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Self-Organized Community Institutions: A Way to Strengthen Local Social Sustainability?

A Case Study of PGS Viêt Nam

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Abstract

Over the last years, the conventional agricultural system has increasingly been pointed out as one of the most problematic sector for the environment and the global public health. At the same time, the organic farming sector has more and more been presented as a sustainable answer to that problem. However, its implementation comes with numerous challenges, such as the procuration of a third-party based organic farming certification which is too costly for small-scale farmers. Participatory Guarantee System (PGS) can be a good alternative to that since they are local, voluntary-based processes of monitoring and evaluation of food production and therefore enable a low-priced transition towards organic farming. In this thesis, I will argue that such self-organized community systems can also enable the strengthening of social links within a community and participation in the public life. This research aims at analyzing the social impacts that PGSs have had on the development of organic farming and will take the Vietnamese PGSs as a focus. The findings show that participatory guarantee systems have had the following social impacts on the community they were implemented in; they enhanced participation in the community's life and build trustful relationship between the community's members, thus offering an efficient alternative where the Vietnamese organic farming regime has failed in its lack of involvement of the different actors within the safe food certification process and its lack of trust-building social relationships between them.

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Abbreviations

ADDA	Agricultural Development Denmark Asia
CPR	Common Pool Resources
FAO	Food and Agriculture Organization
IFOAM	International Federation of Organic Agriculture Movements
MARD	Ministry of Agriculture and Rural Development
MoIT	Ministry of Industry and Trade
NGO	Non-Governmental Organization
PGS	Participatory Guarantee System
PPD	Plant Protection Department
VND	Vietnamese Dong
WHO	World Health Organization

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Figure 1: PGS organic cooperative farmer in Trac Van.
Source: Rikolto, 2018

I. Introduction

1.1. Research Aim

Over the last decades, organic farming has been increasingly developing throughout the world (Willer & Yuseffi, 2001; Willer & Kilcher, 2011). However, its implementation comes with numerous challenges, such as the procuration of a third-party based organic farming certification which is too costly for small-scale farmers (Lundberg and Moberg: 2009). As a response to this problem, the NGO IFOAM coined the term of Participatory Guarantee System (PGS), referring to local, voluntary-based processes of monitoring and evaluation of food production (May: 2008). Such systems are not only beneficial in terms of enabling a low-priced transition towards organic farming but, as I will argue in this research, can also enable the strengthening of social links within a community and participation in the public life through the self-organized institutional structure of PGS. This research aims at analyzing the social impacts that PGSs have had on the development of organic farming and will take the Vietnamese PGSs as a focus. The main research question will therefore be the following: *What have been the social impacts of Participatory Guarantee System on the development of organic farming in Viêt Nam?* I will first provide an overview of the stakes surrounding agriculture and organic farming in Viêt Nam, which will allow me to have a better grasp of the context. In a second part, I will do a case study of the Vietnamese participatory guarantee systems in order to evaluate their social impacts in the communities they have been implemented in.

1.2. Problems Identification

1.2.1. Organic Farming & Participatory Guarantee System

Feeding the world population is a global political concern at the horizon 2050. Associated to other global issues such as climate change, (air, water and soil) pollution and overpopulation, the development of a sustainable agriculture model that will be able to address these challenges while feeding an estimated world population of 9 billion people has been a growing concern over the last decades (FAO: 2009). One of the many challenges that needs to be addressed is the fact that the agricultural sector is a large contributor of CO2 emissions and contributes between 10 and 12% of global greenhouse gas emissions (Fellmann et al: 2018). Conventional agriculture systems are based

on a high use of fossil fuel, water, and topsoil at unsustainable rates (Horrigan, Lawrence & Walker: 2002). This contributes to numerous forms of environmental degradation, including air and water pollution, soil depletion, diminishing biodiversity, and fish die-offs (Horrigan, Lawrence & Walker: 2002) Already in 1996, Altieri and Rosset stated that "*most scientists today would agree that conventional modern agriculture faces an environmental crisis. Land degradation, salinization, pesticide pollution of soil, water and food chains, depletion of ground water, genetic homogeneity and associated vulnerability, all raise serious questions regarding the sustainability of modern agriculture*." (1996: 165) According to them, the causes of the environmental crisis are rooted in a prevalent socioeconomic system which promotes monocultures and the use of high input technologies and agricultural practices that lead to natural resource degradation (1996). As a response to these unsustainable practices, organic agriculture has increasingly been presented as an alternative over the last fifteen years (Trydeman et al: 2006), (Muller: 2009), (FiBL/IFOAM: 2016). Amongst others, researchers have shown that applying organic principles had positive effects on soil fertility and diversity (Henneron et al: 2015), (Inclan et al: 2015) and on the mitigation of greenhouse gas emissions. (Skinner et al: 2019). Rising concerns over environmental degradation and food safety among consumers as well as among farmers worried about the effects of agrochemicals on their own health can explain why organic farming has significantly grown in popularity over the last decades (Lockeretz 2007).

According to the International Federation of Organic Agriculture Movements (IFOAM), organic agriculture relies on four main principles; health, ecology, fairness and care. It indicates that organic agriculture is defined by the fact that it first respects and enhances the health of people and of our environment (soil, plants, animals), that it works with ecological systems and cycles, that it is based on fair treatments and exchanges and finally that it insures the well-being of future generations and the environment (IFOAM n.d.: 2–3). This means in particular that many farm inputs such as synthetic pesticides and fertilizers, antibiotics, genetically modified organisms and growth hormones – which all can be harmful for the environment, the farmers and the consumers – are prohibited in order for the farm practices to be considered organic (Martin: 2009). In the last decade, organic agriculture has been defined as the fastest growing agriculture based industry in the world (OFA: 2011); indeed between 2001 and 2011 the total worldwide surface of organic agriculture has grown by 135% (Willer & Yuseffi, 2001; Willer & Kilcher, 2011). Even though this is a quite positive sign concerning the global shift from conventional to organic agriculture, numerous challenges remain. Among those challenges, the procurement of an organic farming certification is important to take into consideration especially when it comes to small-scale farmers. Organic farming certification is an

important aspect of organic farming since it builds a trustful relationship between the consumers and the farmers by giving the consumers the guarantee that the products they are buying are farmed in an environmental-friendly way. This certification is in most cases granted by a third-party certification which is very costly (Lundberg and Moberg: 2009), requires a lot of paperwork and bureaucracy (Nelson et al.: 2015) and can therefore be a barrier for small-scale farmers wanting to access organic markets.

As a response to this problem, the NGO IFOAM organized an Alternative Certification Workshop in Torres, Brazil in 2004 (May: 2008). They invited over 40 participants each representing initiatives of alternative certification processes from 20 different countries – some of them were already existing since the 1970s (May: 2008). During this workshop, they came up with the term Participatory Guarantee System, which refers to voluntary-based certification processes implemented within a local community. These voluntary-based certification processes usually consist of a group of different stakeholders amongst the agricultural value chain (producers, consumers, retailers, local authorities and/or non-governmental organizations) who join together, reflect upon what could be the most suitable certification system in their situation, agree on the different steps and rules to be followed and implement different forms of quality insurance systems (Home et al.: 2017). The particularity of this system is that it is completely adaptable to the local situation and its stakeholder. It however relies on six immutable principles; shared vision, trust, horizontality, transparency, participation and learning processes (May: 2008). Not only do PGSs create an enabling environment for farmers to transition towards organic farming – or simply to get recognized as an organic farmer – but they also facilitate social links within a community by giving an opportunity to its members to exchange ideas and spend time together (Home et al: 2017). Participatory guarantee systems have a strong emphasis on democratic values such as participation and horizontality – they enable the creation and development of collective infrastructures and enhance farmers' opportunities (Home et al: 2017). They exist all over the world, with a higher concentration in lower- and middle- income countries (see figure 2). According to IFOAM, an estimated amount of 241 PGS initiatives are currently existing throughout the world, of which 115 are under development and 127 are fully operational (IFOAM: 2018). These initiatives involve at least 311'449 farmers and at least 76'750 producers certified (IFOAM: 2018). PGS initiatives exist in 66 countries; among them 43 countries have fully operational PGS initiatives in place (IFOAM: 2018).

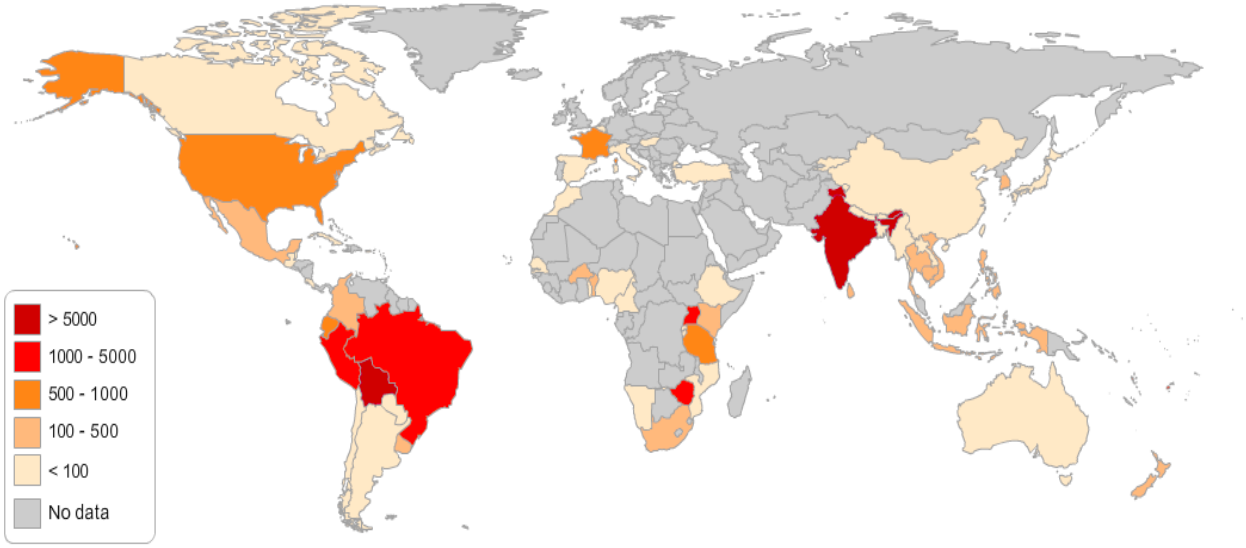

Figure 2: Numbers of producers certified through PGS in the World.

Source: IFOAM: 2018.

1.2.2. The Case of Viêt Nam

In regard to organic farming, and to agriculture in a broader sense, Viêt Nam is a very interesting country to study considering the fact that it went from one of the poorest countries on earth in the late 1970s to one of the fastest growing economies since it started its market liberalization in the 1980s (McCaign & Pavcnik: 2013). This meant for Viêt Nam to undergo drastic structural changes. While it was left devastated after thirty years of war, its economy was mostly relying on agriculture and famines occurred on a regular basis (McCaign & Pavcnik: 2013). In 1986 when the government started to liberalize its economy and turn towards the Green Revolution principles, Viêt Nam experienced an extensive growth of its agricultural production (Pressila: 2018). The implementation of the Green Revolution principles in particular, with their high use of agrochemicals and high-yielding varieties of rice, (Farmer: 1986) enabled Viêt Nam to become one of the main rice exporters in Asia in the 1990s (Tran & Kajisa: 2006). However, a combination of factors, such as rapid growth of food production, a lack of knowledge on agrochemicals' safety hazards and high imports of illegal chemical pesticides and fertilizers, led to an alarming number of food-borne disease and outbreaks in the country (Presilla: 2018). Thus, Viêt Nam's structural change has resulted, amongst others, in a shift in worrying over food scarcity and famine to worrying over food safety.

In 2016, only 0,5% of Viêt Nam's cultivated land were farmed according organic principles (FiBL: 2016). However, consumers' awareness on the urgent need to switch from conventional to organic products consumption is rising over the country and the body of literature concerning this topic is growing as well (Kurfürst: 2017, Dung: 2014, My et al.: 2017, Van Hoi et al.: 2013). Kurfürst (2017) conducted a research on Hanoians' concerns for food safety and on the trust-relationship between consumers and retailers. She based her research on 44 interviews with urban consumers, urban gardeners and market vendors. She presents three strategies that the interviewees use to ensure quality in the products they consume which are going to the local market, receiving greens from relatives or friends living in the countryside and cultivating herbs or greens in their home or nearby. This study shows that Vietnamese people are getting more and more concerned about food safety and are adapting their ways of living and consuming according to that. A similar study was conducted by Khai in Can Tho city in the heart of the Mekong Delta, in order to understand consumers preferences concerning organic vegetables (Khai: 2015). In total, the survey was conducted in 18 households entailing a total of 360 respondents. The results showed that a majority of the participants were willing to consume organic products with higher prices than the conventional products on the market and that factors such as higher incomes, college education or being a housewife were likely to increase this preference (Khai: 2015). A third study conducted by My et al. (2017) on consumers' familiarity with food quality certifications in urban Vietnam shows interesting results concerning the knowledge that people have on certifications related to food safety. Based on a 500 participants survey recruited at the entrance of local markets and supermarkets in Can Tho and Ho Chi Minh city, the study shows that the participants' familiarity with food quality certifications was relatively low. However younger participants or participants with a higher level of education or income were more likely to be familiar with food safety certifications.

