In line with feminist epistemology the theoretical framework is based on feminist political ecology (FPE), a theory examining gender as a factor in the political ecological landscape; considering the interconnectedness of ecological, political, social and economic life (Rocheleau, Thomas-Slayter, & Wangari, 1996). FPE stresses the issue of environmental injustice, to find the origins and causes of

oppression and injustices, examining on top of economic and political power the ecological power relations with the aspect of gender (Rocheleau et al., 1996).

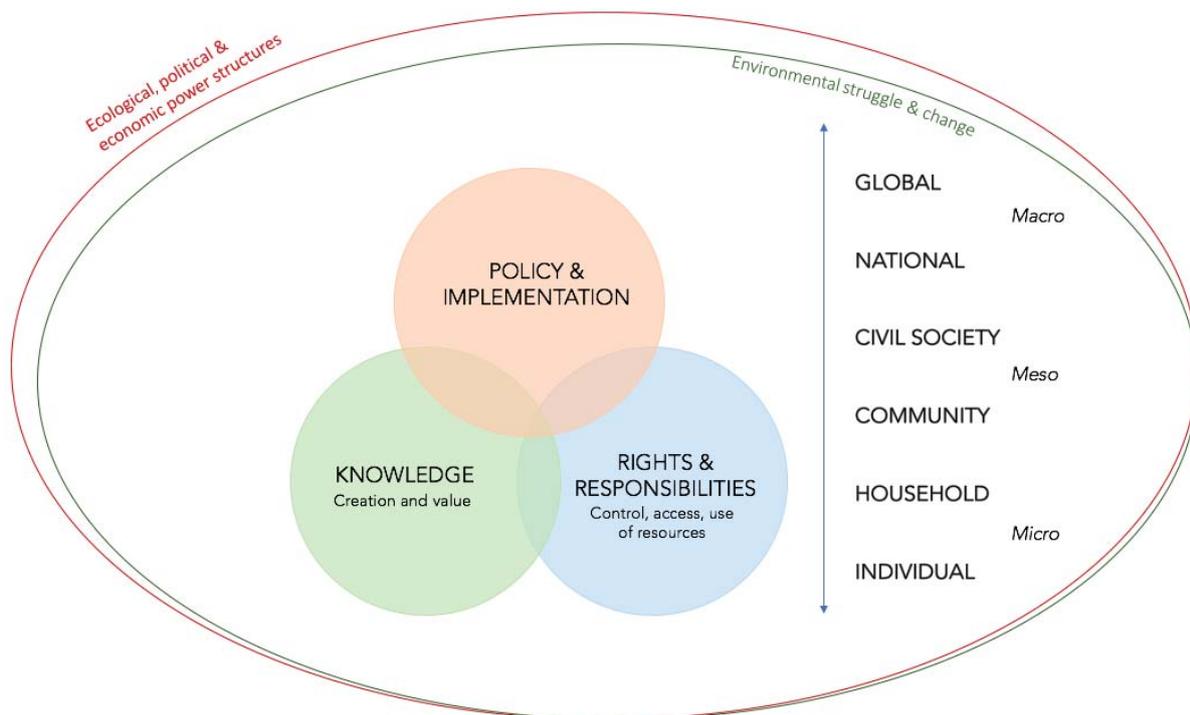


Figure 3: An overview of Feminist Political Ecology. The Venn diagram visualises the three themes which overlap and influence each other. Two circles surrounding the themes symbolising the overall scope of FPE: ecological, political and economic power structures, specifically considering knowledge, rights and responsibilities and politics of environmental struggle and change. The scales on the y-axis is demonstrating the multi-level scope of FPE; applicability to cases on macro, meso and micro levels. Source: Own illustration based on Rocheleau et al., 1996.

Gendered knowledge, rights and responsibilities and policy and implementation are interconnected. The strength of FPE is the holistic perspective of the analysis addressing the political ecological landscape of each case and its linkage to the environmental, political and economic system on local to global levels (Mehta, 2016; Rocheleau et al., 1996). For the realisation of the study they are divided into three themes (see Figure 3), which I elaborate on in the upcoming sections.

Rights and responsibilities

The first theme in FPE is gendered environmental rights and responsibilities (Figure 4). Questioning, who is in control of the rights of the resources and who has access to them. Rocheleau et al., (1996) divides this theme into four categories:

- Control of resources
- Access to resources
- Use of resources
- Responsibilities to produce and manage resources

It is important to acknowledge that rights and responsibilities are never fixed, they vary over time within and between groups and places; human capacities, knowledge and relations of power based on gender, ethnicity, age, locality and nationality (Rocheleau et al., 1996). To understand gendered environmental inequalities, implications of the patterns must be examined. Thus, the four categories are divided into indicators: types of rights, types of use, types of resources whereof each has two options with different values, as illustrated in Figure 4. These three indicators can display patterns of privileges and power imbalances (Rocheleau et al., 1996).

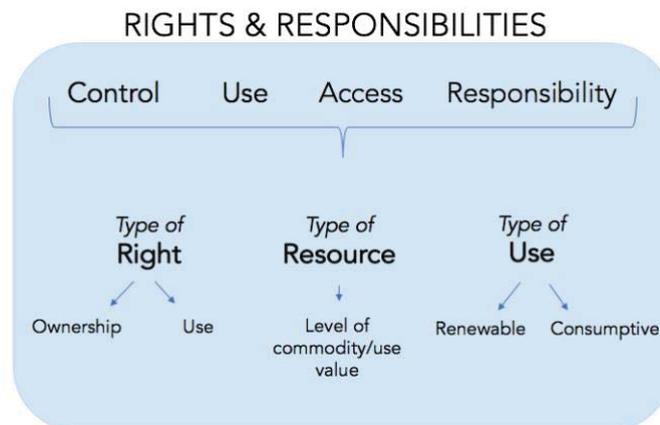


Figure 4: The theme 'Rights and responsibilities' transformed into categories: control, use, access and responsibility over resources. Further, formed into indicators: types of rights, resources and uses. Source: Own illustration based on Rocheleau et al., 1996.

Types of rights are divided into ownership and use rights (Rocheleau et al., 1996). Ownership entails the recognised control and allocation rights over resources, therefore, it indicates power to the legal owner (Rocheleau et al., 1996). The type of use is categorised into renewable use (harvesting fruits, gather dead wood etc.) versus consumptive use (selling plots of land, harvesting whole trees) (Rocheleau et al., 1996). Finally, the type of resource is measured by the monetary value of the resource.

The final category is the expectations of the responsibilities in producing and managing resources for oneself, the family and/or the community including paid and non-paid labour (Rocheleau et al., 1996). The responsibility does not necessarily include the right of the resource, only the expectation of a specific task or behaviour (Rocheleau et al., 1996). To understand the patterns and outcome of responsibilities the gaze should be aimed at household and community level where the intra household structures and relationships form these expectations of responsibilities (Rocheleau et al., 1996).

Gendered knowledge

Our perspectives and consciousness are gendered due to the societal structures shaping behaviours affecting the creation and reading of knowledge (Rocheleau et al., 1996). Thus, there is a risk that only

the perspectives and experiences of the privileged are represented in research which leads to a partial/bias view of reality (Haraway, 2004; Hekman, 1997; Wise & Stanley, 1993). This is an issue acknowledged in the theme, ‘gendered knowledge’, questioning who has the power to construct it, and how gender affect our perception and expectation of knowledge (Wise & Stanley, 1993). In sum, ideologies that are formulated within a patriarchal mode are creating unequal gendered access to and production of information, knowledge, resources and technologies (Rocheleau et al., 1996), an element that has been crucial to unravel the gendered knowledge considering CC in the case of the farmers in Thái Bình (see Chapter 5).

