

Master Thesis

# Moroccan 'green' governance and women seed-producers: a 'scale mismatch' on food security in Morocco



Development and International Relations – Global Gender Studies

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Aalborg University, July 2017

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Subjects: (tick box)	Project	Synopsis	Portfolio	Thesis <b>X</b>	Written Assignment
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Study programme:	Development and International Relations		
Semester:	10 <sup>th</sup> Semester		
Exam Title:	Master Thesis		
Name, Date of birth/ Names, Dates of birth of group members:	Name(s)	Study number	Date of birth (not CPR number – only 6 numbers: dd/mm/yy)
	ANAIS LEMOUTON	20151068	12/09/1994
Hand in date:	31/07/2017		
Project title /Synopsis Title/Thesis Title	Moroccan 'green' governance and women seed-producers: a 'scale mismatch' on food security in Morocco		
According to the study regulations, the maximum number of keystrokes of the paper is:	168 000		
Number of keystrokes (one standard page = 2400 keystrokes, including spaces) (table of contents, bibliography and appendix do not count)*	101 290		
Supervisor (project/synopsis/thesis):	Pauline Stoltz		

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## Abstract

Morocco is facing important environmental damages due to climate change such as erosion, desertification and biodiversity loss. In addition, women are crucial actors in the combat against climate change consequences, partly thanks to their central role in agriculture and seed-saving. That is why Terre & Humanisme Maroc launched a project in 2013 providing training for rural women in order to emancipate them economically, while ensuring the preservation of the environment and biodiversity through the practice of peasant seeds production and conservation. In parallel, property rights on seeds and the Green Morocco Plan are privatizing and commercializing genetically engineered seeds in order to control food production. These policies are using concepts such as food security or sustainable development to justify the neoliberal expansion. However, the way they represent food security issues is largely differing from the way local women seed-producers understand and define them. Therefore, in the light of Bacchi's *What's the problem* approach and Feminist Political Ecology theoretical approaches, it is argued that there is a 'scale mismatch' between the 'green' Moroccan governance representations of food security and the local, and women seed-producers' understandings and aspirations for sustainable livelihoods. Moreover, the thesis aims at highlighting relevant linkages between farmers' rights and agricultural biodiversity. The analysis is built upon a discourse analysis of policies' problem representations of food security and their politics of scale, followed by a comparison between these representations and the way women seed-producers think 'otherwise'. Besides, a field based analysis of women seed-producers' narratives was conducted through semi-directed interviews and participant observation during an internship with Terre & Humanisme Maroc in May and June 2017.

Keywords: *Morocco, women and agriculture, seed systems, food security, green governance*

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## 1. Introduction

Nowadays, Morocco is facing important environmental damages, such as biodiversity losses, soils erosion and desertification due to climate change (Tebaa et al. 2016; THM 2014). At the same time, national policies and corporations are gradually privatizing and commercializing genetically engineered seeds in order to control food production (GRAIN 2005, 2012; SACSIS 2014). In Morocco, policies on seeds are justified by the use of food security and other concepts such as sustainable development. However, the policy on property rights and the Green Morocco Plan (GMP) do not generally define and understand these issues the same way as local communities. It is particularly revealed by the project “Support to women seed-producers for an equal, solidarity-based and sustainable development in Morocco”<sup>1</sup>, elaborated by the organization Terre & Humanisme Maroc (THM, French acronym for Earth & Humanism Morocco), with the help of UN Women since 2013. In short, the project provides training for rural women in order to emancipate them economically, while ensuring the preservation of the environment and biodiversity. In the world, the subsistence and family agriculture, largely dominated by women and using peasant seeds, is providing four quarters of food production (Kastler 2016). Moroccan women being crucial actors in agriculture and seed-saving, and being primarily affected by climate change consequences, they are at the forefront of food security - and seed sovereignty - issues (FAO 2008; UN Women 2009; THM 2014).

Therefore, it appears interesting to investigate on the tensions and interactions between the so-called Moroccan ‘green’ governance representations of food security, and the view of local women seed-producers on related issues. The purpose of this thesis is to explore and demonstrate the ‘scale mismatch’ between the ways ‘green’ policies represent and use food security, and how local people, especially women seed-producers, define this issue as well as their solutions and aspirations for sustainable livelihoods.