There is thus undeniably a growing demand for organic and safe vegetables in urban areas in Vietnam but several challenges have to be stressed. First, there is an uneven distribution of knowledge when it comes to health and environmental risks related to conventional agriculture and consumption of conventional agriculture products, as well as on the meaning of food quality certifications, depending on socio-economic and educational backgrounds (Khai: 2015, My et al.: 2017). Second, there is a lack of trust in the national food regulation system pushing the consumers to base their shopping habits on trust-relationships with their local vendors. As Kurfürst explains; "*Since the national food regulation is not trusted, they adopt trust-based strategies, such as maintaining the daily practice of buying from local vendors*." (2017: 13) Third and last, organic agriculture and certification being quite costly in Vietnam and mostly aimed at export, there is a lack of affordable organic or safe

food products for lower and middle-class Vietnamese people (Khai: 2015).

Participatory Guarantee Systems can be a way for consumers to learn more about health-related impacts of synthetic fertilizers and pesticides, build trust towards an organic label and be able to afford organic products. to these challenges. This can explain why PGSs have been increasingly emerging in the country in the last 10 years. The first PGS has been implemented in Viêt Nam in 2008 with the help of the international non-governmental organization ADDA (Agricultural Development Denmark Asia) in the Northern region around Hanoi (Tuyet & Whitney: 2017). PGS producers and production areas have grown quickly through time; in 2012, there were 68 members and 4,86 organically cultivated hectares, in 2015 their number went up to 101 members and 11,38 hectares (Tuyet & Whitney: 2017). There is currently five PGSs implemented in 6 provinces and 9 districts, which involve 725 farmers (Rikolto: 2018b). According to Braber (2009), in Vietnam participatory guarantee systems are usually composed of four different groups; the farmers, the production groups where a small group of farmers get together to make production plans and conduct crosschecks, the inter-groups a group comprising production group leaders, consumers, retailers and local authorities who decide on issuing PGS certificates and conduct periodical inspections and finally a coordination board, a group of representatives of producers, consumers, retailers and local authorities, who decide if a certificate should be issued or not.

1.2.3. A Self-Organized Community Institution

> "*What one can observe in the world is that neither the state nor the market is uniformly successful in enabling individuals to sustain long-term, productive use of natural resource systems. Further, communities have relied on institutions resembling neither the state nor the market to govern some resource systems with reasonable degree of success over long periods of time*."
> (Ostrom 2015: 1)

As mentioned above, Participatory Guarantee Systems are autonomous systems of food quality certification based on voluntary work, in which the members of a community participate together and where the participation is carried out within a set of rules they commonly agreed upon. In that sense, PGSs are an institution, as defined by Ostrom as a set of "*formal and informal rules that are, in fact, followed by most affected individuals. Such rules structure incentives in human exchange, whether*

political, social or economic. Incentives include the rewards and punishments that are perceived by individuals to be related to their actions and those of others" (2009: 3). In other words, institutions are defined as a set of rules that create a framework that restrain its members' actions while at the same time giving them the resources that can allow them to make changes in society (DiMaggio and Powell, 1991). What differentiate institutions structures from one another is the way the rules are agreed upon and implemented, and by whom.

In her book "*Governing the Commons; The Evolution of Institutions for Collective Action"* (2015), Ostrom sets a framework to define and analyze a particular type of institutions that neither depend on the state nor the private sector; self-organized institutions. This refers to institutions who, such as PGSs, build their structures and monitoring mechanisms without relying directly on higher authorities such as the state or the private sector. Self-organized institutions enable the creation of more liberalized structures of actions for the people involved in them. Members of such institutions have the rights to decide for themselves the rules they want to follow and can apply what they think is the best suited for their situation. unlike when an external actor (e.g. a very centralized government) is responsible of the decision-making process. It also means that they have the burden of addressing issues such as free riding, solving commitment problems, arranging for the supply of new institutions and monitoring individual compliance with the set of rules (Ostrom: 2015).

1.2.4. Social Sustainability through the prism of Community Resilience

Although those organizational problems need to be taken into account, other very positive aspects can be drawn from self-organized institutions. One of them, as it will be argued throughout this thesis, is that it fosters social sustainability. Social sustainability is a complex concept that has received more and more academic interest within the last decade (Vallance, Perkins & Dixon: 2011), Dempsey et al.: 2011) (Magis: 2010). In 1987, the publication of "*Our Common Future*", more commonly known as the Brundtland Report, created a change in the way the international community understood and talked about development and the environment. This document, which was the result of an international cooperation that lasted for about 900days on research and analysis regarding the stakes surrounding development for the coming years, coined the term of "Sustainable Development" defined as "*(a) development that meets the needs of the present without compromising the ability of future generations to meet their own needs*" (World Commission on Environment and Development: 1987). This concept has since then received extensive interest either from governmental entities or

from academia. However, over the last thirty years, sustainable development, and sustainability more generally, were more understood through an environmental perspective than an economic or social ones – the so called "one pillar" (Littig & Griessler: 2005). However, this approach to sustainable development quickly evolved towards a "three pillars" approach, involving economic and social sustainability, based on the conclusion that human needs cannot only be met by simply respecting the fragile balance of our ecosystem without taking into account the social and economic needs and resources that need to be preserved for future generations (Littig & Griessler).

How does one define social sustainability? Vallance, Perkins & Dixon (2011) created a theoretical framework dividing social sustainability within three types, deeply intertwined with each other. The first type is the development sustainability, which refers to the necessity for people to address their basic needs such as getting out of poverty and unequal system of resources distribution. The second type is the bridge sustainability and concerns the changes in behavior needed so as to achieve bio-physical environmental goals. Finally, the third type is the maintenance sustainability which deals with the preservation of socio-cultural patterns and practices in the context of social and economic changes (Vallance, Perkins & Dixon: 2011). Within these three types of social sustainability, we can see different ways and approaches to reach towards social equity and a sustainable community. Indeed, all of them strive for abolishing inequalities within the community (whether in terms of access to resources, in equal share of responsibilities to protect these resources, or in the choice of the socio-cultural practices that will be preserved) in order for the community to be sustainable (by preserving the social balance, the resources and the distinctive cultural aspects of this community).

Social equity and the sustainability of a community are what Dempsey et al. (2011) define as the two broad underlying concepts to social sustainability; while one focuses on a fair distribution of resources, the second is concerned with the ability of a community to sustain and reproduce itself. According to Magis (2010), community resilience can be an indicator of social sustainability within a particular group. She defines community resilience as "*the existence, development, and engagement of community resources by community members to thrive in an environment characterized by change, uncertainty, unpredictability, and surprise. Members of resilient communities intentionally develop personal and collective capacity that they engage to respond to and influence change, to sustain and renew the community, and to develop new trajectories for the communities' future*." (Magis 2010: 402). In that sense, social sustainability can be understood as a complex concept intertwined with different approaches and answering to different needs. It however relies on two main dimensions; social justice and sustainability of a community. We can use community resilience as an indicator of

the level of social sustainability within a group; if resources within the community exist, are being developed and engaged by the group, for the group, and in order to be able to survive changes, whether predictable or unpredictable ones.

1.3. Research Questions

This thesis will look at how a self-organized institution such as PGS contributed to both organic farming development and social sustainability by looking at the state and limitations of organic farming in Viêt Nam within the last 20 years and how PGS has offered alternative ways to these limitations.

Therefore, and as mentioned above, the main research question of my thesis will be:

RQ1: *What have been the social impacts of Participatory Guarantee System on the development of organic farming in Viêt Nam?*

I here refer to social impacts as the effect that can be observed on the social relationships within a community. In order to answer this question, the following research questions will be examined and answered to;

RQ2: *What can the last forty years tell us about the challenges and stakes surrounding the organic farming's sector?*

RQ3: *What social impacts have Participatory Guaranty System had on the communities it is implemented in?*

1.4. Literature Review

As of today, there is still a lack of scientific literature dealing with Participatory Guarantee Systems in Viêt Nam and their impacts on their communities. Two case studies have been conducted in order to evaluate the level of satisfaction and the workings of PGS Viêt Nam. Whitney et al. (2014) conducted a research on the level of satisfaction of farmers involved in the Organic PGS in Soc Son,

Hanoi. 30 farmers from six different groups were interviewed on topics related to the operation and management of the individual groups. The research was based on a holistic understanding of organic agriculture, entailing the four different principles described by IFOAM above – health, ecology, fairness, care. The results showed that a majority of the producers are satisfied with the principles (Health 74%, Ecology 79%, Fairness 68% and Care 71%). However, a majority of them also did stress that improvement was needed, particularly in the functioning of the system (63%) and the crop plan (57%). Another study conducted by Whitney et al. (2014) on how the collective management and decision-making in land use planning was working within the PGS in Soc Son, Hanoi. Six managers and 24 farmers were interviewed for the purpose of this research which indicated that collective groups are less expensive to manage for the farmers by area, the compost made of better quality and an overall lower amount of time required for managing activities than individual plot management. If those results are positive and encouraging in keeping up with the development of PGS in Vietnam, some important challenges remain. According to the Rikolto PGS Report (2018), there is a low consumers' trust regarding the certification who isn't well known yet, a low consumers' involvement because of a low societal awareness on the need of organic agriculture, a low financial capacity since PGS isn't recognized by the government and thus doesn't receive help from development programs, a general lack of education in reading, writing and calculating, a poor documentation and record-keeping skills, and an overall lack of time to fill the paperwork.

1.5. Relevance for Political Science & Development Studies

"*Since its origins in Ancient Greece, the core questions of the (political science) discipline have been about the common good realized through political community, the legitimacy of political authority, the rights and freedoms of those living under such authority and the nature and binding force of political obligations*" (Della Porta & Keating 2008: 41)

Participatory Guarantee Systems can be understood at the crossroad of political science and development studies. First, their structure is inherently political. PGSs clearly define a particular community, the set of rules this particular community will follow, how they will elect the people that will represent them, and how these representatives will monitor individuals' compliance and implement regulation mechanisms. In other words, it is a process that structures power dynamics and resources use within a particular group of people. Second, it allows the development of several

community's resources; not only economic, such as creating higher incomes for the farmers, but also social by enabling and strengthening social links, and environmental by implementing more natural and environmental-friendly ways to manage and control pest-related and fertilization problems within food production. This study is particularly relevant to both of these disciplines because there is very little research and case studies that have been conducted to analyze the social impacts of the Vietnamese PGSs on their communities and thus can create a knowledge basis, open the way for other studies to be made on the topic, and more generally add knowledge to self-organized institutions theories.

Figure 3: Thanh Xuan (Hanoi) PGS organic cooperative farmers working.
Source: Rikolto, 2018

II. Theoretical Framework & Methodology

2.1. Theoretical Framework

Self-Organized Institutions

This study focuses on two main theories; self-organized institutions and social sustainability. As mentioned above, we here understand institutions as "*formal and informal rules that are, in fact, followed by most affected individuals. Such rules structure incentives in human exchange, whether political, social or economic. Incentives include the rewards and punishments that are perceived by individuals to be related to their actions and those of others*" (Ostrom 2009: 3). Thus, institutions are defined as a framework for actions for the people involved in them. Depending on their structures, the way the rules are agreed upon and implemented, and by whom, changes. In her book "*Governing the Commons; The Evolution of Institutions for Collective Action"* (2015), Ostrom uses two theories describing institutions structures (the theory of the state and the theory of the firm) in order to explain a third one (self-organized institutions) which will be her book's guiding theory. According to her, institutions are thus divided into three categories; the ones regulated by the state (based upon "*the theory of the state*" where the ruler gains monopoly of the force and use coercion as the fundamental mechanism to organize a diversity of human activities that will produce collective benefits), the ones regulated by the private sector (based upon "*the theory of the firm*" where an entrepreneur is alone in running and monitoring her/his business, and is highly motivated to make it as efficient as possible since s/he will be the one making most of the profit) and the self-organized ones, neither depending directly on the state nor the private sector. In that sense, Participatory Guarantee Systems are self-organized institutions since they aren't directly relying on higher authorities such as the state or the private sector, in order to decide on a set of formal or informal rules followed by the community.

In her book "*Governing the Commons; The Evolution of Institutions for Collective Action"* Ostrom studies different self-organized institutions throughout the world in order to understand how this particular structure can help individuals solve collective action problems related to the use and preservation of their common resources (2015). After having analyzed their strengths and weaknesses, she lays out the following eight design principles that she considers as essential elements for these institutions to sustain the resources' use: clearly defined boundaries, congruence between appropriation and provision rules and local conditions, collective choice arrangements, monitoring,

graduated sanctions, conflict resolution mechanisms, minimal recognition of rights to organize and nested enterprises. These principles will be used in this research to analyze the Vietnamese PGSs.