Policy and implementation

The final theme is policy and implementation, addressing the form of policy that can elude the environmental injustice, by the participation of people who are affected by the decisions (see Figure 5). FPE further questions who is participating and who has access to the political sphere. The ones with the power to participate and influence policy making have an increasing possibility to be an agent of change than the ones who do not have access to the political sphere (Rocheleau et al., 1996). Marginalised groups tend to participate less in organised national politics rather than more privileged groups (Rocheleau et al., 1996). A complication to political participation is the aspect of ‘integrating but not including’, meaning that gender might be integrated in the policies but only men are included

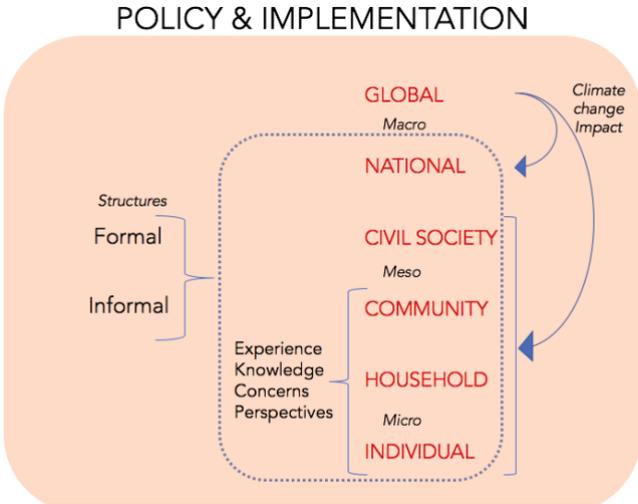


Figure 5: What should be considered in policy-making according to FPE: global impacts (in this case of CC) on national and local levels, local experience, knowledge, concerns and perspectives. Finally, the formal and informal structures that impact all levels and thereafter the policy making process. Source: Own illustration based on Rocheleau et al., 1996.

i.e. participating in the actual policy making process (Jerneck, 2017). FPE argues that policies should be based on the local experience, knowledge, concerns and perspectives that the policy concerns and at the same time reflect the understanding of the global impacts (in this case CC) on the national level

and the local communities, acknowledging the informal and formal structures that restrict marginalised groups to policy making (Rocheleau et al., 1996).

Further, FPE addresses three policy issues (Rocheleau et al., 1996) that should be considered in policy-making:

- Feminist and environmental agendas: integrating them into all areas, not dividing them as separate;
- Gender bias that reproduce subordination and alienation from politics. Need for open political space for politics linking gender, environment and development;
- Increased access to political public space. Formal and informal structures restrict women and other marginalised groups from participating in political spheres.

To conclude, FPE enables the analysis of expressions of inequalities through practises, experiences and micro-politics in resource management between families and communities; as well as power structures within the household and community (Rocheleau et al., 1996).

4 Methodology

4.1 Research design

The research design is descriptive, in form of a single case study. I have chosen a case study to illustrate an understanding of an extreme case of CC with the hope that the findings can be generalised and applied in a context with similar variables to strive for sustainable and inclusive adaptation strategies. The choice of research design is based on the objective and research questions. As a descriptive design, it explains the conditions of a specific group (Rwegoshora, 2014): farmers in the Thái Bình province, looking into the characteristics of CCA to acquire knowledge about the issue.

4.2 Research methods

This thesis has been conducted with an qualitative inductive approach, developing a theory rather than testing one (Bryman, 2016). To answer my research questions, I had to understand the gendered dimensions through conversation with farmers and other informants, therefore qualitative methods were essential. I have adopted a triangulated methods approach to strengthen the credibility of my findings; combining several qualitative methods and cross checking the results with the purpose to acquire consistent and reliable data for analysis (Patton, 1999). The data collection consists of secondary data from a literature review and collection of NS and a PI reports related to CC, and primary data from key informant interviews (KIs), a participatory exercise, participation in a workshop and focus group discussions (FGDs) (See Table 2). The anticipated outcome of the interviews has been to understand the issue of gendered CCA from three different stakeholder levels (see Figure 3): state (macro), civil society (meso) and household (micro), guided through FPE. Detailed steps of the selected methods follow in Sections 4.3 and 4.4.

To facilitate and realise my research in Vietnam I have collaborated with a Vietnamese NGO in Hanoi. I spent two months in Vietnam, mainly in Hanoi and Thái Bình. The NGO has been my main contact for facilitating the fieldwork, helping me find further contacts, translating and organising the interviews.

4.3 Data collection

Table 2: Field work data collection in Vietnam.

How	Who	Where	What
Multi-stakeholder workshop	Organised by UNWFP, participants from Vietnamese and international NGOs and research centres	Hanoi, Vietnam	A consolidated livelihoods exercise for analysing resilience in understanding climate-related interventions in Vietnam
Semi-structured interview	Two key informants from a Vietnamese NGO working with rural sustainable livelihoods in North of Vietnam and a research analyst from an international research centre	Hanoi, Vietnam and a Video-call	Key problems about small-scale farming, climate change, impacts, adaptation, rural-urban patterns and policy
Semi-structured interview	Two chairpersons of commune 1 & 2 and the village leader of commune 2	In commune 1 & 2 in Thai Binh province, Vietnam	Mapping of weather patterns, demographic in each commune
Mapping of seasonal calendar	Five female farmers	In commune 1 in Thai Binh province, Vietnam	Mapping of weather patterns in the region, farming seasons and annual workload
Focus group interview	Four groups, two female and two male (7-9 per group)	In commune 1 & 2 in Thai Binh province, Vietnam	Identifying gendered rights and responsibilities, perceptions and responses to CC

4.3.1 Literature review

I did a literature review as collection of secondary data, which helped me formulate relevant interview questions, get an overview of current research on the study topic and support my arguments in the analysis (Bryman, 2016). The review was done through the database *Scopus*³ using the key words: 'Climate Change', 'adaptation', 'Vietnam', 'agriculture', 'gender' and/or 'Thái Bình'. The key words were alternated to find relevant literature for this thesis. Further literature was found by using snowballing sampling from the reference lists of the articles found on *Scopus*.

³ <https://www.scopus.com>

4.3.2 Key informant interviews

The KIs included different stakeholders working with CCA in the north of Vietnam and is part of my primary data collection (see Table 2). I conducted KIs, all in a semi-structured method with an interview guide (see Appendix 1). I chose to do semi-structured interviews to have the flexibility to follow up questions in line with the pre-decided topics related to the research questions (Bryman, 2016). The five KIs (from the public and private sector) were chosen through snowball sampling and in accordance to their expertise to acquire reliable data (Bryman, 2016). The private sector was represented by an NGO and one research centre with expertise in CC regarding adaptation, sustainability, vulnerability, gender and farming either nationally and/or in the northern region of Vietnam (see Table 2). I created two different interview guides (see Appendix 1), one for the public and one for the private sector. The guides were based on the research questions and the preliminary findings from the literature review⁴.

Three of the interviews were conducted by me in English⁵ and lasted for one hour each. The first interview was conducted face to face with the head of office of a Vietnamese NGO. She was selected due to her overall knowledge of all the projects and research conducted by the organisation. The second informant was with a representative from a research centre in Hanoi. It was conducted through a video call due to time constraints.

The two final KIs were the chair-people of two different communes in *Huyện*. The communes in were chosen on the base of being a vulnerable area to CC, and through recommendations and accessibility to contacts⁶. These interviews were conducted in Vietnamese by Lan Anh⁷, who works for the collaborating NGO and had previous experience in interviewing and research. Beforehand, I made sure with the translator that she was thoroughly introduced to the topic and objective of my research to reduce misunderstandings and error.

4.3.3 Workshop UNWFP

I participated in a workshop organised by the UNWFP on their framework 'consolidated livelihoods exercise for analysing resilience' (CLEAR) (UNWFP, n.d.; Appendix 2), by request from the Vietnamese Ministry of Agriculture and Rural Development. The objective of the workshop was to gather insights on how current and future climate risks affect food security and livelihoods in Vietnam (UNWFP, n.d.).

⁴ All interview questions were formed in this manner.

⁵ All the interviewees' native language is Vietnamese, including the key informants, focus groups and participatory exercise.

⁶ From the Vietnamese NGO I collaborated with.

⁷ The same translator helped me through the whole process of data collection in Vietnam.

It was done with governmental and non-governmental stakeholders in Vietnam, as a base on UNWFP's research project on livelihoods mapping to inform the national adaptation plan of Vietnam. The workshop was in total two hours including: information about the framework and the research project and discussion among stakeholders on current and future climate-risks. I was a participant asking questions related to my thesis topic during the workshop.

4.3.4 Participatory exercise: Seasonal calendar

The seasonal calendar was conducted with a group of five female farmers working in agriculture, aquaculture and animal husbandry, who were between the ages of 55 and 67 years, in one of the communes in *Huyện* (see Table 2). I chose to conduct the exercise with only women due to female farmers generally having a larger workload (which implies that they have a better overview of the total work done) than the male farmers in Vietnam (Bergstedt, 2016). They were provided with an A0 paper sheet and three pens in different colours. The exercise was conducted by Lan Anh in Vietnamese. I structured a guide for the session (see Appendix 1). The purpose of the seasonal calendar was to understand the weather patterns and the farming practises in the region before conducting FGDs (World Bank, n.d.). Understanding the weather patterns and work was useful to get a deeper understanding for the FGDs and to ask relevant follow up questions connected to the weather and farming.