In order to answer the problem formulation, the theoretical framework is composed of Carol Bacchi’s *What’s the problem* approach, Feminist Political Ecology (FPE) theory and the theoretical concepts of ‘politics of scale’ and ‘scale mismatch’, developed by Andrea

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<sup>1</sup> Translated from French : « Appui aux femmes semencières pour un développement égalitaire, solidaire et durable au Maroc ».

Nightingale (Bacchi 1999, 2009; Harcourt et al. 2015; Nightingale 2015). Besides, thanks to an internship with THM in Morocco, an insight and field-based data are given in order to analyze how the problem could be thought ‘otherwise’ by local women seed-producers (Bacchi 1999; Harcourt et al. 2015: 113).

### **Problem formulation**

*How the Moroccan ‘green’ governance representations of food security ‘mismatch’ with local women seed-producers’ understandings and aspirations?*

### **Sub-questions:**

How the Moroccan seed policy and the Green Morocco Plan represent food security, sustainable development and gender equality?

What presuppositions or assumptions underpin these representations?

What is left unproblematic in these representations? Where are the silences?

How women seed-producers represent the problem and solutions ‘otherwise’?

First and foremost, the theoretical framework is presented including the aforementioned theories. Following are introduced the methodology and methods of the thesis. Before the analysis, I contextualize the seed system in Morocco in parallel to agricultural policies.

In the analysis, I first briefly examine the policy document on seeds, also called the law on the protection of new plant varieties and the agricultural plan of action, namely the Green Morocco Plan. I analyze their representations of food security and important aspects of their politics of scale. Then, I compare their representations and politics of scale regarding food security with women seed-producers’ understandings of similar issues. This shows scale mismatches in terms of development and sustainable development, economy, gender equality and education, between the way policy-makers define and assume to achieve food security and local women seed-producers’ aspirations and solutions.

In the final discussion, the findings of the analysis and some important implications of these representations are discussed, and then are explored possible solutions as well as considerations on the agroecological and food sovereignty movements.

## 2. Theoretical framework

This section presents the theoretical approaches of this thesis, first describing the post-structural approach of Bacchi (1999; 2009), followed by Feminist Political Ecology theory, including Nightingale and Harris's (2015) conceptualizations of the 'politics of scale', 'scale mismatch' and Harcourt and others' (2012) "reclaiming sustainable livelihoods".

### 2.1. From post-structuralism to Carol Bacchi

Carol Bacchi's theoretical approach and research guide for policy analysis is used as a tool to structure and conduct the analysis (Bacchi 1999). The analysis is built upon Bacchi's *What's the problem* approach which fits the thesis' purpose to analyze the discourses and problem representations regarding food security in the Moroccan governance. The concept of discourse, elaborated first by Michel Foucault (1972) within the framework of post-structuralism, is considering language as a set of codes and meanings that shape ideas and statements. This theoretical perspective aims at exploring interactions between language, sociology, and power-relations (ibid).

According to the post-structural feminist approach, these relationships all impact upon gender in particular. Post-structural feminism stresses the "contingent and discursive nature of all identities" and the "social construction of gendered subjectivities" (Randall 2010: 116; Prasad 2005: 165). A relevant contribution of this theory was to state that there is no single categories defining "woman" or "man" and to claim the existence of intersectional standpoints of oppression such as gender, race, class, ethnicity, sexuality, culture, to name but a few (Bernard et al. 2005). This theory primarily seeks to understand how gender and other issues are constructed and represented in discourses, knowing that language frames and limits our reality (ibid). Besides, it provides a critical approach on the way actors are constructed

and how their constructions of the world lead to particular policy makings (Hansen 2006; Cohn 2013).

In line with post-structural feminism, Bacchi's *What's the problem* approach applies this theory to the analysis of policies. Hence, her approach provides a step-by-step guide as a specific methodology to be followed according to the objectives of this thesis. If well contextualized, her methodology can be applied to any policy area (Bacchi 1999; 2009). She argues that policies underpin explicit or implicit meanings of a particular problem, that she calls problem representations. Therefore, every policy embodies a certain discourse that holds interpretations of the problem the policy seeks to resolve. She highlights the importance of considering the analysis of policies as a combination of competing interpretations and representations of a cultural, political or social issue. In her book *Analysing policy, What's the problem represented to be?* Bacchi (2009) proposes a set of questions one should ask to apply *What's the problem* approach. I have chosen 4 questions she suggests, leading to explore the problem representations and assumptions behind the policies, whether they are evident or implicit. Thus, the analysis seeks to identify how food security and other issues are framed through the ways they are talked about and through the assumptions behind these representations. Besides, I examine the way the problem could be thought differently by women seed-producers and compare it to the policies' representations. The analysis is also examining some of the implications behind these representations.