According to Ostrom such self-organized institutions are usually the best fitted for small-scale resources management systems since people can organize themselves better when they know their own situation, their environment, their neighbors, their communities, etc. than when an external planner comes and plans for them. She uses different examples of common pool resources across the world to support her claim. One of them is the inshore fisheries in Nova Scotia and Newfoundland, on the Eastern coast of Canada (2015: 173-178). This part of Canada, particularly around Nova Scotia, is home to fishing villages where fishing has been the major economic activity for generations, and where members of the community have established their own rules to organize a control system on who is allowed to enter the fishery and how local fishing grounds are divided, according to which microenvironments are the best suited for which technologies and the seasons of the year. In the 1970s, the Canadian government started to increase its control over open-access deep-sea fisheries, e.g. by limiting the number of fishing licenses available, in order to reduce the risk of overfishing. These policies have had counterproductive consequences such as fishermen rushing to obtain licenses for technologies they were not using in case they might need them in the future, drastically increasing the number of fishers registered in the years following the change in legislation. Ostrom reports that scholars have documented similar governmental failures around the world, notably in Nepal where the Government tried to nationalize forests in order to protect and manage them, but the nationalization led to a disruption in previously established communal control over local forests, with Nepalese villagers free riding and overexploiting the forests resources because they didn't trust the government capacity to protect and equally distribute them. Years later, the government reversed its policy by giving back the control to local communities which led to positive results regrading forest resources management (Ostrom: 2015).

Thus, leaving a certain control to local communities over their own resources can be crucial for a good resource management. Not only does it allow a better management of the said resources, but actively involving citizens within public life also enhances their attachment towards the governing institutions and their feeling of belonging to their community (Ostrom: 2000). The idea that collective action problems can only be solved by externally implemented public policies, thus displacing decision making from the public realm towards a more strictly governmental one, creates the idea that only short term selfish actions are expected from the 'common people' and that citizens do not have the knowledge or skills needed to design well-functioning policies or institutions to overcome collective

action problems (Ostrom: 2000). Ostrom argues that on the long-term such structures end up crowding out norms of trust and reciprocity as well as the knowledge of local circumstances and the experimentation needed to design effective institutions (2000). This means that since individuals are no longer actively involved in political processes, it is acceptable for them to act in an egoistic way and wait for external incentives (such as sanctions from the state) to change their behaviors. It also negates democratic ideas of participation by hindering citizens' ability to experiment with diverse ways of coping with collective problems and to learn from this experimentation over time.

> "*The message basically says that there is one best way of solving all collective-action problems and it is knowable by the experts. Citizens are viewed as having little to contribute to the design of public policies*." (Ostrom 2000: 13)

Community Resilience as an Indicator of Social Sustainability

Self-organized institutions can thus be crucial for both the good management of local resources and to enhance feelings of belonging to the community. But how does one define community? If it is a word that we often encounter in social sciences, it remains a concept whose definition is quite unclear. Indeed, as explained by Tony Blackshaw (2009), community can be understood in very different ways – as a theory, a method, a place, an identity belonging, an ideology or a political practice. However, the concept of community generally refers to a group of people sharing an aspect of their life; a place, an interest, a common history, values, ideas (Blackshaw: 2009). It is important to stress that communities do not always entail people living in the same area; we can for example refer to "digital communities" when talking about people across the world meeting online, sharing common interests (Blackshaw: 2009). We can also refer to "geographic community" to talk about people living in the same area without sharing any other aspects of their life with their neighbors (Blackshaw: 2009). Community is thus a very versatile concept and must be used and understood carefully, by making sure to understand which specific context it refers to. In this research, we will focus on the community built through Participatory Guarantee System, which generates social, political and economic links between its members, being the producers, the consumers, the retailers, the local authorities and the NGO workers.

Different aspects of community life are important to develop in order for it to become sustainable, such as engaging community's members within its political life as well as enhancing social

links within its members. Pierson (2002) argues that *"social networks are 'social support systems', indicating that the people we know and feel we can depend on can influence other aspects of life such as feelings of safety and sense of well-being".* Social links within a community thus enhances two major aspects of living together; the feeling of trust and the feeling of belonging. Social interactions and networks within a community's members are part of the criteria that Dempsey et al. (2011) use to define a community as being sustainable, alongside with participation in collective groups, community stability, pride and sense of place and safety and security. All these principles revolve around the idea that community's members must share feelings of trust and belonging while at the same time working together to achieve a certain stability. In order for a community to follow these principles, turning towards Magis' definition of community resilience and its main dimensions can be helpful. Magis defines community resilience as "*the existence, development, and engagement of community resources by community members to thrive in an environment characterized by change, uncertainty, unpredictability, and surprise. Members of resilient communities intentionally develop personal and collective capacity that they engage to respond to and influence change, to sustain and renew the community, and to develop new trajectories for the communities' future*." (Magis 2010: 402) In order to evaluate community resilience, Magis established eight main dimensions to focus on; the existence of community resources, the development and the engagement of these resources, the presence of active agents, the enablement of collective and of strategic action, in order to reach equity & to be able to measure the impacts. (Magis: 2010). In other words, community resilience is defined by the fact that the community's resources exist, are being used, developed and preserved by the community's members, for the community's members sake in a consensual and participative way. In this research, we will use this definition and the main dimensions as indicators of social sustainability within the community created around the Participatory Guarantee Systems in northern Viêt Nam.

It is, however, important to stress that resilience theory, and therefore the broader concept of resilience, is a quite controversial concept within the social sciences. According to Olsson et al., (2015) resilience theory first emerged in the natural sciences and thus holds ontological and epistemological aspects that are hard to apply in social sciences. For example, it holds an ontological presupposition which sees reality as a system with equilibria, feedbacks & thresholds (Olsson et al.: 2015). This first point is problematic in the sense that systems and their boundaries are problematic to define in social sciences, since social relations are interconnected with actors, institutions and structures beyond the predefined system (Olsson et al.: 2015). A second criticism is the principle of self-organization that is inherent to resilience theory and expresses the idea that some phenomenon happened while being detached from agency, conflict and power (Olsson et al.: 2015). This principle is tricky to apply in

social sciences where researchers have endeavored to present the interconnectedness and complexity of power struggles within social and political structures. A third criticism is that resilience theory is functionalist; it implies that shared norms and values are the foundation for a stable harmonious society in which social change is slow and orderly (Olsson et al.: 2015).

I do, however, think that Magis' definition of community resilience can still be helpful as an indicator of social sustainability within the community that PGS has built in Vietnam, if we acknowledge that the system that we will here study (PGS community) is dependent on a multitude of different external actors, but that the focus of this research is to see how PGS is affecting the community's members' relationships and habits towards each-others and thus further research needs to be done on the topic of interconnectedness with other external actors. This will be the same for the self-organization of a community and its institutions; though we will analyze and deconstruct the different power relationships inherent to Participatory Guarantee systems, this won't be the main focus of the thesis and further research dedicated to this topic will need to be done. Finally, regarding the criticisms made towards transformations, Magis acknowledges that in socio-ecological systems disturbances happen which can trigger adaptation or change, and that the responses towards these disturbances will vary regarding the situation. This creates a shift from controlling change in a community that we presume to be stable to enable the capacity of dynamic communities to cope with, adapt to and shape change (Berkes et al. 2003; Smit and Wandel 2006) and thus further stresses that change is a constant in social life and communities.

> *"Hence, it is resilience, not community stability, that is required for communities to thrive. (…) it highlights the need for communities to develop the capacity to respond to, create, survive in and thrive in change*." (Magis 2010: 404)

2.2. Methodology

Ontology and Epistemology

Throughout my research, I will adopt a constructivist ontological approach. Ontology refers to the way we consider the world when we study it and usually answers to the question "what is the object that we are studying?" (Della Porta & Keating 2008: 21). Ontology is often divided into two different

positions; positivism and (social) constructivism (Bryman: 2001). Whereas positivist approach understands social phenomena as existing independently from the people taking part in them, constructivism sees social phenomena as being constantly influenced and changed through social interaction (Bryman: 2001). I have chosen the second approach because in the specific case of Participatory Guarantee System and the general cases of (self-organized) institutional processes, the social phenomena (the creation of institutions and the innovations within them) are being directly created and changed through the social interactions inherent to them.

Concerning the epistemology of my research, I will adopt a critical realist approach. Epistemology answers to the question "how do we know things?" (Della Porta & Keating: 2008). The epistemological approach that a researcher will take will influence the way s/he will look at the "nature, sources and limits of the knowledge" (Klein: 2005 in Della Porter & Keating 2008: 22) s/he's studying. A critical realist approach considers that there is such a thing as a reality of the world and its existence can be studied, while acknowledging that many of its aspects might not be clear for the observers or can be influenced by the people shaping knowledge:

"*Critical realist epistemology holds that there is a real material world but that our knowledge of it is often socially conditioned and subject to challenge and reinterpretation. There are mechanisms governing human affairs that may be unobserved and unobservable, but these are not therefore to be discounted*." (Della Porta & Keating 2008: 24)

This means that I will deconstruct the different research objects I'm studying in order to better grasp the issue and its multidimensional causes. I will do so through three different lenses; the observable phenomena (e.g. the low amount of pesticide residues found in food products), what causes these phenomena (e.g. the common- monitoring of the fields where organic principles are being applied) and finally the unobservable processes that produce these causes (e.g. the shared trust between the different people monitoring the field). Studying such observable phenomenon and their causes will allow to analyze the unobservable social structures that produce them and explain their importance regarding local community development and local resilience.

2.3. Methods

The overall background of the study is a need to evaluate and analyze the impacts of PGS on the communities it is implemented in in order to have a better understanding of its workings and results. The thesis will be built on qualitative research structured in two different parts. The first part will focus on analyzing the organic farming regime in Viêt Nam in order to get a better grasp of the historical and institutional context. The second part will focus on a case study of PGS in Viêt Nam built through interviews, observations and readings. The analysis will be done with an inductive approach (Della Porta & Keating: 2008), using the readings, observations and interviews from the case study to understand the impacts that PGS has had during the last years on the local social sustainability. The theoretical framework will focus on self-organized institutions and social sustainability theories.

Part 1: Analyzing organic farming in Viêt Nam

In the first part of my research I will take a close look at Viêt Nam's organic agriculture regime and its institutional limitations by using a systemic review of secondary data. I will look into a wide range of topics of research conducted in Viêt Nam: the Vietnamese agriculture regime, organic agriculture in Viêt Nam, PGSs with a focus on their relation with state intervention, etc. I will look into English, French and German publications. However, the first limitation of my thesis is that I don't speak Vietnamese and therefore won't be able to have access to governmental decrees and publications published in Vietnamese. I will use a historical perspective and institutional analysis because the impacts of Participatory Guarantee Systems on local communities and more generally the stakes surrounding organic agriculture in Viêt Nam cannot be addressed without encompassing the historical path of agriculture-related issues in the country and its institutional environment. This historical and institutional analysis will serve as an introductory background for the case study.

Phase 2: Case study of PGS in Viêt Nam

In the second part of my research, I will focus on the PGS in Vietnam, composed of 10 intergroups organized in 5 PGSs located in 6 provinces: Hanoi, Hoa Binh, Phu Tho, Ha Nam, Quang Nam, and Ben Tre (Rikolto 2018: 2). In this part, I will use primary and secondary data; as primary data, I will use the interviews I have conducted over the summer 2018 with key informants who provided me with information I could not obtain otherwise. I conducted and transcribed eight semi-structured interviews with representatives of NGOs, representatives of the private sector, representative of farmers' unions and researchers. I will also use observations' notes that I have taken

when I visited a PGS-certified farm and saw the farmers selling their vegetables to customers. I also use secondary data for the case study and its analysis. As secondary data, I will use NGOs report and academic articles on the working and development of PGS in Viêt Nam and its diverse impacts on local communities and local resilience. The people I've interviewed for my fieldwork are all very familiar with PGS and have been so for a long time; amongst the interviewees there is the head of PGS Viêt Nam, two representatives of PGS retailers (Bac Tom & Tam Dat), a representative of ADDA (the NGO that helped implement the first PGS in Viêt Nam), a representative of Rikolto (an NGO that provides PGS trainings for the farmers) a former worker of Rikolto and two researchers on PGS. Therefore, they all had a close relationship with PGSs and were all familiar with the meaning of the terms used while conducting the interviews. I chose to focus on this particular target group in order to get a first grasp of the issue from their perspective as researchers, activists, unionists and retailers. Further research on this topic needs to be done from the farmers perspective.

2.4. Limitation

As mentioned earlier, the most important limitation of this thesis is the fact that I don't speak Vietnamese and thus can't have access to a lot of documents – such as government decrees and publications – that only exist in Vietnamese. It also means that there is a possibility of that there has been misunderstanding during the interviews since they were in English and that both the interviewer and the interviewees don't have English as a mother tongue.