4.3.5 Focus group discussions

The main data collection was done through fieldwork in two communes in Thái Bình through FGDs with female and male farmers (see Table 2; Appendix 2). Two groups were interviewed in each of the communes, one with only women and one only with men. They were separated due to objective of the research, addressing gender differences by comparing the answers from the female groups with the male groups, but also in regards to potential hierarchies and norms that could possible intervene and influence the answers if men and women were in mixed groups (Wise & Stanley, 1993). I chose to do FGDs in two different communes with the similar characteristics and the same questions to gain credible and comparable data (Rwegoshora, 2014). FGDs stimulate discussion between participants, allowing them to draw on their experiences and attitudes regarding CCA (Rwegoshora, 2014). FGDs enabled me to collect large amounts of data in a short time (Bryman, 2016). The participants were chosen by the village leader of the respective commune, with the request to get a diverse group of farmers (age, income, livelihood). All interviewees worked with mixed livelihoods between agriculture, aquaculture and cattle farming and varied in ages between 40 and 80 years old.

The FGDs were facilitated in Vietnamese by Lan Anh. In the same manner, as with the KIs conducted by her, I made sure she was thoroughly aware of the purpose of the interviews. All interviews lasted around one hour and fifteen minutes and each included 7-8 participants.

4.4 Data analysis

4.4.1 *Qualitative data analysis of the interviews*

The primary data was processed through thematic data analysis to withdraw the key ideas from the interviews (Bryman, 2016). The analysis has been done through the steps in line with Marshall and Rossman's (2006) thematic analysis: starting off with organising the data through translation (with the eight interviews in Vietnamese), transcription and reading the data. The transcriptions of the translated interviews were done in a clean read manner due to the importance of understanding the discussion between the participants (Mayring, 2014) in the FGDs. The KIs transcriptions were done through a selective protocol because certain parts of the interviews were not relevant for the research scope (Mayring, 2014).

The second step was to generate categories/indicators with the lens of FPE and the secondary data, which enabled data coding and interpretation (Bryman, 2016). As a control measure to test understandings of the data, I have looked at the significance between my results and other relevant research (Rwegoshora, 2014) together within the frame of FPE. The data tabulation has been done by frequency distribution, which means that I have focused on the frequency of occurrence of the categories to find patterns that can create a significant explanation of the data (Rwegoshora, 2014).

4.4.2 *Policy analysis*

I chose to analyse three of the NS⁸ for the policy analysis are due to the objective of this study that is intersecting the areas of sustainability and gender. The strategies under consideration are (See Appendix 3):

- National Strategy on Climate Change (NSCC)
- Vietnam Sustainable Development Strategy (SDS)
- National Strategy on Gender Equality (NSGE)

⁸ The selected national strategies are for the 2011-2020-period. See appendix 3.

They are three out of eighteen strategies published by the Vietnamese government for the current period. If I had only focused on the NSCC, I could have missed aspects on gender that are addressed in the NSGE.

For the second part of the analysis I have reviewed a report by the People's Committee of Thái Bình: 'Implementation of tasks of climate change in 2017 and the direction and tasks in 2018 in Thái Bình province' to see the implementation of NS on provincial level.

The policy analysis was done through a contextual and strategic approach (Ritchie & Spencer, 1994). The motivation to do a qualitative policy analysis is that it can offer perspectives to the policy-makers that are grounded on local experiences from people who are affected by the policy-decisions (Walker, 1985). Contextual means identifying the form and premise of what exists in policy by looking at dimensions of the perceptions that are held together with capacities (Ritchie & Spencer, 1994) of the farmers reflected in policy. Strategic implies identifying new strategies on the basis of what is required to meet the capacities and to overcome the defined problems (Ritchie & Spencer, 1994) based on the primary part of the analysis (RQ 1 & 2) for the case of Thái Bình.

4.5 Reflexivity and ensuring research quality

A key feature of feminist research is recognising the power relations between the researcher and researched, by emphasising the importance of being reflexive and transparent of our own position to understand obstacles and ensure research quality (Doucet & Mauthner, 2007).

First, I want to acknowledge that I am a European going to Vietnam⁹ doing research involving people's attitudes and experiences which can be perceived as sensitive information. I was perceived as an outsider during my time in Vietnam, which created a barrier, mainly in the creation of trust. A significant part of the interviews has been to understand the patterns and experiences and therefore it has been important to create trust between me and the interviewees for them to choose to share their stories (Rwegoshora, 2014). Before conducting the interviews, I attempted to communicate my genuine interest in the topic and that the interviewees are the bearers of knowledge, not me. It is important to be aware that as a researcher I am in the position to ask the questions but not to answer them without the help from the knowers of this study (Wise & Stanley, 1993). Further, being European creates a risk of me having a Eurocentric view on the issues I have researched. To avoid a Eurocentric

⁹ I have previously lived in Vietnam; therefore, I am aware of certain customs that have been to my advantage during the fieldwork.

analysis it has been important to reflect on my standpoint throughout the whole thesis process, but also to incorporate local knowledge (Wise & Stanley, 1993) including Vietnamese stakeholders and researchers.

The collaboration with the NGO has possibly affected the outcome of the research by having their own agenda and biases I might not have been aware of. The access to the field was limited to their own network and would probably have been different if I would have collaborated with another organisation. The major obstacle to carry out this study has been the process of acquiring access to interviewees in Thái Bình. Vietnam is administrated with strict regulations, to conduct research in Vietnam can be difficult due to the lack of local authorities' trust in foreigners (Bergstedt, 2016; Nguyen et al., 2017). Even with the NGO's expertise and contacts, access to the field has been limited. The participants were chosen by the village leaders of the communes which could have had an impact on the range of interviewees. It is an aspect that I could not control but is necessary to be aware of as a limitation of the study. The research permit I received allowed me to spend maximum three days in each of the two communes, hence, I only spent six days conducting interviews on commune level. The analysis and understanding of the case could have been if the fieldwork time would have been longer. However, the pre-knowledge of the situation made it possible for me to prepare to work efficiently during the days I spent in the field.

5 Findings and discussion

Livelihood activities are highly gendered in the agrarian communities of Thái Bình; tasks divided by gender are often based on the perception of 'natural abilities' where women are considered better at certain things and men at other. Responsibilities are also divided by age, where older people regardless of gender, also do more housework, which is otherwise considered as the role of the woman. The logic that continues to surface throughout the FGDs is that 'weaker' people do the tasks that are considered feminine. Deriving from the idea that women are not capable of heavy labour, an idea that is prevalent in other Vietnamese provinces (Bergstedt, 2016; Cramb, R. A., Purcell, & Ho, 2004). Making the bias clear that women are perceived as 'naturally' weaker than men, as expressed by a male farmer:

Regarding health issues, if men carry 50 kg bag of rice, they can do it in about 2 hours. Women, they have to bear children, so their health becomes weaker. If they do heavy work, it affects their health later, leading to that they cannot live as long.

It is considered equal with the logic that men work less hours doing heavier tasks and women more hours due to their tasks being physically lighter. The gender difference is not based on the idea that men do not acknowledge the importance of women, but rather guided by the idea that they are complementing each other by dividing the responsibilities on the basis of what each gender is perceived to be good at. The strong gender divisions do not give space for opportunity or choice, neither for men nor women, although the possibilities for women are often fewer and more harmful for women due to underlying structures (Bergstedt, 2016; Rocheleau et al., 1996). For example, men have more room for self-expression than women, they are all 'freelancers' as one of the female farmers says. Men were mentioning activities outside work, such as playing cards or drinking alcohol while the women never described other activities than tasks related to their responsibilities, which can be connected to the fact that they do not have free-time as men do. This was confirmed by the KI from the NGO: "Men more often walk around in the community, and go outside the boundary of the village talk to other people and exchange ideas but women always stay behind". This indicates a difference in mobility and access among women and men where it creates a skewed gendered division. In the case of CC, it becomes a restriction to adaptation when they do not have access to opportunity and knowledge exchange to the same degree as men. Knowledge that can be useful for understanding CC and opportunity to make decisions for adaptation. For example, the perspectives on weather events, women had a narrow idea of what was the main threat, while men saw a weather extremes as a general threat. This implies the difference in mobility and access to knowledge, an idea I elaborate further on in the discussion.