Bacchi's theory is relevant for students in order to interrogate the content and nature of "problems" instead of solving them by any means. It pursues problem questioning rather than problem-solving (Bacchi 2009). Therefore, she advocates questioning the position of the state carrying out policies (Bacchi 1999). Policy labels problems and this has consequences in people's everyday life because it restricts the scope of what is addressed and what is not (ibid). *What's the problem* approach encourages reflecting upon the issues that are unresolved because of certain problem representations (ibid). That is why this thesis highlights what is left unproblematic and seeks for the silences in the discourses.

## 2.2. Feminist Political Ecologies

Feminist Political Ecology (FPE) is a theoretical approach that examines interactions between gender dynamics, politics and environmental issues (Rocheleau et al. 1996; Harcourt



et al. 2015). In short, this approach came about in the 1990's by providing a feminist critical approach on issues of political ecology (Rocheleau et al. 1996). Among other themes, this theory exposes the inequalities and gendered experience in neoliberal environmental governance. It particularly values indigenous and women's knowledge as well as lived-experience, for example by making a political emphasis on the embodied and affective dimensions of local people's experience of environmental governance (Harris 2015). This theoretical approach also aims at highlighting intersectional issues across various standpoints as mentioned above (Rocheleau 2010). In addition, it constantly evolves and is largely inspired by feminism, geography, ecology, ecofeminism, sustainable development and postcolonial perspectives (ibid). Thus, there are as many academics as practitioners under FPE. This theoretical approach explores the "changing situations of women encountering shock waves of neoliberal expansion and creating spaces of gender equality *otherwise* within social movements for land, resources and dignity." (Rocheleau 2015: 57). By applying FPE, this thesis is examining the liberalization of Moroccan green governance and its impact on women seed-producers, who are trying to promote gender equality in their struggle to protect biodiversity and defend the preservation of peasant seeds.

The 'politics of scale', along with FPE, is a useful approach to analyze the divergences between the local experience of women seed-producers and the Moroccan governance on seeds (Harris 2015; Nightingale 2015). The 'politics of scale' has been theorized in social, ecological and biophysical sciences. According to Andrea Nightingale (2015, 2012), the concept of scale is not simply arbitrary nor it is apolitical. Because using scales makes visible certain relationships and not others, it is highly social and thus political (Nightingale 2012). Defining and measuring scales aims at ordering the world both materially and conceptually (ibid). According to Marston, it is primarily a social construction and "contingent outcome of the tensions that exist between structural forces and the practices of human agents" (Marston 2000: 220). Thus, it is current that conflicting conceptions come across by different actors (Ahlborg & Nightingale 2012). That is one of the reasons why feminist political ecologists advocate for a clear distinction between scale and level, which are often mistaken (ibid). When the conceptualization is made carefully, it can be understood that the "local" of "local knowledge" is referring to the level of actors holding that knowledge (ibid). Ahlborg and Nightingale encourage to reflect on the ways that knowledge is "scaled" and to clarify the nuances between different scales (ibid). For example, local knowledge is not exclusively referring to specific places, and technocratic knowledge engages with certain understandings

of the “local” (Harris 2015; Nightingale 2015). Thus, the ‘politics of scale’ provides a “theoretical leverage” to highlight the way global and national programs targeting localities hold assumptions about “scale of access to, control over, distribution of and knowledge of resources for local-level actors.” (Nightingale 2015: 185). These interpretations and assumptions can conflict with local people’s understandings of the same concepts. In the words of Nightingale, this “moment of conflict says something about how policy-makers should rethink their policies.” (ibid: 185).

Ahlborg and Nightingale also call this moment of conflict a ‘scale mismatch’. In the study of social-ecological systems, scale mismatches occur when “the scales of ecological and societal processes do not coincide” (Ahlborg & Nightingale 2012: 3). Thanks to their multiple contributions, human geographers of social-ecological systems have come to a definition of ‘scale mismatch’:

“scale mismatches occur when the scale of environmental variation and the scale of the social organization responsible for management are aligned in such a way that one or more functions of the social-ecological system are disrupted, inefficiencies occur, and/or important components of the system are lost.” (Cumming et. al. 2006:16)