Figure 4: '*To the new horizon*' – Propaganda poster 1975. After the American war and the North/South reunification, the Vietnamese government implemented an agricultural program based on collectivization to improve food security in the country (Wertheim Heck 2015: 3)

III. Viêt Nam's Organic Farming Regime

3.1. Background

Viêt Nam is a South-Eastern Asian country situated in the Indochina peninsula. It is a tropical country, with a tropical and humid climate prone to hurricanes and flooding in delta areas with cooler northern areas and highlands (Johnson et al.: 2008). Its climate and geography enable the production of a particularly rich offer of vegetables, fruits, herbs, etc. With 93,7 million inhabitants over a 331 km^2-large territory, Viêt Nam belongs to the most densely populated countries on earth, approximating 331 people per square kilometers (General Statistics Office of Viêt Nam: 2019). Its history is marked by a succession of conflicts over the political means over the region. After almost a century of French colonization, Viêt Nam started an independence war in 1946. The war ended with the Geneva Accords of 1954, enacting Viêt Nam's independence and dividing the country into two parts; the Communist North and the Capitalist South (Luguern: 1997). A year after the partition, the United States of America, fearing a global spread of communism, started an undeclared war on Viêt Nam that lasted until 1975, when the Southern Liberal Government fell and the country reunited (Luguern: 1997). Eleven years after the country reunification, Viêt Nam started the *Đổi Mới* (renovation), a shift from a centrally-planned economy towards a market-oriented economy, implementing free-market reforms to encourage private ownership of farms and businesses, deregulation and foreign investment (Johnson et al.: 2008). In the last forty years, Modern Viêt Nam has become one of the fastest-growing economies in the world with an average GDP growth-rate of 6,28% from 2000 to 2018 (Trading Economics: 2019).

This rapid modernization also translated into a shift in concerns relating to food; while after the reunification Viêt Nam suffered from recurring famines over a decade (Pressila: 2018), the country has experienced a spectacular growth in agricultural production since the mid 1980s (see figure). However, the economic growth and development have brought a lot of challenges with them such as dangerous agrochemicals' overuse in food production and general use of toxic products in the industries that heavily increased environmental pollution in the whole country (Pham, Dang & Nguyen: 1995), (Berg et al: 2007), (Tuan, Nam & Trung: 2017). We thus observe a shift from a lack of food to a lack of safe food and rising concerns over the urgent need to switch towards more environmental- and health-friendly model of agricultural production. Considering Viêt Nam's relationship towards agriculture, what can the last forty years tell us about the challenges and stakes

surrounding the organic farming's sector? This chapter will retrace Viêt Nam's transformation of its agricultural sector and analyze its institutional context in relation to food safety regulation.

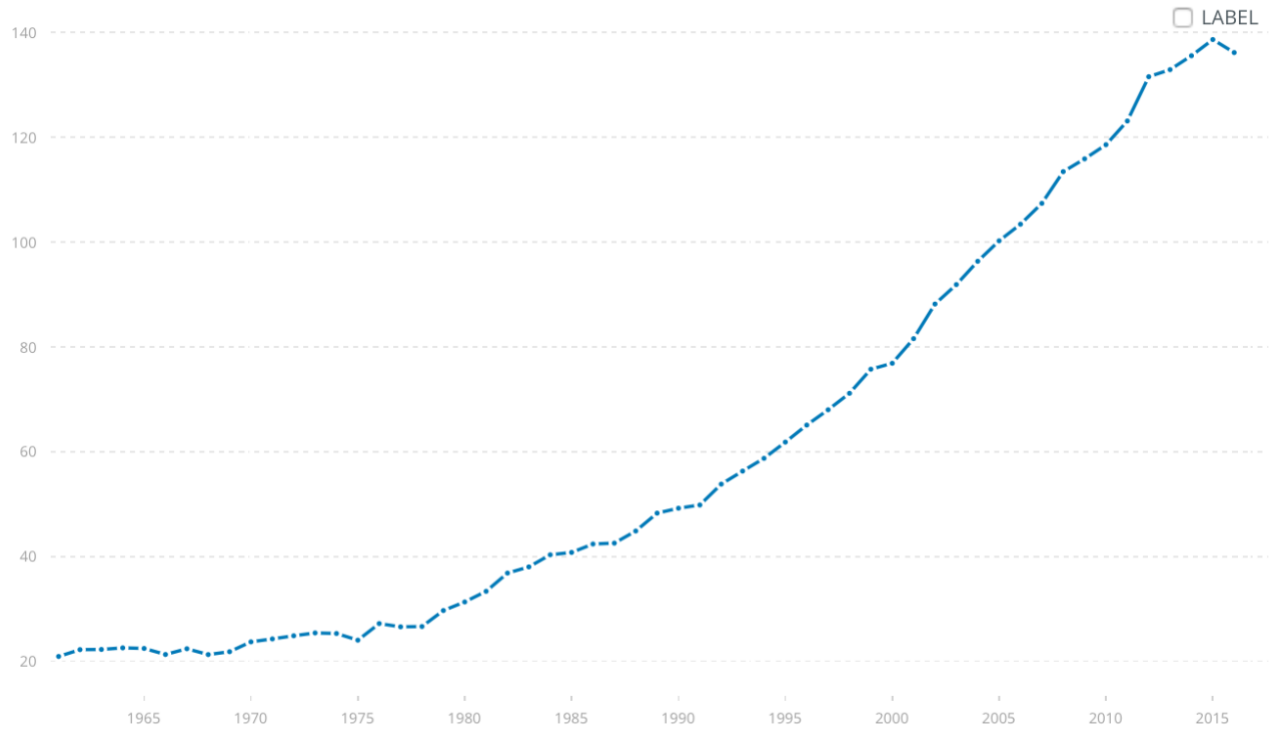

Figure 5: Viêt Nam's food production index 1961-2016.
Source: FAO, cited in the Worldbank: n.D.b

3.2. From Worry over Food Scarcity to Worry over Food Safety

Thirty years of war against France and then later the United States left Viêt Nam devastated and as one of the poorest countries in the world in the late 1970s, whose economy relied mostly on the agricultural sector and where famines occurred regularly (McCaign & Pavcnik: 2013). However, within the last forty years Viêt Nam has become one of the fastest growing economies in the world and an important food exporting country (McCaign & Pavcnik: 2013). Indeed, since Viêt Nam's shift from a planned economy towards a market economy – commonly referred to as the *Đổi Mới* (renovation) – the government has implemented a succession of reforms within the agricultural and private sector and facilitated its integration within international organizations and the global market which increased productivity (McCaign & Pavcnik: 2013). Thus, in a very short period of time, the Vietnamese society has faced important structural changes which in the agricultural sector translated

into shifting from concerns over food security and famine towards extensive amount of food produced with high use of agrochemicals. The first part of this chapter will retrace Viêt Nam's transformation of its agricultural sector, the shift toward a more modernized and liberal market structure and the growing concerns over food safety that emerged in the last fifteen years.

3.2.1. Transformation of the Agricultural Sector

According to Pressila (2018), Viêt Nam has experienced three main transformations of its agricultural sector between 1975 and 1986. This first one, in 1975 was the reunification of the country. The Southern liberal part of the country, supported by the American government, had lost the war, which led the Northern socialist government to apply there an agricultural system based on a collectivization model already implemented in the North of the country (Pressila: 2018). This model was based on a top down approach which meant that the state was controlling and managing the entire process of agricultural production including land use decision (Pressila: 2018) and imports of agrochemicals (P. Van Hoi et al: 2013). The second transformation took place in 1981 when the government promulgated the contract 100 as a response to the economic crisis that happened in the previous year (Pressila: 2018). This new policy had a more flexible approach than the previous socialist model of collectivization of land; indeed, it allowed collectives to have contract with individuals to produce agricultural outputs and sell the surplus in the private market or state agencies (Pressila: 2018). Although this policy allowed a consistent improvement in food production, the system was not sustainable on the long term and the agricultural sector kept on stagnating because of a very centralized, top-down planning approach of land use adopted by the government (Pressila: 2018).

The third transformation happened in 1986 (Pressila: 2018). While the Vietnamese economy was still stagnating, a combined pressure of the people who benefitted from the liberal reforms of the early 1980s and who wanted more economic freedom, with southern liberals who wished to return to the pre-reunification system and pro-market reformists who pushed for the political collapse of hard reform socialism led the Vietnamese government to start reforming the country's economic system (Fforde & De Vylder: 1996). In 1986, during the 6th National Congress of the Communist Party of Vietnam, the Đổi Mới was launched (Fforde & De Vylder: 1996). Since the start of the shift towards a more liberalized market in the early 1980s, Viêt Nam heavily relied on the Green Revolution principles to modernize its agricultural sector (Presilla: 2018). This strategy accelerated during the Đổi Mới era which reforms further improved the efficiency of marketing sectors, strengthened individual

land use rights and farm management autonomy (Tran & Kajisa: 2006). The Green Revolution principles entailed amongst others adopting new technologies, such as high-yielding varieties of rice and new methods of cultivation, such as mechanization, in association with high us of chemical fertilizers and other agro-chemicals, while relying on controlled water-supply, usually involving irrigation (Farmer: 1986). Viêt Nam's strategy to turn towards these principles to develop its agricultural sector has been an undeniable success regarding food production (see figure). While other Asian countries such as the Philippines ended their Green Revolution in the mid-1980s, Viêt Nam sustained this strategy until the early 2000s. This can be explained by the fact that Viêt Nam was the last South East Asian country to start a green revolution. This led Viêt Nam to outweigh any other Asian countries performance of rice sector in the 1980s and 1990s (Tran & Kajisa: 2006).

3.2.2. Đổi Mới; Opening to Global Markets and Institutions

The reforms who followed the Đổi Mới meant for the agricultural sector that the state recognized private land use rights through the implementation of the Land Law, enacted in 1988 (Fforde & De Vylder: 1996). It is also at that time that the first law regulating pesticides purchase and use was enacted (P. Van Hoi et al: 2013). The law divided the pesticides into three categories according to their levels of safety regarding human health; allowed, allowed in tiny amount, forbidden (P. Van Hoi et al: 2013). Pesticides had been first introduced in the country in the mid 1950s, but until then the state had the monopoly of purchase and use of agrochemicals (P. Van Hoi et al: 2013). Thus, liberalizing the agricultural sector also meant to open the agrochemicals market to private individuals and to regulate these products' purchase and use for the general public. Despite the state's efforts to regulate the purchase and use of agrochemicals, there was still a high occurrence of illegal import of pesticides throughout the 1990s (P. Van Hoi et al: 2013). Legal agrochemicals' imports also grew throughout that time; in the early 1990s the pursuit of market liberalization allowed and encouraged imports and exports which amongst others led to heavy imports of agrochemicals (Presilla: 2018) and an increase of the pesticides market in the country (P. Van Hoi et al: 2013).

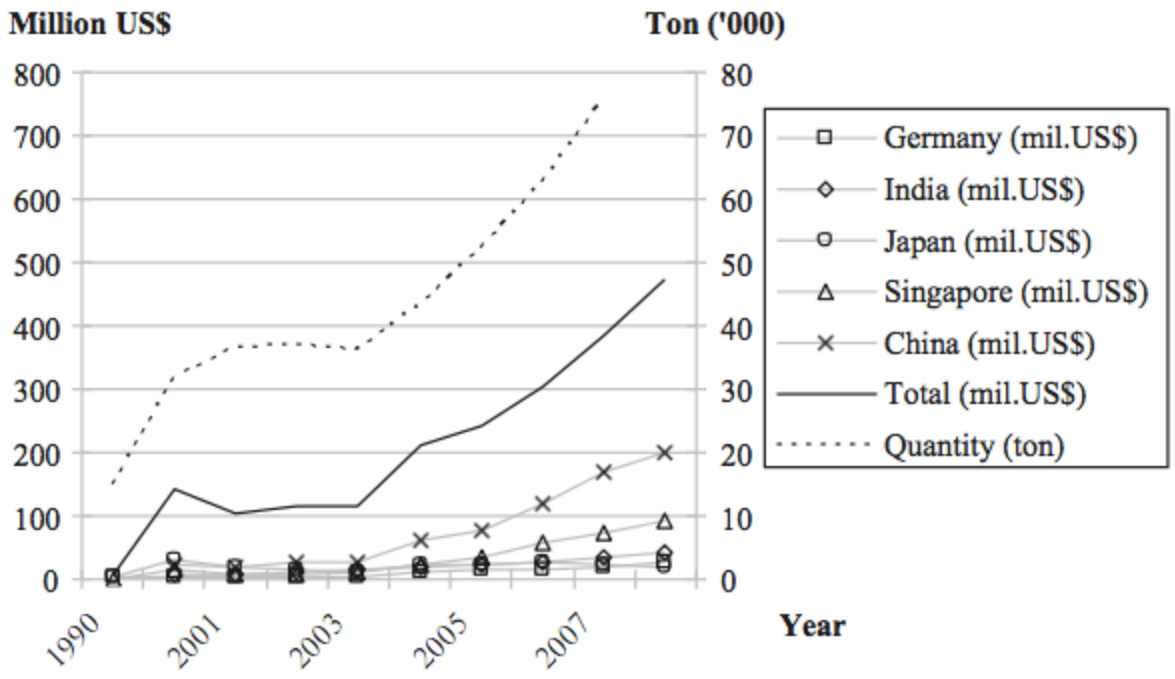

Figure 6: Pesticides import value and quantity (in finished form) in Viêt Nam from major countries of origin.