When it comes to the right over 'type of resource', generally men have rights over high market-value resources while women manage resources with lower values (Rocheleau et al., 1996). This is also the case of the farmers in Thai Binh, the division of labour is decided on the market-value, where women are not involved in, nor have claims over, any of the high-risk activities and high-value product sales. Women are responsible for the animal husbandry and agriculture, which are lower in market-value. Aquaculture, a male-managed livelihood, was pointed out by one of the female FDGs as the highest market-value but also the riskiest, as the high investment costs can be lost during extreme weather events. Even if livelihoods are divided by gender, most households care for several livelihoods (Figure 2) which can be an adaptation strategy, decreasing dependence on one income source (Hemani, 2015); if the weather damages one livelihood there are others to rely on.

Further, men are more often owners by law while women tend to have the rights by practise or custom, i. e. 'user rights', leading to implications of power and security when legal ownership over resources is overpowering the customary rights (Rocheleau et al., 1996). In the case of Vietnam, the government allocates land to households in the area and each household manage and use the land that the authorities have decided for them (see Chapter 2.2). The land use rights are restricted and the ownership rights are held by authorities. What the land is supposed to be used for is governed by the authorities; the farmers must ask the authorities if they can use it for a specific crop and/or sector . The gender difference in ownership is therefore between the right to manage the land and the right to use it; where male farmers have the say in deciding for the household what land should be used for (by requesting the authorities) and women have the right to use it to the degree that their responsibility allows. Thus, the rights of ownership and the privilege it entails is specifically restricted for women who do not have the right to make these types of decisions. Farmers lack of control over resources is clear by not having the legal right to land that the ownership entails, even further is the lack of control for female farmers when they do not have the right to decision-making, not even in their own home or livelihood.

This division also prevails when it comes to family economy; women are 'accountants' while men are 'managers' by deciding on the purchases, investments and business expansion. As said by the KI from the NGO:

They [husband and wife] usually say that they have to discuss with each other but [...] men always take the final decision for example on the house or things that are costlier.

Something that cost more than 150,000 dong [VND¹⁰] it's made by the man in the house and when it's below, the wife is allowed to take the decision. So, even when they are going to buy a rice cooker and if it's more expensive than 150,000 dong they are not allowed to take the decision to buy it without their husband's approval.

This is an extreme case of restricting women's self-determination leading to less opportunity and jurisdiction that can hamper the CCA by not being allowed to decide for themselves. The restriction is clear by the way men talk about women's duties as 'supporting' men, not seeing women's work as independent of men. "The man is the leader in the family, below us is our wives. They are the secondary roles" as expressed by one of the male farmers. Such a comment explicitly shows that men are making the big decisions, and women are only contributing in decision-making through suggestions. In the seasonal calendar and FGDs men were interrupting women by 'correcting' them even though they clearly did not know what the discussion was about. An indicator that clearly shows the control men have over women. These gendered power relations and divisions of labour in agrarian societies are not unique for Thái Bình, but are seen in other provinces in Vietnam (Bergstedt, 2016; Cramb, R. A. et al., 2004; Quisumbing et al., 2014; Tinh, 2009) and small-scale farming communities in other countries in Asia and Sub-Saharan Africa (Quisumbing et al., 2014). Cultural structures determine what women and men should do (Wise & Stanley, 1993), which is clear in the examples above, but it has not always been the case, the structure stays the same but changes in the form of expression. They can be used to control a specific group of people that might or might not be intentional though the outcome is the same, lack of control (Rocheleau et al., 1996) and also in this case lack of access and use for women.

In contrast, women were described as stricter and more responsible by the male farmers, which can be linked with having more responsibilities and working more hours in the field and household, not having the opportunity to "stroll" around as men can (Bergstedt, 2016). Displaying the idea of women having respect to when it comes to money. Women are understood as more reasonable and strict with money because men will just waste it for 'fun'. For example, the female farmers pointed out that aquaculture is the livelihood mostly impacted by economic loss. Certain male farmers pointed out the impacts of aquaculture but did not distinguish it as impacting the aspect of economy as the female groups did. This again highlights the awareness that female farmers have of their responsibilities, being experts in their own field (Bergstedt, 2016), an idea I elaborate further in the discussion. However, if women are perceived as better with money it is contradictory that they are not fully responsible for

¹⁰ 150 000 VND equals 6 EUR which is generally everything except food purchases.

the finances. It goes back to the idea that men have power over women, acknowledging their importance but still limiting their access and mobility.

As seen in the contradictions outlined above, gender divisions are not logically divided, but rather connected to cultural structures, as pointed out by the KI from the NGO:

For example, in the area [Thái Bình], women are not allowed to work with shrimp from any of the ponds. Because of the taboo that women will give the shrimp farming bad luck so they don't allow women to do that. It's a cultural thing, one of the thing is that women have menstruation so they say that that is dirty and it's not good for their shrimp farming so they don't allow women. Because shrimp has higher market-value and it cost a lot to invest in the ponds for shrimp farming [...] women are not allowed to feed the shrimp due to the high capital investment so even if the pond is outside the house.

The idea that menstruation would not allow women to work with aquaculture is disconnected with the notion that women cannot do tasks that are 'heavy'. The arguments of why women should or should not do certain practises are displaying the norms that are set in gendered power structures of women being secondary to men. Showing that the explanations to the norms are changing over time, but not the control or restriction towards women, they just take form in new expressions.

In the past when they didn't do shrimp farming yet. Rice production was the most important crop produce during the subsidies period, so men were responsible for rice plantation but later when Vietnam became a market economy, prices went down to almost nothing and women became responsible for the rice plantation but men are responsible for crab, clam, shrimp farming. (KI-NGO)

Female farmers explained that aquaculture had only been introduced into the region in the past ten years. Hence, it is a relatively new income generating activity and the argument that women should not engage in shrimp-farming is a justification based on gender norms rather than practical ones, since shrimp-farming is not considered 'heavy labour' but instead clearly linked to the monetary value gains that comes with the livelihood. As with the previous examples, it leads to the point that women lack control and opportunity.

The findings show that the agrarian society of Thai Binh is heavily gendered by the division of rights and responsibilities: women lacking control, access and mobility. The inequalities are motivated on women's 'natural' weakness but are contradictory through the ideas that men are responsible for high-

market value products and decision-making while being blamed for banal things such as menstruation which has nothing to do with strength. How this has implications on CCA I explore in following sections.

5.1 Gendered impacts of climate change

Losing control over resources

The control of the resources is related to the control over one's life. The farmers, both women and men, say they are highly dependent on the weather forecasts, not as previously when they could rely on traditional ecological knowledge (TEK) as the Chairperson of one of the communes says:

Before local people can use their indigenous knowledge [TEK] to recognise the extreme weather, for example, based on the feeling that if the water is warm but the mud layer is cold, the storm is coming. Now, they cannot use that knowledge anymore. Instead, they rely on weather forecasts or getting information from relatives living in other provinces or other districts.

TEK being knowledge developed through location-based long-term observation, experience (Speranza, Kiteme, Ambenje, Wiesmann, & Makali, 2010) and communication with others (Orlove, Roncoli, Kabugo, & Majugu, 2010). While not being able to use TEK preparation and adaptation towards weather events are done on the basis of forecasts. If the forecasts are inaccurate they might not be prepared enough for the right weather type. There is not much room for extra time, so any wasted time is a huge loss, especially because the responsibility of preparation before an extreme weather event falls on women who already work 10-12 hours a day. The aspect of not being able to rely on the TEK due to unusual weather patterns was also mentioned by several of the participants at the UNFWP workshop:

In the past hundred years, this is the first time we see that problem. The scenarios of flooding haven't been seen in the past hundred years so we don't know how to react when this happens. [...] indigenous knowledge cannot be used for the seasons the same way as before.

The genuine worry was clear from all female farmers through comments as: "If the storm comes so I just wait to die", "We are small, storms are big" "No one can do anything.". Their responses also show a desperation and hopelessness, the lack of power to their lives, a self-awareness that was not visible among the male farmers. An example of this is a comment made by one of the women: "We [women] can only talk about agriculture because we don't work in aquaculture [only men work with aquaculture].". This perspective was not singular in its case, it happened several times that the female

farmers agreed their lack of knowledge or pointing that someone else working with a particular task would be able to say more about that certain issue. In contrast of all men interviewed, including the chair-people and village leaders, never doubted themselves nor acknowledged that a woman would have more knowledge than them concerning an issue.