Source: Anh: 2002 (Cited in Van Hoi, P. et al. 2013)

Viêt Nam's opening to global markets also meant for it to become member of international standards regulations such as the Codex Alimentarius International Food Standards that Viêt Nam joined in 1989 and which represents a set of food regulation standards defined by the Food and Agriculture Organization that insures a good quality and safety of food products (FAO: n.D.). In 1994, the Vietnamese government implemented the "No Early Spray" program, the first program to raise awareness and train farmers in relation to heavy-use of agrochemicals (Presilla: 2018). However, at that point no real legal framework existed in order to define what was considered as safe food products. The following year, the Ministry of Agriculture and Rural Development issued a "safe vegetables" program which used the Codex Alimentarius as a benchmark to define maximum residue levels (Mergenthaler et al., 2009). Such programs kept on being implemented by the government in the following years, with for example the "Ordonnance on Food Safety and Hygiene" in 2003 and then in the same year with the "Three Reductions Three Gains" program, which was promoting to reduce the use of chemical pesticides, seeds and fertilizers (Presilla: 2018) to bring three benefits: increased income, lower exposure to pesticides and an improved environment with less pollution (UCLG: n.D.). The latter addressed a general misperception amongst farmers that high agrochemical inputs would

raise their production (UCLG: n.D.). Not only was it not the case, but it actually reduced the production while increasing risks for the farmers' health and environmental pollution at the same time (UCLG: n.D.).

In 2007, Vietnam became member of the World Trade Organization (Presilla: 2018). This created an important change for the Vietnamese economy, further opening its market to other countries and boosting vegetable exports which forced the government to further regulate the agricultural sector and the use of agrochemicals. Indeed, in 2008 the government implemented the "1 must do 5 things" program drawing from the "Three Reductions Three Gains" program while adding an emphasis on reducing waste in water use and post-harvest loss (Presilla: 2018). This program indirectly aimed at meeting the demands of Viêt Nam's engagement in the WTO (Presilla: 2018). Thus, an interesting double dynamic can be observed from Viêt Nam's opening to world markets in the 1990s/2000s; while legal and illegal agrochemicals imports rose significantly during that period mostly due to lower import taxes (Presilla: 2018), the demand for exporting Vietnamese safe vegetables pushed the state to start implementing regulation in the sector in order to reduce the use of harmful agrochemicals.

3.2.3 Food Safety as a Growing Concern

Since the Doi Moi, Viêt Nam's society has undergone important structural changes and time-space transformations (McCaign & Pavcnik: 2013) (Wertheim-Heck: 2015). While in 1990, 70% of Vietnamese workers were employed in the agricultural sector, this share shrunk drastically to 54% in 2008 (McCaign & Pavcnik: 2013). Workers usually turned towards services and manufacturing (McCaign & Pavcnik: 2013) and thus moved from rural towards urban areas (Wertheim-Heck: 2015). This urbanization phenomenon can be observed in the country's capital Hanoi; its population grew up to almost five-fold in the last forty years, going from 1.5million inhabitants in 1975 (Wertheim-Heck 2015) up to 7.4millions in 2017 (General Statistics Office of Viêt Nam: 2019). This rapid urbanization combined with economic growth and increase in purchasing power led Vietnamese urbanites to change their consumption patterns, shifting from producing their own food to purchasing their fresh food at traditional street markets in the city (Cadilhon et al: 2003). This detachment of food production from a growing urbanized population and an intensification of conventional food production methods with heavy use of agrochemicals result in growing concerns over food safety amongst Vietnamese consumers (Wertheim-Heck: 2015).

Food safety is a term that refers to a set of regulations and principles that insure the safety of food products. According to the World Bank, food safety is defined by the "*maximum residue levels chemical substances (for example, pesticides, heavy metals, antibiotics, hormones, and other drug or animal feed additives), natural toxins (aflatoxins and so on), zoonotic diseases (bacterial and parasitic), food additives, decomposition of the food product, and other microbial or chemical contaminants*" (2016: 11). At the international level, food safety standards are defined by the Codex Alimentarius (World Bank 2016: 11), while the impact of unsafe food is responsible for the loss of an estimated amount of US$ 95 billion in low- and middle-income countries each year (FAO: n.D.c). In Viêt Nam, the production of safe vegetable is strictly regulated and has to follow specific guidelines, such as that the production area is not affected by wastes from industrial and living activities, that only decomposed manure is used, not fresh manure, that the water used for irrigation is clean and not polluted by industrial and domestic waste, to have a strict adoption of integrated pest management practices in combination with the use of low-toxic pesticides; and that the safe vegetable products meet requirements on chemical and pathogen residues (in accordance with technical standards set by WHO/FAO in 1993/1994) (MARD: 1998). Food borne diseases alone cost an estimated amount of US$ 450 million in 2003 (World Bank 2006: 19) Food borne diseases outbreaks and deaths related to them still occurred on a regular basis in Viêt Nam (see figure). However, it is important to stress that in 2014 and 2015, only 4% of the total 370 food outbreaks (involving over 10,000 cases and resulting in 66 deaths) were caused by chemicals residue in the food, although a remaining 26% had an unknown cause (World Bank: 2006) (see figure). No death was clearly linked to chemicals.

Year	Outbreaks	Cases	Deaths	Outbreaks with more than 30 cases
2006	165	7,135	57	Na
2007	247	7,329	55	Na
2008	205	7,828	61	Na
2009	152	5,212	35	Na
2010	175	5,664	51	Na
2011	142	4,500	27	Na
2012	167	5,508	34	38
2013	163	5,348	28	39

Figure 7: Number of Food Poisoning Outbreaks, Cases and Deaths in Viêt Nam 2006-2013.

Na: not available.

Source: VFA, cited in the World Bank (2017: 55)

Cause of outbreak	2012	2013	2014	2015	Total
Micro-organisms	76	82	72	67	297
Chemicals	12	8	4	3	27
Natural toxins	43	26	65	63	197
Unknown	36	47	53	46	182
Total	167	163	194	179	703

Figure 8: Numbers of foodborne disease outbreaks in Vietnam from 2010 to 2015, by cause of outbreak.

Source: VFA, cited in the World Bank (2017: 56)

Cause of death	2014	2015	Comparison (number)
Traditional alcohol (high levels of methanol)	3	3	0
Natural toxins in mushrooms	13	4	-9
Natural toxins in toads, puffer fish, oysters, sea snails	22	15	-7
Chemicals	0	0	0
Other/unknown	5	1	-4
Total	43	23	-20

Figure 9: Numbers of deaths due to foodborne disease outbreaks in Vietnam, by cause of death.

Source: MOH/VFA, cited in the World Bank (2017: 58)

According to Sy, Vien and Quang, fresh vegetables are the most important source of food safety risks (2005). This is particularly alarming in a country such as Viêt Nam where the per capita consumption of vegetable is of 290g/day in Hanoi, one of the highest in the world (Wertheim-Heck: 2015). In Viêt Nam, the current legal framework regulating food safety is defined by the Law on Food Safety, implemented in 2011. This law establishes that both organizations and individuals have the rights to have access to and the obligations to ensure food safety, regulating the conditions of advertising and labelling food products (Kurfürst: 2017). The responsibility of testing and enforcing regulations surrounding food safety is assigned to the Ministry of Health, the Ministry of Agriculture and Rural Development and the Ministry of Industry and Trade (Kurfürst: 2017). Over the last fifteen years, food safety has been an ever-growing concern within Vietnamese consumers especially because a lot of incidents related to food unsafety are widely covered in the media (Wertheim Heck: 2015).

3.3. A Difficult Shift Towards an Enabling Environment? Focus on the Institutional Context

3.3.1. Inefficient State Structures

If food safety has become an urgent societal issue in Viêt Nam over the last decades, a lot of challenges still stand in the way of the implementation, enforcement and compliance of food safety regulations in the country. According to Van Hoi et al. (2013), the state institutions related to agrochemicals regulation are very weak because of four factors; the governance structure, the corruption, the information shortage and the weak jurisdiction. The Vietnamese government is based on a very centralized and strict hierarchical structure, where the Ministry of Agriculture and Rural Development (MARD) officials are in an isolated position in Hanoi in comparison to the local fieldworkers of the Plant Protection Department (PPD) who work in the provinces (Van Hoi et al.: 2013). MARD officials are thus not incorporated in the social, economic and policy networks of rural communities (Van Hoi et al.: 2013). Furthermore, the financial costs – such as building agency capacity and carrying out inspections – and political costs – such as challenging factory managers, other government officials and local constituencies – to enforce environmental regulations are very high (O'Rourke: 2002), and there is a substantial lack of political and economic incentives to enforce these legislations (Van Hoi et al.: 2013). On top of that, threats of physical and psychological violence are common and PPD officials are regularly attacked by retailers and their relatives (Van Hoi et al.: 2013).

This goes hand in hand with a wide-spread corruption amongst the government officials which is due to close connections between state officials and pesticide companies (Van Hoi et.: 2013). This results in inaccuracies during the pesticide registration phase and delays implementation and enforcement processes (Van Hoi et.: 2013). For instance, it is quite common to shorten the field-trial period of new chemical products before they are being put on the market in order to be able to sell the products faster (Van Hoi et.: 2013). Additionally, the fact that public participation isn't enabled to take part in the policy making process has allowed regulations to be issued in favor of certain individuals or groups, and at the expense of public interest (Van Hoi et al.: 2013). This wide-spread corruption leads also to the two last aspects of the institutional weakness to regulate agrochemicals; the lack or inaccuracy of technical information on agrochemicals and the weak jurisdiction system (Van Hoi et al.: 2013). The technical information regarding agrochemicals are usually provided by pesticide

companies and their unavailability complicates the assessment of environmental impacts of newly imported pesticides. (Van Hoi et al.: 2013). Such information is not only lacking but can also be strategically misused (in order to ignore the toxicity of a product for example) for economic or political interests (Van Hoi et al.: 2013). Jurisdiction structures are also often subject to corruption in favor of political and economic interests of a ruling group at the expense of public interest (Van Hoi et al: 2013). This weak jurisdiction system leads firms and individuals to rely on private negotiation, whether led by themselves or by a third-party, rather than going to court (Van Hoi et al: 2013). Overall, one of the main problem stands on the fact that the Vietnamese political structure is defined by a very centralized power that doesn't sufficiently allow citizen participation whether in the legislative, judicial or executive powers.

3.3.2. A Shift Toward Market Governance Systems

> "*... the Vietnamese government, like many others, has begun to re-negotiate its role from a regulator to a facilitator, ensuring conditions for global regulatory processes and flows (Mol and Spaargaren, 2006). More concretely, this renegotiation includes the shift from public to private regulation with respect to safety and quality standards, branding, and contract, environmental and social certification organized for competition based on quality (Busch and Bain, 2004, Lee and Marsden, 2009)* (Thu Ha et al. 2012: 136)

Not only are Viêt Nam's state structure weakened by both a very centralized power that doesn't enable citizen participation and a wide-spread corruption amongst state officials, they are also challenged by a growing number of national and transnational actors participating in non-state government systems. Indeed, Viêt Nam's transition from a centrally-planned to a market economy has not only opened its economy to global market but has also discarded the government's monopoly on certification processes by introducing a diverse range of national and international actors with different norms, values and interests (Thu Ha et al.: 2012). According to Van Hoi, Mol and Oosterveer (2009), Viêt Nam's government has proved itself unable to regulate food safety issues in the country, especially concerning vegetables producers and retailers. This can be explained by the very limited means granted to the Food Safety and Hygiene Ordinance, the Vietnam Food Administration's agency responsible for assuring the hygienic status of fresh and processed foods. In 2006, their annual budget was around US$30,000 (WorldBank, 2006). 80% of the budget was used to pay the staff salary, thus

leaving very limited resources for operational activities (WorldBank, 2006). Moreover, and as mentioned above, corruption levels are high amongst government officials and transparency is lacking (Van Hoi, Mol & Oosterveer: 2009). Retailers have the possibility to sell conventional vegetables as labelled safe, leading to food poisoning among consumers (Van Hoi, Mol & Oosterveer: 2009). Their punishment, if they get caught, will be to pay a fine for non-compliance to the 'safe vegetable rules' and will thereafter be able to continue business as usual (Van Hoi, Mol & Oosterveer: 2009). We here observe a double-dynamic; first the incapacity of the state authorities to regulate food safety issues and a growing distrust from Vietnamese consumers towards state authorities (Van Hoi, Mol & Oosterveer: 2009).