The male farmers had more of a general worry about extreme weather events, seeing the weather as a unified threat including sudden shifts in temperature and climate, as opposed to the women who found floods and storms as the biggest stressor. Agriculture is the sector that is most impacted by occurring extreme weather events according to the majority of the farmers. They said that agriculture is most damaged by extreme weather events as it is the most difficult area to protect, with the largest damage often being done to the rice paddies. A female farmer pointed out that the fruit or vegetable lands are less affected as they are closer to the house where they are easier to protect, as opposed to the rice fields, that are more exposed. Further, women acknowledged the general increase of extreme weather which the male farmers did not; they specified decrease and increase of specific types of weather events. As men have the mobility to discuss the effects of weather (and other issues) with other people they have the possibility to develop their ideas with others to a larger extent than women (Bergstedt, 2016). Women lack ownership and control, but are still held responsible for the outcome. It becomes a double-edged sword; a trap where lack of opportunity and control over their own lives decreases their capacity to CCA. Female farmers have less mobility to find other jobs than men, they must accept the situation they are in and live with it. It is clear that the female farmers have the acceptance of it being part of their lives that they just must cope with, as one of the female farmers conclude: "We cannot change nature, we have to adapt to it".

Another aspect that was mentioned by the female farmers is the dependence on the market prices. If they invest in the production of a specific type of crop or species, there is not much room for loss in investments due to fluctuations in the market prices, due to being already a low profit sector the margins are small for the farmers. As one of the female farmers puts it:

We do not have money. Honestly. When we lose, we can just take the pain ourselves, have no money. And the next year, if we want to continue, we have to borrow money from the bank. If we lose, we lose all.

Connecting this back to the economic responsibilities where women are fully responsible for the accounting but not the usage, the female farmers had a better understanding of the market prices than the men. However, this comment is not only related to the market prices but also to the need for constant production with no regard for the impact of extreme weather on levels of production, leading

to an increased use of harmful pesticides and herbicides (Mottaleb, Rejesus, Murty, Mohanty, & Li, 2017). With the pressure to be able to sell the products they are growing, from suppliers and the authorities who rely on constant production, as highlighted by the KI from the NGO:

They [the authorities] just see for development to follow the procedure that the production has to be higher than the year before it doesn't matter what, if we have a storm last year, if there's rain or drought it doesn't matter. [...] for example, this year we gained 5 tonnes of rice on one hectare of rice patties so [...] next year it has to be six because he has to be more than last year [...] That's the mentality of politics and policies in Vietnam. So, they try to come up with the figures so in fact is that they don't care what people are facing.

Increased production is being pushed by different factors that pressure the farmers (Christoplos et al., 2014; Poussard, 1999), specifically the female farmers who are responsible for the produce that is most impacted by extreme weather and responsible of selling the products. One of the female farmer groups express their worry and lack of control as such: "If it [extreme weather that destroys the produce] happens in one year, we can maintain that, but two years are more difficult. The food supplier does not want to sell us anymore". The pressure is mentally draining for the farmers, both from the authorities and suppliers, in combination with the increased weather impacts.

Labour migration and 'feminisation' of farming

A recurring trend that surfaced in all the KI interviews which has further implications on the gendered rights and responsibilities is urbanisation and labour migration. Many developing countries including Vietnam are going through processes of labour migration, where men find jobs in urban areas instead of farming (Bergstedt, 2016; Mishra & Pede, 2017). Working as a farmer in Vietnam is hard work, not lucrative and becomes riskier with the increasing extreme weather events (Mishra & Pede, 2017). Several of the participants in the UNWFP workshop agree that urbanisation is a challenge for Vietnam, and that Vietnam must increase the opportunities for farmers to stay in agriculture and other rural livelihoods through higher income with lower risks. Several of the farmers expressed that the income from farming is not enough, that they need other sources of income. The extreme weather events are mentally draining according to the farmers, not knowing when a storm or flood will ruin the time and money they have invested in farming. Through the perspective of the farmers, all agree that the chance of labour migration for the younger generation is an opportunity for a safer source of income through remittances from their children. The village leader of DX said 60% of the local population migrates for work and the majority are young men. Farmers are usually older than 45 years and do not move to

find work outside farming because as one male group explained: “We are weak, have lack of knowledge and cannot catch up with the technology.” A clear majority of the farmers are women from the older generations (Bergstedt, 2016; Think, 2009). During the UNWFP workshop, the participants recognised this trend:

It is common in Vietnam that women have to stay at home and you do a lot of job in the farm and men will it go outside the other jobs for other incomes. [...] Men tend to go outside and to find other higher incomes for their family and therefore women stay at home and then the men leave for other work. So, women do both household work and farming.

Older women do not have the same opportunities to leave and find other jobs (Think, 2009). Even through many of the farmers were older men, women have less freedom when choosing other paths in their lives due to the gendered structures of responsibilities. Their children, however, either work in factories or companies in towns and cities in the region or abroad. There are more opportunities for the younger generations today than for the older farmers, as some of the female farmers in DM said: “It lifts up life a little, life has become better.”. Another informant continues:

Women are left behind in the countryside where their children are moving abroad or to the cities to find prosperity and then only the women and old are left to do the farming. This is the most common trend in Vietnam. (UNWFP, Hanoi)

A result of these trends is ‘feminisation’ of farming (Bergstedt, 2016). Feminisation meaning that the majority of the small-scale farming is done by women and expected of women due to structures and norms entailing many of the tasks in a farm being feminine (Bergstedt, 2016). This trend of feminisation in the agrarian communities is growing in Vietnam, and is leading to enhanced inequalities (Bergstedt, 2016) specifically for older women with the increasing responsibility while lacking the ownership of management. Women are in a disadvantaged position in this transition of labour due to these social limitations women bare (Think, 2009).

Implications of gendered knowledge

First, the difference in experienced and perceived risks in weather events between women and men is an issue of knowledge; the unequal production of and access to it. The experiences of weather and its impacts are varied among women and men, and one could say they complement each other in this aspect in the same way as with the divided rights and responsibilities and they become more reliant on each other to overcome disasters. The clear division can be a strength in the sense that the farmers

know what they must do depending on their gender. However, the reliance is built on the aspect that there should be women and men in each household for them to handle extreme weather events (and daily life). “If we are looking to the awareness of CC it seems like men are more aware of those problems than women”, the KI from the NGO points out, as mentioned before men are more prone to walk around outside the community and exchange ideas whilst women who stay in the fields and household to work learn from practise, which leads to distinctive gendered knowledge. The problem is that if the trend of feminisation of farming is increasing, less men and young people will be around to help, which can lead to a knowledge gap in how to adapt for the older women ‘staying behind’. Increased awareness of CC impacts, can increase the possibility to adapt (Francisco & Zakaria, 2017). Thus, gendered knowledge (besides implications of no longer trusting their TEK) is decreasing the capacity to adapt to the extreme weather.

Secondly, the issue is not only that women and men have different perspectives but also the valuation of knowledge regarding gender (Rocheleau et al., 1996). Women can have valuable perspectives on climate regarding the livelihoods they are responsible for, but lack jurisdiction to express their concern to the practical means of adaptation strategies. For example, the male farmers were acknowledging physical damage on houses, boats, watch-houses, banks and dams on a much higher note than the female farmers. Women were only mentioning the houses, as being stable now, or in relation to the farming practises: “In 2012 all the rice crops blew away. Drying rice on the roofs were blown away.”. This is related to current responses to the impacts, where the men emphasise the need for stable houses to cope with CC. Women on the other hand expressed the perspectives of prevention planning for food, tools and saving money during times of disaster and the importance to protect the elderly by taking them to higher points where the flood cannot reach them for example. It is not a surprise that the female farmers address this issue when food, economy and care-taking lie within the scope of their responsibilities. Thus, if the adaptation planning is only relied on the head of the household, which the farmers agree is the man in the family, only the men’s perspectives are considered and therefore the aspects of prevention planning might be lacking in the adaptation strategies. With clear gender divisions, as pointed out before, women and men become experts in their own responsibilities (Bergstedt, 2016); expertise that can be highly valuable for adaptation planning. As the KI from the NGO expressed about the issue:

When they live together they complete each other with different type of knowledge. So, what I want to say is that knowledge of women is very important because they have been disregarded [...] knowledge and the role of the women are very important in the household economy. On the broader scale it is very important in decision-making, but

most of the time the policies are made by men and not women so because they are men they cannot understand what women need and do not have the same knowledge as women so there becomes a gap and lack the policy-making.

In other words, women and men hold different types of knowledge through their different experiences and possibilities. This is related to the gendered rights and responsibilities of the resources, where men attend the higher value resources, both in produce and purchases. Women do more 'delicate' work such as transplanting the rice fields and work longer hours, which includes the post-disaster work where more responsibility is placed on them. There is a clear distinction of women focusing on the damage done on the areas that they are responsible for, whilst men focus on their responsibilities. In sum, gender affects perception and expectation, which imparts an unequal valuation and access to it, as seen in the case of the farmers in Thái Bình.