These inefficient state structures related to food safety regulation result amongst others in the development of what Cashore (2002) refers to as non-state market-driven (NSMD) governance systems. These governance systems replace the state's authority on the development, implementation, and regulation of goods production that are environmentally and socially responsible (Cashore: 2002) (Van Hoi, Mol & Oosterveer: 2009). They are distinct from other forms of public-private partnerships due to the fact that first governments act as one of the interest groups within the process and therefore share its decision-making power with the other interest groups, and second that it is the market that gives the authority of NSMD, and therefore it is things such as prices and market access that directly influence the production practices (Cashore: 2002). However, as argued by Eden & Bear (2010: 103) these Non-State Market-Drive governance systems have for now only been able to supplement rather than supplant government regulation, and should therefore be understood as a "*precarious balancing of different interests and forms of authority*".

Van Hoi, Mol & Oosterveer (2009) argue that even such systems have failed to be efficient because of the Vietnamese political system. Indeed, if the involvement of non-state actors in the development, implementation and regulation of safe food production as well as environmental protection does require economic resources, there is also a need of a well-implemented system of legitimacy and accountability, system transparency and easy access to information (Van Hoi, Mol & Oosterveer: 2009). This goes hand in hand with creating an enabling environment for independent civil society actors to counter-balance the state and the market when it is failing to implement social and environmental responsible policies (Van Hoi, Mol & Oosterveer: 2009). The fact that such systems are inexistent in Viêt Nam puts a limit in non-state and non-market actor involvement within safe vegetable production and sale, and leads to very limited power of actions for the consumers.

3.3.3. Retail Modernization: Banking on Supermarkets

Instead of focusing on enabling citizen participation, system transparency and easy access to information in order to build trust within Vietnamese civil society, the Vietnamese government is banking on other solutions. Indeed, one of the government's strategy to mitigate food safety issues and restore trust among consumers, alongside food production regulation and food-safety related awareness campaigns, is to keep on pushing the implementation of public policies promoting the increase of supermarkets to replace traditional markets (Moustier, 2006; Maruyama and Trung, 2007). According to the Ministry of Industry and Trade, the government currently aims to realize a tenfold increase to 1000 supermarkets in Hanoi between 2015 and 2025 (MoIT: 2009). However, these policies raise challenges. In her book, "*We Have to Eat Right? Food Safety Concerns and Shopping for Daily Vegetables in Modernizing Vietnam*" (2015), Wertheim-Heck analyzes how Vietnamese urbanites consumers deal with food safety risks in their daily food shopping practices within the context of modernizing Vietnam and increase in supermarkets.

One of the first problems identified by Wertheim-Heck (2015) concerning this supermarketization strategy is that it doesn't fit the traditional habits that Vietnamese consumers have. She argues that these traditionally established practices are constrained to their local urban community and socially driven, which means that the purchase of daily-food isn't an end in itself while going to the market, but merely the overall social-encounters that will take place during the transactions (Wertheim-Heck: 2015). Within this local community, people have interdependent relationships and exchange things such as vegetables, seeds and soil, and practical knowledge (Wertheim-Heck: 2015). This also enables interactions between producers/retailers and consumers and creates trust-based trade relationships, based on exchanges and reputation (whether or not a vendor has a good reputation among the community depending on the quality of the food s/he sells) (Wertheim-Heck: 2015). A second problem is that lower income households have precarious jobs with irregular incomes which leads them to plan their food budget on a daily basis and thus to buy more when they receive a high income and less when they haven't worked in a while (Wertheim-Heck: 2015). In that sense, supermarkets are not a convenient option since they are usually more suitable for large volume shopping that will last for a few days/weeks. This also means for the consumer to have the appropriate conservation means at home to preserve the food, such as a refrigerator. These problems are illustrated by her research findings which state that supermarkets in Hanoi account for less than two percent of the total vegetable consumption, and further suggests that the government's supermarketization strategy doesn't correspond with the practice of shopping for daily vegetables (Wertheim-Heck: 2015).

Another problem identified by Wertheim-Heck in relation to the increase in supermarkets is that they are mostly accessible to middle- to high income households. As mentioned above, they are more suited for consumers who buy in big quantity on a less regular basis than daily shopping and therefore require for the consumers to have enough income to purchase big amount of food products at once and have the appropriate conservation means at home to be able to store them properly. Additionally, since lower income neighborhoods are not the target for real-estate investors, supermarket tend to flourish in higher income areas (Wertheim-Heck: 2015). This results in lower- and middle-income households having less direct access to supermarket; according to Wertheim-Heck (2015), an estimate 40 percent of Hanoi's urban population is reached with the current retail modernization policies, thus excluding an extensive amount of the urban population. She concludes that while the government is striving to provide better access to safe food in the city, their current policies appear to have exclusionary and counter-effective outcomes, resulting in informal street markets often being the only food-shopping solutions for low- and middle-income Vietnamese consumers (2015).

3.4. Conclusion

To conclude, the first part of this study focused on a broad overview of the historical and political context of the agricultural sector in Viêt Nam over the last forty years. Viêt Nam shifted from being one of the poorest economy in the world, with an agricultural-based system of production, and where famines were still occurring oftentimes, to being one of the fastest growing GDP in the world. Amongst the numerous consequences that these changes have had in the country, we can observe a shift in worrying over food scarcity to worrying over food safety, with the implementation of Green Revolution principles resulting amongst other in high-use of agrochemicals in food production systems. Food safety related diseases and deaths have become an urgent societal issue in the country in the last twenty years and the state has therefore implemented different policies in order to regulate the use of agrochemicals, but as argued by different scholars, the state structure in itself is problematic and perpetuates distrust amongst the Vietnamese civil society towards food safety labels. Throughout this first part, I therefore answered the RQ2. There is simultaneously a lack of awareness amongst consumers, a lack of involvement of the different actors within the safe food certification process and a lack of trust-building social relationships between them. The second part of this research will focus on showcasing how participatory guarantee system has been able to address these challenges.

Figure 10: Vietnamese farmers proudly holding PGS certified products in their hands.

Source: Rikolto, n.D.

IV. Case Study: PGS Viêt Nam

"The reason why I stayed with PGS since 2012, when the project with ADDA ended, is that we are a family, we are not a company or a social organization or an NGO, we are not recognized by anyone, we are just people who come together, share together, laugh together and work together. PGS is a family, we have our regulations and principles and the ones who want to join it have to follow them." (Interview with Mrs. Tu Thi Tuyet Nhung, head of PGS Vietnam, August 2018)

4.1. Participatory Guarantee Systems in Viêt Nam

4.1.1. Structure of the PGSs in Viêt Nam

According to Mr. Hung Nguyen Ngoc, a representative of the Danish non-governmental organization ADDA (Agricultural Development Denmark Asia), ADDA started working in Viêt Nam in 1996 and has implemented projects to support organic agriculture since 2005 (Interview with Mr. Hung Nguyen Ngoc, ADDA Representative, August 2018). The main focus of these projects was first to train and establish farmers interest groups, second to establish an organic farming association and third to develop Participatory Guarantee System (PGS) in Vietnam. Once the Vietnam Organic Agriculture Association (VOAA) had been created, ADDA handed them the management and organization responsibilities of PGS over. (Interview with Mr. Hung Nguyen Ngoc, ADDA Representative, August 2018). Since then, the five different Vietnamese PGSs have had the following structure:

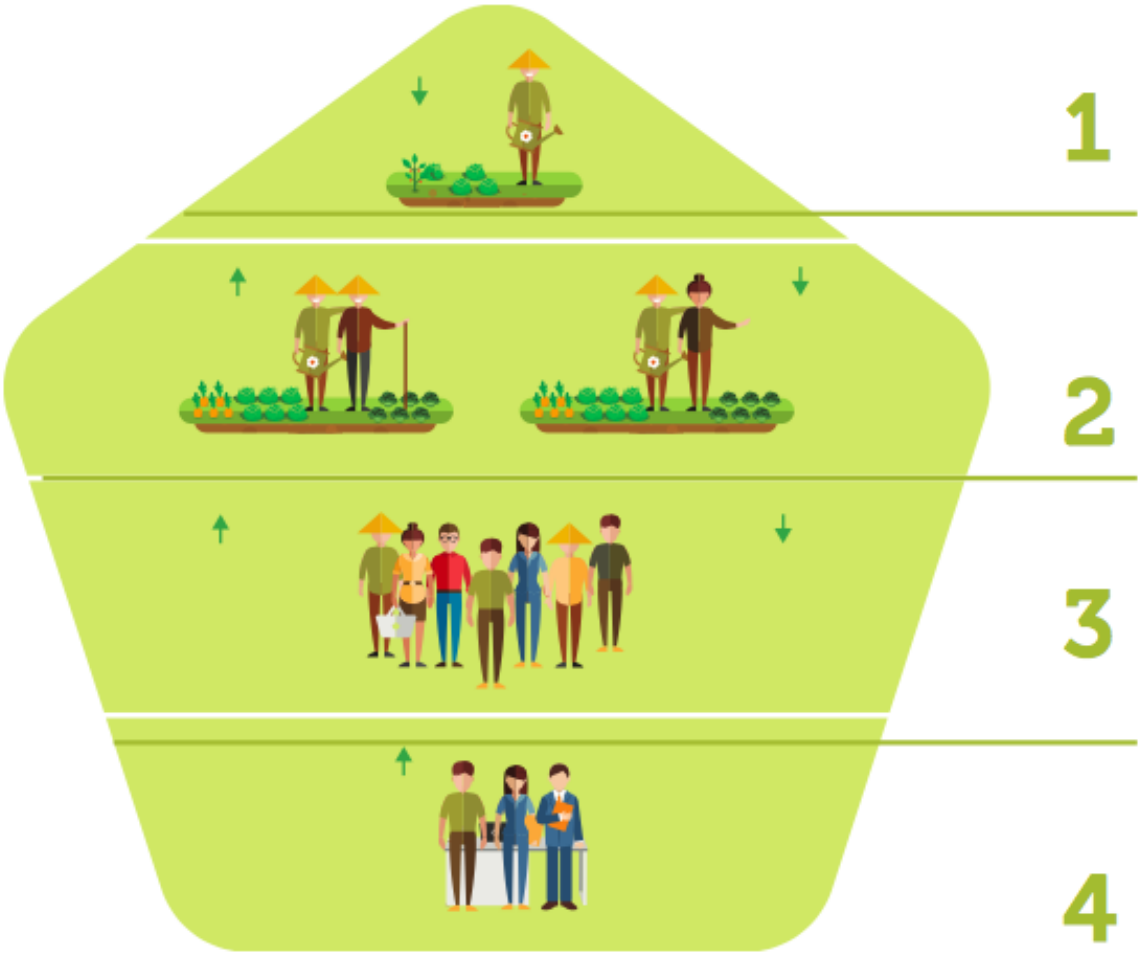

Figure 11: Viêt Nam PGS Structure

Source: Rikolto 2018: 3

There is first (1) the farmers. The farmers sign a contract where they engage themselves to follow the rules and standards of PGS. They then produce vegetables according to the food standards' criteria agreed upon. In Viêt Nam, the 5 PGS follow one of the two following sets of standards; either Vietnam PGS Organic Standards, which were officially admitted into the IFOAM Family of Standards in 2013, or the BasicGAP (Basic Guidance for Good Agriculture Practices), a guidance document for safe vegetable production promulgated by the Ministry of Agriculture and Rural Development on July the 2nd of 2014 (Rikolto: 2018: 2). Finally, they participate in cross-checks, inspections, trainings and meetings. Then, come the farmers groups (2). They are composed of five until ten farmers and usually live close-by. The farmers groups **c**arry-out the cross-inspection plan designed by the intergroup and

inspect the compliance of other groups with the standards. Every farmers group has a leader who facilitates the internal inspections to ensure that members comply with the standards.

At the third level (3), come the intergroups. The intergroups are usually composed of the heads of all the producer groups as well as the external stakeholders such as the retailers' representatives, the local officials, the consumers and / or the NGOs representatives. The intergroups focus on developing cross-inspection plans and to coordinate these cross-inspections at least twice a year, where they check the peer-review documentation, and report on the inspection results. It is the intergroups that take care of reviewing the certifications application from farmers groups. They then request the Local Coordination Board to approve the certification for the qualified groups. They are also the ones who sanction groups that do not comply with the established rules. Finally comes the Local Coordination Board (4). The Local Coordination Board is usually composed of representatives of farmers, buyers, and local authorities who are selected for their technical competence. There is one Local Coordination Board per Participatory Guarantee System – there is thus currently five Local Coordination Boards in Viêt Nam for the five working PGSs. As mentioned above, the Local Coordination Board reviews the certification requests and the inspection reports submitted by the intergroups and they are the ones who decide if the group will receive the certification or not. They also can carry out random inspections when violations are suspected and have the power to sanction intergroups if there are some irregularities. On top of that, they manage the PGS seal and trademark and help connect farmers and farmer groups to markets and interacts with mass media (Rikolto 2018: 3).