The triple burden: different possibilities

Through society being gendered, the experiences, impacts and possibilities become different depending on the gender of the person (Rocheleau et al., 1996). Regarding CC, women and men are impacted differently by the effects of the extreme weather due to their divided responsibilities and rights in control, access and use of resources. Men are the leaders of the households, responsible for bigger decisions and having the last say in decision-making, which leads to decreased participation for women in important household decisions. Despite women and men complementing each other in the household, the burden falls higher on women, which is also pointed out in other research (Rocheleau et al., 1996; Satyavathi, Bharadwaj, & Brahmanand, 2010). This is a clear indication of lack of access and control for women over household politics, including decisions that only concern women, but which are still made by men. As the KI from the NGO indicates: "It is always like that because it [Vietnam] is a traditional patriarchal values society so they respect men more than women." It becomes a triple burden on women, where the gendered society places a burden of high responsibility on women together with a lack of power, leading to lack of possibilities to adapt to CC. Further, with increasing extreme weather, women are impacted on a higher level due to the lack of control, access and use of resources (Mishra & Pede, 2017). For the adaptation to be efficient it needs to be applicable to the situation found on the local level it intends to address (Jerneck, 2017). Therefore, I argue for gendered CCA, where CC strategies and the implementations of those require consideration of the dynamics of the gendered impacts from the extreme weather events that derive from the heavily gendered agrarian society. There is a clear difference from the urban areas in Vietnam as one of the KI from the research centre explains:

We see that in the urban areas we think more about women empowerment, they can be in power positions and work more on their carrier. But on the rural side it is a remarkable difference it is more traditional and it will take longer time to match up with the urban side. Because of the education level but also the culture and tradition on the rural side is stricter than in the urban areas.

She speaks about the trend of the gendered power structures that are more traditional in the rural agrarian societies, which underlines the large gender gap that will probably not change in the near future, as she expresses it. Additionally, if the trend of feminisation persists there will be a major issue with the gendered divisions in rights and responsibilities. The issue is if women are not allowed to do certain practises that are crucial to the daily life, what will happen to the women and the gender roles if farming becomes more feminised; if men are not the head of the household can women take over that role, making decisions and doing tasks that are considered masculine? This is a highly relevant question due to the growing trend of feminisation (Bergstedt, 2016; Thinh, 2009) and CC in Vietnam (Mishra & Pede, 2017). I dare to say, based on the examples from the gendered agrarian society of Thai Binh, that the overall burden on female farmers through the stressors from gender inequalities and the pressure of increased production together with CC impacts will likely increase. Not achieving CCA is a highly unsustainable outcome for the women, as it has the potential to protect their lives, property and income. Hence, the aspect of including gender, specifically the changing role of women's burdens, becomes an important long-term project alongside the changing climate.

The inclusion of local opinions from the farmers themselves to the process of adaptation planning is crucial, not only for the sake of equality but also for the improvement of adaptation; creating situation-based strategies can make the implementation more efficient and more accurate (Huynh & Resurreccion, 2014; Jerneck, 2017; Mishra & Pede, 2017). Specifically, by asking vulnerable people, based on parameters such as age, gender and income-level, those people can alleviate the risk of adaptation measures that are not applicable in practise. If the trend of urbanisation leads to less men and young people working as farmers it is important to create an adaptation plan that is suitable for older women with lower income level who are the ones with the least capacities to adapt.

The findings show that farmers do not have the possibility to use TEK due to the changing climate. Even though women are lacking the rights they are responsible for the outcome. The trend of feminisation of farming is leading to more women and elderly being left behind in the rural agrarian livelihoods, where the female farmers are disadvantaged due to the social situation that they bare. A part of this is the gendered knowledge where women have unequal access and production of knowledge compared to men. Even though women have valuable knowledge for CCA they lack

jurisdiction to express it. Female farmers are under a triple burden; with an unequal position in society with the lack of control and access to financial resources and decision-making in combination of larger impacts of CC resulting in less alternatives to CCA than for male farmers, which makes female farmers highly vulnerable to CC.

5.2 Policy strategies and implementation of climate change adaptation in Thái Bình

Recognising natural processes lacking a socio-ecological aspect

By examining NSCC and SDS the overlap of the strategies is clear, SDS includes several sections about CC by being one of the four main objectives in the strategy. The goal of economic growth is underlined in all the three strategies, through emphasising the aim to become a “modern industrialised country by 2020” (NSCC, 2011; p. 1) and constantly including terms such as: productivity, efficiency, competitiveness and industrialisation. This is an important aspect to stress in the analysis to understand the underlying motives of the strategies.

Agriculture is merely mentioned NSCC, despite being stated as one of the main challenges. It is addressed by stating the need for sustainable agricultural development to ensure food security. In SDS, agriculture is aimed by increasing productivity and income per hectare to improve the living standards for the farmers, however, it is not connected to impacts of CC. According to SDS it shall be achieved through a shift towards mass production, biotechnology developing species that yield high productivity and technical infrastructure to improve life quality of farmers.

Vulnerability is mentioned in NSCC in the regions’ geographical climate vulnerability, where the RRD is pointed out as being ‘highly vulnerable’ to CC impacts. Aspects of livelihoods are only addressed through the conditions of CC and sea-level rise. NSCC is aiming at strengthening communities’ capacity to cope with CC. However, the section mainly address the importance of monetary means for vulnerable groups to adapt to CC, the specification of what vulnerability is not assessed neither the further capacities of the vulnerable groups. SDS is complementing NSCC by including sustainable agriculture production as a priority by application to each specific regions’ climate and enhancing people’s capacity to adapt to CC. Although, the solution only relies on improvement of technologies and people’s awareness in CC. Lacking the aspect of aging populations, gendered impacts, and feminisation of farming.

NSCC is encouraging indigenous knowledge as a coping mechanism which is a step in the right direction to acknowledging the capacities among the farmers in Thái Bình. However, the system of increased production is not recognised as an obstacle to use of TEK, therefore the aim is questionable in its

implementation. Another aspect within the goal is improving people's awareness of CC, this includes the accountability for communities to cope with natural disasters which leads back to promote science and technology to adapt to CC. Hence, this section in NSCC has a potential for further development to reach required GA in the current trends Thái Bình farmers are facing.

By pointing out the aspects of increased investments in science and technology I do not claim that it is not useful, on the contrary. For example, the plan on modernising forecast technology which farmers highly rely on (see Chapter 5.2) is an important part of adaptation planning. However, it becomes a critical point when strategies are mainly relying on technology without consideration on capacities and impacts combined with the social structures. Decreasing inequality and enhancing capacities which are dependent of social structures cannot solely be solved through technology (Christoplos et al., 2016; Jerneck, 2017; Mishra & Pede, 2017). Even though the government might be aware of this issue, the overconfidence in technology is prominent in NSCC and SDS by stating "Science and technology are the foundation and driving force of sustainable development" (p. 1).

Adding but not including: Access to & connection within political space

NSCC is focused on the enhancement of collaboration of the different level of the political system. An aspect that has been lacking in previous and current administration of authorities according to the KI from the research centre:

The main challenge is, how we can integrate the climate change perspective in different sectors and how we can after the integration implement that and how to do the monitoring. [...] After policy-making and implementation, there will be the gap on how to implement effectively especially on the local level so the challenge is about the different capacities and the implementation on different levels in Vietnam.

She's pointing out the lack of connection between strategies and implementation on different administration levels. The lack of connection is not only within the authorities, but community level where the inclusion of farmers' perspectives is not considered. As the KI from the NGO expresses:

We need good policies because right now the policies are developed in a vacuum. Only the people in Hanoi are sitting in the air-conditioned room to develop policy because they think that the poor people know nothing.

The political process of policies is the biggest challenge sustainable rural livelihoods in Vietnam. The lack of local participation is also clear in NSCC and SDS by only addressing improved participation of governmental units, business communities and organisations. The involvement of local participation

is only phrased “in activities of coping with CC”, which does not entail the involvement of local people’s perspectives in the policy-making process. A problematic approach according to the KI from the research centre:

I think the best way is to create a discussion or dialogue between authorities and local people where they can exchange views and then this discussion becomes the input on the local policy. If the local authorities don't talk to the local people they do not know exactly what the problems they [locals] are facing. [...] Not top-down like before, because that is when it becomes same for all, and we don't want that for all regions, the bottom-up will be more effective.