The particular structure of PGS allows it to sustain itself while remaining quite independent in its way of working – whether financially or politically speaking. The system works on a voluntary-basis and there is no financial investor whom they are dependent of; every member of the system agrees on how they will contribute to it and they pay annual fees which contribute in the running of PGS (Interview with Mrs. Tu Thi Tuyet Nhung, head of PGS Vietnam, August 2018). In 2015, the Local Coordination Board had a meeting where they agreed that every board members should pay an allowance fee of 2,000,000 VND per months (approximately $85 in May 2019) (Interview with Mrs. Tu Thi Tuyet Nhung, head of PGS Vietnam, August 2018). Apart from this monthly allowance fee from the Local Coordination Board, the retailers have to pay an annual fee of 1,000,000 VND (approximately $42 in May 2019) while the farmers pay 50,000 VND (approximately $2 in May 2019) (Interview with Mrs. Tu Thi Tuyet Nhung, head of PGS Vietnam, August 2018). Furthermore, the retailers also have to pay extra fee of 300 VND (approximately $0,01 in May 2019) for each kilogram

of vegetables they buy (Interview with Mrs. Tu Thi Tuyet Nhung, head of PGS Vietnam, August 2018).

4.1.2. Main Positive Aspects

The first and most important positive aspect of Participatory Guarantee Systems is that they promote and enable the implementation and development of organic or safe food production systems. Organic farming standards are usually more complicated to attain than safe food standards and thus accepting both of these standards within PGS allow room for manoeuvre to the producers who want to switch to more environmentally- and health-friendly systems but don't have the mean yet to fully switch to organic. PGS is thus beneficial for both the general public health and the protection of the environment According to Whitney, the two main drivers of PGS are the consumers' need for guarantee of safe and / or organic food products and therefore a growing demand for safe and / or safe food products (Interview with Dr. Cory William Whitney, Researcher at the Institute of Crop Science and Resource Conservation (INRES), August 2018). This results in the rising of supermarkets and retailers dedicated to selling safe and / or organic products. According to Mr Tuan, the owner of Tam Dat, an organic and safe food supermarket chains where most of the vegetables sold are PGS certified, the main reason why the consumers choose to turn to PGS is that they are concerned with the impact that agrochemicals have on the consumers' health. By participating in the Coordination Board of PGS, they can monitor the production process of vegetables and make sure that the vegetables are organically farmed which they see as a social responsibility (Interview with Mr Truan, Tam Dat representative, August 2018)

According to Dinh, PGS also enables a change in the way producers and consumers alike perceive food safety and organic farming and this by improving the working conditions and income of farmers, and developing local areas in a sustainable way (Dr. Tran Thi Dinh cited in Rikolto: 2018b). This leads us to the second positive impact of PGS; the producers receive a higher and more stable income (Interview with Mr. Tran Manh Chien, head of Bac Tom, August 2018). According to Dinh, the farmers involved in participatory guarantee systems are enthusiastic about PGS because they see the benefits it brings them in terms of health but most particularly because of the raise in their income (Interview with Mrs Tran Thi Dinh, researcher at the Vietnam National University of Agriculture, August 2018). However, the fact that the PGS certified food products are more expensive than the ones produced within conventional agricultural systems is balanced in the market-price by the fact that

PGS as a certification system is very low-cost and therefore accessible to small-scale farmers as well as Vietnamese consumers (Interview with Mr Hai, Rikolto Representative, August 2018). The low-cost of PGS is really the key of why the system is efficient and has spread so well according to Mr. Hai, currently in charge of the PGS farmers training at Rikolto. According to him, the main obstacle for farmers when switching to organic farming is the cost of the certification (Interview with Mr Hai, Rikolto Representative, August 2018).

A third positive aspect is that, as mentioned above, there is an ever-growing demand for affordable safe and / or organic vegetables (Interview with Dr. Cory William Whitney, Researcher at the Institute of Crop Science and Resource Conservation (INRES), August 2018). Even if the demand for PGS products in Hanoi is still relatively low, it is constantly growing and is more important than other similar food-quality insurance systems, as explained by Mr. Tran Manh Chien, owner of the Bac Tom supermarkets. He stated that before working with Participatory Guarantee System, he worked with different projects which aimed at improving farmers' capacity to produce high quality vegetables, but that the farmers didn't have a market to sell their vegetables to (Interview with Mr. Tran Manh Chien, head of Bac Tom, August 2018). This resulted in them having to sell their vegetables in regular open markets at the price of conventional vegetables, and thus no longer complying with what they were trained for because it meant having to work harder to be paid the same price (Interview with Mr. Tran Manh Chien, head of Bac Tom, August 2018).

Finally, there is a support from international institutions towards participatory guarantee system, who push for the implementation of an enabling environment from the national governments for the development of such a label as stated in the 12th recommendation of the best practices for organic policy report of the UNEP-UNCTAD: "*Compulsory requirements for mandatory third-party certification should be avoided as they will not enable other alternatives to emerge. Other conformity assessment procedures, such as participatory guarantee systems, should be explored*" (UNEP-UNCTAD 2008: 21).

4.1.3. Main Negative Aspects

Amongst the main negative aspects that PGS entails, the low financial capacity is the one that has the most restrictive impacts. Indeed, although PGS is a voluntary-based and thus low-cost

certification process, it also isn't financed by any entities (such as the state or the private sector) and must rely on very few financial means. "*The farmers are very worried about how they will be able to sustain themselves within PGS. Since ADDA stopped the project, we don't have much money and we need money to run PGS"* (Interview with Mrs. Tu Thi Tuyet Nhung, head of PGS Vietnam, August 2018). This lack of financial means hinders PGS' members to have a well-working infrastructure; for example, since every member volunteers their time to make PGS work, the organization lacks one person being able to be there full-time, to deal with administrative concerns such as answering the phone and handling the paperwork (Interview with Mrs. Tu Thi Tuyet Nhung, head of PGS Vietnam, August 2018). According to Mrs. Nhung, they would also need to have a data-base storing all the information related to PGS (finance, harvest, products, advertisement, etc.) and a financial accountant that would insure a transparent and reliable handling of financial matters (Interview with Mrs. Tu Thi Tuyet Nhung, head of PGS Vietnam, August 2018). This also affects the capacity to store the vegetables once harvested since they are lacking infrastructures to do so (Interview with Mr. Tran Manh Chien, head of Bac Tom, August 2018).

A second important barrier that PGS faces is that the government has not yet officially recognized it as a certification process. According to Mrs. Nhung, while the negotiations around the new bill on organic agriculture had started in 2017, the Ministry of Agriculture and Rural Development (MARD) has raised the matter of recognizing PGS as an official certification for small farmers in parallel with third party certifications, which sparked controversy amongst the different official representatives. According to her, many of the ministries' representatives do not understand what PGS is, and generally do not trust the farmers to respect the established guidelines. However, local authorities have been financially supportive of PGS since 2008 through the government's New Rural Program's funding and the program has had positive results overall (Interview with Mrs. Tu Thi Tuyet Nhung, head of PGS Vietnam, August 2018). This should only be a question of time before the government officially recognize PGS, according to ADDA's representative Mr. Nguyen Ngoc whose organization is currently working with the government on that topic (Interview with Mr. Hung Nguyen Ngoc, ADDA Representative, August 2018).

Another downside of PGS is that it lacks diversity in its offers and can't offer as much quantity as its competitors. Mr. Chien explained that at first, Bac Tom sold only PGS-certified vegetables but after a short period of time, they realized that by doing so they wouldn't thrive economically. Because Participatory Guarantee Systems are local (for practical matters), their offers are not very diverse. Since consumers have been used to have very diverse offers in regular supermarkets, they are not

necessarily interested in the PGS-certified vegetables offer. According to Mr. Chien, since the price of PGS vegetables is the same for all the different vegetable varieties, the farmers don't have the incentives to diversify and produce more complex type of vegetables and focus mostly on high-yield varieties. Furthermore, Mr. Chien stresses that the question is not just about diversifying the vegetables' offer but also to extend the offer to other type of food such as fruits, meat, etc. (Interview with Mr. Tran Manh Chien, head of Bac Tom, August 2018).

Finally, even though consumers who know about PGS have a general positive perception of it, there is still an important lack of knowledge of its existence among consumers overall. (Interview with Mr Hai, Rikolto Representative, August 2018) (Interview with Dr. Cory William Whitney, Researcher at the Institute of Crop Science and Resource Conservation (INRES), August 2018).

4.2. Institutional Robustness Fostering Community Resilience…

4.2.1. Defining the Robustness of Self-Organized Community Institutions

In Ostrom's book "*Governing the Commons - The Evolution of Institutions for Collective Action*", Ostrom studied and analyzed different self-organized community institutions who dealt with common pool resources issues in order to understand why some worked and sustained themselves over decades or even centuries while some others didn't. She defines common pool resources as "*natural or man-made resource system that is sufficiently large as to make it costly (but not impossible) to exclude potential beneficiaries from obtaining benefits from its use*" (2015: 30). Such common pool resources can thus refer to a forest, a fishing area, groundwater basins, irrigation systems, etc (Ostrom: 2015). A problem arises when no regulation system is implemented and agreed upon by the appropriators and thus where everybody can appropriate part of the resources in unequal and unsustainable ways (Ostrom: 2015). There are cases where the state takes care of regulating these kind of common pool resources and where it worked well, but Ostrom's aim in her book was to study the cases where the state had either fail to do so or had never had to because the local community took care of creating an efficient system that would regulate the use of its appropriators. After a thorough analysis of these different institutions throughout the world, she established seven design principles that characterize the robustness of the self-organized institutions dealing with common pool resources

which she analyzed (Ostrom: 2015). In her book, she also adds an eighth principle for the larger, more complex cases which won't be relevant in this study since PGSs are quite small institutions.

The seven design principles are the following: first, (1) there are clearly defined boundaries, defining which individuals or households have the rights to withdraw resource units from the common pool resources and defining the boundaries of the CPR itself. Second, (2) there is a conformity between the rules defining the way the individuals can appropriate the CPR (such as rules restricting time, place, technology and / or quantity of resource units), the rules defining the way the community will assign responsibility for building, restoring or maintaining the resource system over time (such as rules requiring labor, material and / or money), and the local conditions. (3) Third, there is a collective choice arrangement, which means that the system's rules have to be defined and have the possibility of being modified by most of the individuals affected by them. Fourth, (4) there is a monitoring system with people chosen to be monitors, who actively evaluate the CPR conditions and the behaviors from people appropriating the resources and who are accountable to the rest of the community. Fifth, (5) there is graduated sanctions for the individuals who violated the community's rules, depending on the seriousness and context of the offense. The rules defined by the community state who can give these sanctions. Sixth, (6) there is an easy and rapid access to conflict resolution mechanisms. And seventh, (7) the community has the rights to organize itself and devise its own institutions without being challenged by external governmental authorities (Ostrom 2015: 90).

When comparing these seven design principles to the Vietnamese participatory guarantee systems, many resemblances can be observed. The common-pool resources here refer to both the environment's quality shared by the community and the food products consumed by the community's members. Every member of the PGS community share a common concern for either preserving the environment or preserving their health and the one of others. The appropriators here are the farmers, they are the ones who have most of the control on what kind of agricultural inputs they will use within their food production system, which will have an impact on both the environment and the food they produce. The other members – consumers, retailers, local authorities and NGO representatives – are provisioning the conditions for the appropriators to work successfully in this enterprise, and this by offering a market (consumers), investing in food-production and conservation infrastructures (retailers) or by providing trainings (NGO) (Interview with Mr. Tran Manh Chien, head of Bac Tom, August 2018; Interview with Mr Hai, Rikolto Representative, August 2018). As for the structure of PGS, it follows every design principles established by Ostrom; there are clearly defined boundaries, with clearly defined appropriation and provision rules suiting the local conditions, there is collective

choice arrangements, a monitoring system with graduated sanctions, an access to conflict resolution mechanisms and overall the rights to self-organize.

4.2.2. Participatory Guarantee Systems; Enhancing Community Resilience?

Magis' article '*Community Resilience: An Indicator of Social Sustainability*' (2010) presents a definition of community resilience as well as set of eight main dimensions related to it. In this article, she argues that the sustainability of social relationships between members of a community can be measured by using this definition of community resilience and its related dimensions as an indicator. According to her, communities can become resilient by working together and actively engaging the community's resources to enhance the community's capacity to sustain itself and to thrive in an environment of perpetual change and transformation. The main dimensions are the following; first (1), the existence of and access to community resources, whether natural, human, cultural, social, financial, political, etc. The community has access to many resources within and outside the community, that can be engaged to respond to change and develop the communities' capacity. Second (2), the development of these community resources in order to contribute to the community's capacity to respond to crises and transformation. Third (3), the engagement of the community resources toward common goals. Fourth (4), the active participation of community members in managing the resources**.** Fifth (5), the existence and sustenance of collective action within the community which can be made possible with the help of a good leadership. Sixth (6), a strategic action plan developed through well-organized political and management systems. Seventh (7), equal access to and distribution of the community's benefits and costs made with the community's resources, for every member of the community. And finally, eighth (8), that all the above result in clear, visible positive impacts. Overall, she states that community resilience is most importantly not about controlling all the conditions that affect it but to thrive in those conditions (Magis: 2010).