Local participation can be an efficient tool to create situation-based strategies which apply to the people who live in the affected communities, in this case the farmers of Thái Bình, involving both women and men. The inclusion of women in the process of CCA is an issue of equality, but also an issue of agency and knowledge (Lambrou & Piana, 2006). Therefore, policies and processes concerning CCA should build on inclusive and consultative processes through equal participation of people exposed to CC, considering their capacity and TEK not forgetting the gendered perspective. TEK can be a highly valuable addition to the development of appropriate adaptation strategies due to it being specific situational knowledge that can create an understanding of local vulnerability in opposition to directives grounded on generic top-down based ideas of how to cope with local issues (Leonard, Parsons, Olawsky, & Kofod, 2013; Thi Hoa Sen & Bond, 2017).

Finally, through the lens of FPE, I want to point out the separation of the strategies into three documents, not only are the topics interlinked but as FPE argues they should be integrated into all strategies (Rocheleau et al., 1996). The KI from the research centre agrees to this problem:

No one will be the main responsible for climate change. So maybe in theory that will be integrated but about the implementation and the monitoring evaluation have not worked.

The idea is that if gender and CC was included in all the strategies it would be integrated into the work of all units (Rocheleau et al., 1996), which is currently not the case. There are some overlaps in each of the documents, however, not to the degree of integration of the topics of gender and environment as FPE argues for. Rather in form of a passing reference, for example a special target of NSCC is to guarantee gender equality in the context of CC. Further elaboration on what it entails is not explained, thus it is the only time in the strategy that gender is mentioned. Similarly, SDS does not address gender connected to CC, nor does NSGE mention CC and its impacts and adaptation considering gender.

A target that is connected to the gendered agrarian society of Thái Bình is to enhance the opportunity and participation in social life, a part of this is to balance the unequal time women and men involve in housework, acknowledging the issue of women working more in the household than men. An encouraging aspect NSGE is addressing is to prioritise rural areas where gender inequalities are considered higher than in urban. Another promising aspect is the objective to ensure equal access to economic resources including the cultivation of land. The approach to reach these goals in connection to farming is through training programmes for women. In the case of Thái Bình, I argue for the training to be successful it would need to address women and men, due to the gendered knowledges the farmers possess. It is not enough to train women (Lambrou & Piana, 2006), by only addressing women it does not deal with the underlying social structures that are the cause to the inequalities. The enunciation is rather retaining a gender bias that reproduce subordination of women not knowing enough to be equal to men. It does not address how training will increase the ownership, valuation of knowledge and the structures that restrict women to participate.

Provincial implementation

On the account of the directions of NS, it no surprise that the completed projects in Thái Bình are merely focused on technical and infrastructural solutions not human capacities. Undertaken projects are in line with the suggestions that were made by the male farmers in the FGDs: protection from flood by improved dykes and other infrastructural investments. Impacts of agriculture is not mentioned in any of the projects. An approach in line with the farmers' request is the investment in improved forecasting for improved predictions and warnings in case of extreme weather. The report on implementation of CC projects is purely technical, overseeing the aspects of gendered impacts and adaptation; feminisation of farming; capacities of an aging rural population and the inclusion of local perspectives. Nevertheless, the KIs are not optimistic of the implementation on provincial and local level, as the head of the NGO says:

But to be honest, on the provincial level they cannot implement it [NS] and enforce it because they don't have money. [...] Although everyone think it's important but they say we don't have enough of financial resource and human resources to do that.

She talks about the strategies from the national level and the discrepancy to the local level, lack of finance but also cooperation between the authorities, a discrepancy that hinders the implementation from national to local level. It appears that 'lack of funding' is perceived as the major issue among KI and local authorities. However, the strategies' missed component of gender and other intersecting vulnerabilities including societal trends that affect the capacity to adapt, can misguide the adaptation

projects to follow through in a manner that does not apply to the local situation and the diversity of capacities among the farmers.

Whether the aspect of gender is included in the climate strategies on national or province level does probably not lead to direct change, by considering the statements from the farmers and KIs on the problems of implementation from national to local level. As one of the women from one of the FGDs said: “We have been here for 33 years, but we have never gotten any support from them [the authorities]”. Displaying the lack of implemented projects that are directly addressing the female farmers. Adding GA aspects to the strategies becomes a long-term solution setting the standard of how sustainable inclusive adaptation should be. Even if the strategies were based on gendered local capacity, the implication of the strategies would not reach the local communities as they intended. Therefore, it is inevitable to ask whether it is enough to include gender in the policies when they do not seem to change the implementation process of the authorities. Despite the discrepancy between strategy and actual implementation, the inclusion of GA and local knowledge in the strategies could increase the awareness of the issue and help to guide the work of other the stakeholders in CCA, by setting the new national standard in how it should be done. The KI from the research institute agrees to this:

When we do work and research at national level or policy recommendation, before carrying out the research we have to think about the national plans in different sectors. We have to read that [the national plans] because when we work on a national level we need collaboration with the national partners. And the government for Vietnam is very powerful so to match the research to follow up later we need match the demand meaning the objective of the national plans.

Finally, the prevailing devaluation of farming and skill (including gender) in contrast to modern and urban ideas and knowledge, hinders the participation of farmers to the formal planning processes (Bergstedt, 2016). The devaluation manifests through the outsiders’ ideas of farmers not being knowledgeable, not knowing what is best for them nor knowing how to act upon CC shocks. This type of devaluation was demonstrated throughout the process of the data collection in Hanoi and Thái Bình, where several of the authorities and KIs expressed that I should not ask certain questions in the interviews with the farmers because they “would not know”. The lack of a bottom-up approach in NS and PI does not only derive from the political hierarchy of Vietnam, but also this aspect of devaluation of farmers and women. This could be connected as a structural problem from ideas of modernisation and industrialisation (Bergstedt, 2016; Mudavin, 2007), where the ‘modern’ urban being cannot imagine themselves to work as a farmer, meantime relying on the rural livelihoods for their own

survival. Women who are left behind, who lack the opportunity to alternatives, are further devaluated by not being listened to, resulting in lacking possibilities to adapt to CC.

On the base of the answers of RQ 1 & 2 (in Chapters 5.1 & 5.2) I have claimed for efficient and sustainable CCA are:

- Gendered inequalities, CC impacts and adaptation;
- Aging population;
- Feminisation of farming;
- Local perspectives of the farmers

However, the findings show that the strategies are lacking a holistic sustainable perspective by not addressing these issues to the degree that they do not reach both female and male farmers' capacity to CCA because they are not acknowledging the differentiated rights, responsibilities, knowledge and are not entrenched in local perspectives and experiences on the ground. Also, the absence of the definition of CCA and vulnerability is problematic since it is not clarified what CCA is and who is addressed when mentioning vulnerable groups. Finally, the devaluation of farming as a livelihood specifically women results in lack of alternatives, opportunities and sustainable adaptation.

6 Conclusions

In the projections of increasing impacts of CC, the matter of adaptation has become a pressing issue. Lacking capacity to respond to CC risks and impacts can be detrimental to livelihoods and even life-threatening which makes adaptation crucial. To understand the parameters of the complexity of socio-ecological systems in relation to CC in the rural agrarian society of Thái Bình I conducted an in-depth case study on multiple levels, from local to national, through a participatory approach including stakeholders such as NGOs, research institutes and farmers in Thái Bình. Using FPE I showed that there is no doubt that farmers in Thái Bình are vulnerable by being part of communities that are already impacted by CC, financially, socially and mentally. However, the capacities connected to that vulnerability are varying within the community, making certain people more vulnerable than others. Age, class and gender have become clear parameters in the level of vulnerability within the overarching trend of CC impacts. By increasing trends of labour migration, due to farming not being lucrative and top-down pressures of increased production, leaves elderly and female farmers behind leading to a feminisation of farming. Meanwhile women lack rights to resources but are nonetheless responsible for outcome. Women play a significant role in CCA due to their expertise and preparation responsibilities, while at the same time having unequal access to production of knowledge that can be useful for CCA. This leads to a triple burden of female farmers where they are disadvantaged to the situation they face, with the lack of control and access to resources and decision-making which decrease their own adaptation capacity lacking the opportunity to alternatives. Therefore, I argue for gendered CCA adaptation acknowledging capacities and impacts depending on gender; feminisation of farming; an aging generation; and the local knowledge and experiences. I further show that the NS which are supposed to increase the adaptation capacity are lacking a holistic sustainable perspective by not acknowledging the site-specific differentiated rights, responsibilities, knowledge meeting capacities and vulnerabilities. Deriving from the national pursuit of growth, simply relying on technological solutions and devaluation of the livelihood of farming resulting in lack of opportunities and sustainable adaptation for farmers, specifically female farmers.