Again, many resemblances can be observed when comparing these main dimensions of community resilience and participatory guarantee system. First and foremost, the existence of and access to community resources which is the shared environment and the safe and high-quality food produced by the farmers, in accordance with standards predefined by the community. The said community participates in developing these resources; the retailers invest in the agricultural infrastructures, the consumers buy the food and the NGOs representatives help upgrading farmers'

production capacity. They do so because they all share common goals; producing safe food that will help protect the environment and the community's health. The different groups within the community participate in different ways and at different frequencies but being member of the PGS community requires to be an active participant. This collective action is organized by shared rules and norms and guided by a strong leadership, which creates strategic action plans. Finally, the Vietnamese PGSs have not only survived since PGS first implementation in Viêt Nam ten years ago, but it has multiply and spread throughout the country, while the country was going through important economic changes (Wertheim-Heck: 2015). If one acknowledges Magis' definition of community resilience as "*the existence, development and engagement of community resources by community members to thrive in an environment characterized by change, uncertainty, unpredictability and surprise. Members of resilience communities intentionally develop personal and collective capacity that they engage to respond to and influence change, to sustain and renew the community and to develop new trajectories for the community's future"*, then the Vietnamese PGSs are very good example of institutions that enhance community's resilience by involving its members in the management and development of its resources.

To conclude, the Vietnamese PGSs' structure matches both the seven design principles defining self-organized institutions robustness established by Ostrom (2015) and the main dimensions of community resilience defined by Magis (2010). In that sense, the Vietnamese PGSs can be defined as robust self-organized institutions, which foster community resilience and therefore social sustainability.

4.3. … By Improving Participation & Trust

In this part I will categorize the data collected in my interviews in two main concepts; participation and trust. As defined by the analysis conducted in the first part of this study, there are currently three main problems within the organic farming regime in Viêt Nam; first a lack of awareness amongst consumers, second a lack of involvement of the different actors within the food certification process and third a lack of trust-building social relationships between the afore-mentioned different actors. In this part, I will show that the Vietnamese PGSs have had two main positive social impacts

in the community they were implemented in by fostering community's members participation and building trust between its members. I will then argue that PGS has therefore had positive social impacts on the development of organic farming in Viêt Nam by offering an efficient solution to two of the main challenges that the sector encounters; a lack of participation and a lack of trust.

Participation

According to May, "*the idea of participation embodies the principle of a collective responsibility for ensuring the organic integrity of the PGS. This collective responsibility is reflected through; a shared ownership of the PGS, stakeholder engagement in the development process, (the) understanding of how the system works (and, the) direct communication between producers and consumers and other stakeholders*" (May 2008: 4). Indeed, participation is first and most important aspect of Participatory Guarantee Systems. Every stakeholder is able to participate in the decision-making processes and the enforcement of these decisions. There is a certain freedom for the stakeholders to come by and visit the farms, as explained by the representative of Tam Dat, Mr. Tuan who stated that "*consumers are able to visit the farms any time they want"* (Interview with Mr. Tuan, Tam Dat representative, August 2018). This stresses that consumers have access to the farms and therefore have the possibility to take part in the monitoring processes whenever they want. Not only do PGSs enable access and participation, but they also enhance social responsibility by involving the community's members and giving them shared responsibilities; "*PGS is working based on voluntary-basis, so people need to be very passionate, honest, aware of the collective basis. PGS certification is given to a group not to a farmer so if a farmer fails, the group will fail accordingly*" (Interview with Mr Hai, Rikolto Representative, August 2018). Participation is a key to the process not only for the member itself to make sure that her/his voice is heard and matters and that the her/his opinion will be represented, but also because other people from her/his community rely on her/him.

However, this doesn't mean that if a person is behaving in way that negatively affects the community, the community will always have to pay for the person's mistakes. Indeed, according to Mr. Hai, representative of the Rikolto NGO, "*there is always a possibility to improve but the system is quite well-done because it is easy to take a "bad partner" out of the system*." (Interview with Mr Hai, Rikolto Representative, August 2018). Therefore, there is always the possibility for the stakeholders to sanction members who free-ride or don't abide by the rules, and if necessary to exclude this member of the community. The structure is made so to avoid problems such as free-riding but also

issues relating to unequal balances of power between the different stakeholders such as corruption. According to Mrs. Tu Thi Tuyet Nhung, head of PGS Viêt Nam, even though Mr Tran Manh Chien, the owner of the organic supermarkets Bac Tom, is the current PGS vice-president, there isn't risks of him taking advantage of his position because everybody is involved in the decision-making processes and can therefore monitor who can adhere or not. She gives the following example; "*Mr Chien is vice president of PGS currently. I don't know other PGS but in our PGS, making decision is not one person. We make all decision based on the number of consensus. For example, Mr Chien has his own farm and he wanted to register his farm into PGS, but he was not accepted even if he is the vice president*" (Interview with Mrs. Tu Thi Tuyet Nhung, head of PGS Vietnam, August 2018). The structure thus makes it possible to hinder corruption and avoid corruption threats, which is profitable for everybody. Indeed, Mr. Tran Manh Chien states that "*the first positive aspect (of PGS) is the inspection, the participatory cross-checks between the groups, but also the local authorities, etc. It provides a lot of trust in the quality*." (Interview with Mr. Tran Manh Chien, head of Bac Tom, August 2018). Hence, the participative aspect of PGS helps building trustful relationships between its members.

Trust

Trust has always been a very important component of social exchanges – whether for purely social purposes or for economic ones. Trust allows members of a community to feel safe and included (Blackshaw: 2009). Not only does trust enable economical exchanges, but it can also enhance the value of a good, by assigning it with a social exchange value as well (Kurfürst: 2015). According to Kurfürst, "*trust is required in order to cope with the increasing insecurities and risks in a globalized world. Trust implies having confidence in abstract systems and institutions such as in contracts or authorities for food regulation. Where such regulations or the monitoring thereof are missing, social capital has become an important resource to draw on*" (Kurfürst 2015: 2-4). In other words, trust is required in any forms of society for people to give economic, political and / or social support to any forms of entity. In broader societies, where people don't know the majority of their peers, trust in abstract systems replaces trustful social relationships. This trust is created due to the existence of a broad network of regulations based on a well-functioning judicial system. As discusses in the first part of this study, such system isn't working in Viêt Nam currently because of high levels of corruption which result in a low-level of trust amongst Vietnamese consumers towards Vietnamese authorities. Following Kurfürst's argument, social capital is thus a good alternative to build on in food shopping practices in Viêt Nam. PGSs are built on social exchanges amongst its members and therefore develop

social capitals. According to Mr. Du's, a former PGS expert at Rikolto; *"the consumers in Viêt Nam don't really trust certifications, especially because of corruption. This isn't the case with PGS."* (Interview with Mr. Du's, former PGS expert at Rikolto, August 2018). Henceforth, one of the reasons why PGS is trusted as a certification process is because it is hard to corrupt.

According to Mr. Hai, this can also be observed when it comes to selling agreements who don't really work because the legal framework is not adapted to deal with these kind of issues; "*no, (written selling agreements) do not work. The relationship is more important. Written contracts are not that important, they are very easy to be broken, because the Vietnamese legal framework is not really addressing the violation of these kind of contracts, too small and everywhere in Viêt Nam. It is something you find everywhere in business not just in agriculture*." (Interview with Mr Hai, Rikolto Representative, August 2018). In other words, PGS has an emphasis on relationship and social responsibility which is particularly useful when people don't trust the judicial body. This trust between consumers & producers can be observed when going to a PGS-certified farm and witnessing economic exchanges; the farmers showcase their products for the consumers and thus creates the opportunity for them to exchange over their productions processes (Observations during a visit at the PGS-certified farm in Thanh Xuan, August 2018). These links are as valuable for the consumers as it is for the retailers as states Mr. Tran Manh Chien; "*we choose to sell PGS vegetables, because by participating in the Coordination Board, I can monitor the production process of vegetables and make sure that the vegetables are organically farmed*" (Interview with Mr. Tran Manh Chien, head of Bac Tom, August 2018) and thus active participation in the different PGS-working groups enhances trust between producers, consumers and retailers. This leads to PGS having a good reputation amongst consumers, as explained by Mr. Tran Manh Chien; "*Not many people know about PGS but in comparison to other organic or safe labels, PGS has a good reputation and is well-known*." (Interview with Mr. Tran Manh Chien, head of Bac Tom, August 2018).

To conclude, the particular structure of the Vietnamese participatory guarantee systems made it possible for PGS to have positive social impacts within the community they were implementing in and offered alternative to the failures or the Vietnamese organic farming sector, who suffers from a lack of involvement of the different actors within the food certification process and a lack of trust between them. I divided the data from the fieldwork I conducted over the summer 2018, constructed around interviews and observations, into two main concepts that according to me enhance community resilience and henceforth social sustainability within the PGS communities; participation and trust.

Although I've divided these two concepts for analytical purposes, participation and trust within a community are deeply intertwined and, as argued above, each one is necessary for the other to exist.

4.4. Conclusion

To conclude, the second part of this study focused on answering the RQ3; *What social impacts have Participatory Guaranty System had on the communities it is implemented in?* I did so by first presenting PGSs' structure and its main positive aspects; the enablement of the implementation and development of organic and / or safe farming systems; the creation of higher and more stable incomes for the farmers, the ever-growing demand for the products and that the products can appeal to lower- and middle-class consumers since they are cheaper than other organic and / or safe certified products and finally the support of international institutions. Second, I analyzed the Vietnamese PGS through two conceptual frameworks; first the seven design principles established by Ostrom (2015) to evaluate the robustness of self-organized institutions and second the main dimensions of community resilience defined by Magis (2010) as an indicator of social sustainability. Both of these frameworks match the structure of the Vietnamese PGSs which lead me to argue that the Vietnamese PGS is a robust self-organized institution which fosters community resilience and henceforth social sustainability. Finally, I divided the data I collected during my fieldwork over the summer 2018, into two main concepts connected to each other, that demonstrates the direct positive social aspects that PGSs have had in Viêt Nam; participation and trust. By both enhancing participation and trust within the community they were implemented in, the Vietnamese PGSs have enabled the strengthening of social links within their respective communities.

Figure 12: Training farmers on good agricultural practices for safe vegetable production (BasicGAP). **Source:** Rikolto, 2018.

V. Conclusion

The initial concept of this study came from the idea of studying self-organized institutions within the conceptual framework established by Ostrom (2015) in her work on institutions and common-pool resources and to add on to the already existing literature. Being both interested in the workings of such structures and the stakes surrounding the development of organic farming throughout the world, the case of Participatory Guarantee Systems was particularly appealing to me. Furthermore, focusing on Viêt Nam was particularly interesting because it has well-implemented PGSs that have spread and develop over time and it has an intricate history when it comes to food production systems.

Therefore, this study aimed at analyzing the social impacts that the Vietnamese PGSs have had on the development of organic farming in Viêt Nam within the communities they are implemented in. To do so, I divided my study in two main parts; first a broad overview of the historical, economic and political situation in Viêt Nam over the last forty years, focusing mostly on its relation to food production systems. By tracing its evolution from a country worried over food scarcity to a country over food safety, I highlighted the particularity and stakes surrounding the development of organic farming in Viêt Nam; such as the use of the Green Revolution principles, focusing mostly on a high-use of agrochemicals, that allowed the country to have one of the highest rice yields in the South-East Asian region in the 1990s (Tran & Kajisa: 2006). This overview of the situation also allowed me to designate three main issues regarding the development of organic farming in Viêt Nam which are a simultaneous lack of awareness amongst consumers, a lack of involvement of the different actors within the food quality certification process and a lack of trust-building mechanisms between them.

In the second part of this study, I did a case study of PGSs in Viêt Nam in order to describe its particular structure and its main positive aspects and analyze it through two different conceptual frameworks; Ostrom's seven design principles evaluating the robustness of self-organized institutions (2015) and Magis' main dimensions of community resilience (2010). The results of this analysis showed that PGSs in Viêt Nam can be described as a robust self-organized institution which fosters community resilience and henceforth social sustainability. I then divided the data that I obtained during my fieldwork into two main concepts; participation and trust. The data from my fieldwork indeed pointed out that the social impacts that PGSs have had in the communities they are implemented in are to enhance the participation and trust of their members. This is important to stress because this is

exactly where the organic farming's sector in Viêt Nam is failing and PGS has therefore offered a well-suited and efficient alterative to it.

As mentioned above, I'm aware of the risks of using resilience as a concept in social sciences. I acknowledge that the system that I have studied (PGS community) is dependent on a multitude of different external actors and it is therefore tricky to isolate one or a few factors as being the only responsible for the observed social impacts. However, the focus of this research is to see how PGS is affecting the community's members' relationships and habits towards each-others and thus further research needs to be done dedicated solely on the topic of interconnectedness with other external actors and on the deconstruction of the different power relationships inherent to Participatory Guarantee systems.

The focus, however, must be put on understanding how and why communities can often work better within self-organized structures. As have shown the last forty years in Viêt Nam, societies are going through drastic socio-economic changes and currently face global challenges such as overpopulation, pollution and climate change which threaten the resilience of communities throughout the world. Having a focus on understanding how communities can survive and thrive in in such an ever-changing environment is therefore a crucial issue.

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