The pressing situation and the lack of support is why I question the unsustainable future for the gendered agrarian society of Thái Bình. Further research in sustainability science with a problem-solving approach is needed to overcome the barriers in national policy and implementation in Thái Bình regarding CC vulnerability. Due to the current trend of feminisation of farming further research is also required on what circumstances could change the gendered division of tasks in order to elucidate inequalities and increase CCA capacities in Thái Bình.

Calling them vulnerable has nothing to do with their strength, the vulnerability is in the constant loss of being in the never-ending fight against the climate. Their strength lies in the constant uprising towards that struggle, by starting from scratch every time a storm or flood rips the roots of planted hope. One must be incredibly strong to survive this struggle which does not get lighter but worse as time goes on. The knowledge that it could happen any moment, that the threat is around every corner; a light breeze that escalates into a storm, ripping the roof off one's physical and psychological safe space. Having this awareness and still getting out of bed to continue their daily work, that is strength.

The eye of the storm, the moment when everything seems serene, the moment when you can breathe, simultaneously knowing nothing is at peace. In line of the horizon something awaiting, something that will tear everything you have always breathed. The help is coming, but how long can you wait? A question posed in creed.

The lingering relief deriving from the cooled air-conned room to the mighty wind near, fails to reach. The metal from the crown on your dwell is moving faster than the sound of voices conceding the appeals you made. How can voices reach when no one is hearing?

No one in the periphery except what you fear. They say there will be relief, but constructed on an ecological modernisation technique. The riddance creates more burden on the shoulders that are already at the peak. A falsified forthcoming is a reverie pressured from the pendragon at its crest. This was not your choice, neither your defeat nor a contest you enlisted at your chest.

What is done, has nothing to do with you, nothing under your display. Only something in the distance, an imagined reality you never dreamed about to convey. Rise above, standing up, survival is key, where only the root of hope can see the appearance that you seethe. The only reality in your horizon, is the eye of the storm, in the place you can for a second, finally breathe.

Josephine Ylipää, 2018

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8 Appendices

Appendix 1: Interview guide

Key informant interviews: Public sector

1. First, can you tell me about your work at ...*
 - a. What does the authority work with regarding for climate change and agriculture?
 - b. What is the department's responsibility and jurisdiction?
 - c. How do you work with other authorities?
2. Do you work with adaptation, gender and vulnerability ?
 - a. Adaptation: the possibility to adjust to current and expected future weather occurrences and changes in climate
 - b. Vulnerability: vulnerability being the lack of capacity to meet the climate change risks and impacts
 - i. Do you recognise these definitions within your work with the authority?
3. How are you working with local communities and farmers in the province/district/commune?
 - a. What kind of adaptation plan/strategies do you have for farmers in the province/district/commune?
 - i. Or flood and storm prevention plan?
 - b. Do the authority or another institution work with support for natural hazards?
 - i. What is the timeline and activities for a typical adaptation project?
 - ii. Can you give an example?
4. Have you used the national strategies in your work with climate change adaptation?
5. If you are dividing the work how are you prioritising (in the sense of importance, national support of priority and finance):
 - a. Climate change
 - b. Sustainable development
 - c. Gender equality

... within your authority?

 - i. Do you see synergies between these issues?
6. Have you worked with the province/district/commune authorities with climate change adaptation? How?

Key informants: Private sector

1. What is your experience and involvement with climate change adaptation within the organisation?
2. What is your organisation's experience with local authorities regarding the issue of adaptation?
 - a. How do you cooperate?
 - b. How is your relationship with them?
3. What kind of CCA plan/strategies do you have for farmers?
 - a. How are you working with local communities and farmers in the Thái Bình province?
 - b. Do you work in line with the local authorities and the national climate change strategies? If so, how?
4. How long is your experience working with these issues?
5. Do you have any recollection of the implementation of the climate change strategies?
 - a. Are you included in the implementation process of the local authorities?
6. How are your climate change projects financed?
 - a. Do you get any support from the state?
7. What is your organisation's experience with farmers regarding climate change and gender?
 - a. Their knowledge regarding the issue
 - b. Autonomy of the farmers
 - c. Interest regarding the issue
 - d. Their view on your work
 - e. Their view on the local authorities work
8. Are you addressing vulnerability of different groups such as gender within your work?
 - a. Do you consider that the authorities address gender? If so, how?
 - b. Do you see difference in vulnerability and knowledge between men and women working in agriculture?

Seasonal calendar

The exercise works that we are going to draw a calendar on this paper to map out the seasons of your work.

1. Let's start first to draw the year of the crop, when is it planted and when is it harvested, and please fill in other actions in between.
2. How is the rain seasons? Draw it with a 'drop'
3. How are the dry seasons? Draw it as a '-'
4. Draw workload as an 'H', do you work as much all seasons?

5. What responsibilities do you have? Draw within the workload as 'X'
6. What are men in charge of? Draw within the workload as 'O'
7. What do you do during a regular day (working hours)? Does it shift during the seasons?
8. What do you see? Could you tell about the working season? Is anything missing?

Focus group discussions

1. Have you experienced much flooding, drought, heavy rainfall, storm in the fields?
 - a. Or other types of extreme weather?
 - b. Has it increased over time? Think of how it was 5, 10 years back, has it changed?
 - c. When did it happen last time?
2. How was your livelihood affected by these extreme weather events (flooding/drought/heavy rainfall/storm)?
 - a. Think back on the last time flooding happened, how did that affect your work?
 - b. How long did it take to recover?
 - c. Are you afraid of extreme weather and that it will increase?
 - d. What is affecting you the most: flooding/drought/heavy rainfall/storm?
 - e. Has your life become worse or better the past 5-10 years?
 - i. How has your livelihood changed over time?
 - ii. Do you and your family rely on different livelihoods?
3. How did you cope with events of flooding, drought, heavy rainfall, storm?
 - a. What support have you gotten during these times crises?
 - i. Have you developed own methods to overcome this type of weather?
 - ii. Have your methods changed over time due to weather conditions?
 - iii. How is the willingness to help each other in a situation of crisis?
 - b. Do you have the tools to manage extreme weather situations?
4. Who do you consider most vulnerable in these weather events? Think back at last time, who got most affected and had most difficulties to manage it?
 - a. Different livelihood sectors/gender/age/ethnicity

Appendix 2: List of interviews/exercises

	Time	Method	Location	Description
1	08-03-18	Semi-structured interview	In commune 1 in Thai Binh province, Vietnam	Key informant, chair-person of commune 1.
2	08-03-18	Semi-structured interview	In commune 2 in Thai Binh province, Vietnam	Key informant, chair-person of commune 2.
3	14-03-18	Participation in a Workshop about the CLEAR-framework	Hanoi, Vietnam	An exercise in understanding climate-related interventions in Vietnam organised by UNWFP with participants from Vietnamese and international NGOs and research centres.
4	15-03-18	Seasonal calendar	In commune 2 in Thai Binh province, Vietnam	5 female farmers. Mapping of weather patterns in the region, farming seasons and annual workload
5	15-03-18	Semi-structured interview	In commune 2 in Thai Binh province, Vietnam	Key informant, village leader of commune 2.
6	16-03-18	Focus group discussion	In commune 1 in Thai Binh province, Vietnam	7 male farmers. Identifying gendered rights and responsibilities, perceptions and responses to CC
7	17-03-18	Focus group discussion	In commune 1 in Thai Binh province, Vietnam	8 female farmers. Identifying gendered rights and responsibilities, perceptions and responses to CC
8	18-03-18	Focus group discussion	In commune 2 in Thai Binh province, Vietnam	7 female farmers. Identifying gendered rights and responsibilities, perceptions and responses to CC
9	18-03-18	Focus group discussion	In commune 2 in Thai Binh province, Vietnam	8 male farmers. Identifying gendered rights and responsibilities, perceptions and responses to CC
10	21-03-18	Semi-structured interview	Hanoi, Vietnam	Key informant from a Vietnamese NGO: working with rural sustainable livelihoods in North of Vietnam
11	03-04-18	Semi-structured interview	Video-call	Key informant from an international research centre

Appendix 3: National and Provincial Reports

Name	Period	Editor	Signed
National Strategy on Climate Change	2011-2020	Socialist Republic of Viet Nam	2011
Vietnam Sustainable Development Strategy	2011-2020	Socialist Republic of Viet Nam	2012
National Strategy on Gender Equality	2011-2020	Socialist Republic of Viet Nam	
The implementation of tasks of climate change in 2017 and the direction of tasks in 2018 in Thái Bình province	2017-2018	People's Committee Thái Bình province	2017