Ahlborg and Nightingale’s (2012) theory introduces another dimension to scale mismatch in natural resource management, which is the epistemological dimension, relating to knowledge and worldview. They call this dimension ‘scales of knowledge’, which points to the spatial and temporal extent and character of knowledge sustained by individuals or collectives, scientific or public (ibid). It does not directly concern the content of knowledge, but it is rather a broad concept including the scales of observation or the ones at which actors present and construct their knowledge. As this thesis’ case will illustrate, different scales of knowledge interact with conflicting power-relations in the management of seeds in Morocco. According to Nightingale (2015), scale mismatches have extensive consequences on the perpetuation of inequalities as certain scales of knowledge such as the community or family scales are too often ignored. The thesis follows Ahlborg and Nightingale’s conceptualization of scale mismatch to analyze the moments of conflicts between the Moroccan green governance and small-scale women seed-producers in terms of food security.

According to Harris, FPE is useful as a critical, intellectual and political site to reflect on “alternatives” (Harris, 2015: 162). When theorizing the ‘politics of scale’, Harris uses Gramsci’s concept of “hegemonies” (ibid; Gramsci 1991-1997). According to her, FPE brings

an important leverage point to reflect through and articulate alternatives to actual hegemonies by focusing on different scalar politics and negotiations. There is enough evidence to assume that given the confidence on market mechanisms, state or global scales are privileged in governance schema (ibid). She observes a bias privileging national scales for accounting benefits of trade relations, without paying attention to the regional, community or household scales. Nonetheless, the latter scales would permit to understand how benefits and costs could be distributed (ibid). Feminist work emphasizes the importance and necessity of highlighting other scales of analysis and engagement such as the body, the household or the community (Staeheli 2004). Yet, connections to the state and the global scales are not to be ignored (Harris 2015). On the contrary, other approaches may be able to bring local and embodied scales at the forefront such as livelihood and political ecology approaches (ibid). A romanticization of community or the local is neither desirable (Joseph 2002). Many feminists have contributed to rethink community and household scales and to explore their relations as worth knowing and political (Harris 2015; Agarwal 1988). FPE solicits greater consideration of the lived and everyday scales of these negotiations and the meanings people attach to them.

Thus, FPE is trying to show and promote alternatives to hegemonic discourses in which women are not represented merely as victims of the damage caused by climate change, among other things (Harcourt & Nelson 2015). There seem to be too many discourses that silence their voice, narratives and knowledge, which is why FPE aims at rehabilitating them. Besides, FPE advocates for “decolonizing our own minds” and opening the way to learn through bodies, spiritual visions and epistemologies, rather than through Western approaches (ibid: 5). It seeks to go beyond dominant visions of the world and has a great interest in the critical lenses of decoloniality and queer theory (ibid: 5). In the words of Harcourt & Nelson, “we see FPE as rising to the challenge of engaging in decolonial thinking and politics, in the politics of becoming *otherwise*.” (ibid: 24). Therefore, FPE aims at demonstrating how to think *otherwise* with regards to assumptions and biases in environmental governance. The FPE theoretical approach meets the thesis’ purpose to highlight the local scale experience of women seed-producers in Morocco and provides a critical insight on political and environmental issues coupled with gender issues. Besides, it allows me to have critical reflections on the site I write from and to attempt deconstructing the assumptions I have from my location as a white French middle class researcher.

The Sustainable Livelihoods (SL) approach articulated in the book *Women Reclaiming Sustainable Livelihoods: Spaces Lost, Spaces Gained* by Harcourt and others (2012) offers a complementary perspective to FPE. This approach has been used as a concept, a framework of analysis and a strategy. It “focuses on human lives and the structures that shape people’s well-being” (ibid: 12). The concept gained value in the 1990’s, focusing on community participation and elaborated upon Amartya Sen’s (1985, 1999) conception of development as enhancing people’s capabilities. Sen highlighted the inappropriate calculation of poverty through income. He defined poverty with various factors such as literacy, health, basic services, for example safe water or education. In Harcourt and others’ book, “reclaim” is used in a “positive and forward-looking sense: meeting the challenges of the future by taking back what belongs to women” (Harcourt et al. 2012: 1). The governance understanding of gender issues in resource management is often “involving women, ignoring gender” (Krishna 2012: 15; Krishna 1999). This is relevant to this thesis’ topic because it might be the case concerning seeds management in Morocco. The book highlights the ways women struggle to sustain or revive local economies and environments (Harcourt et al. 2012). It also shows how they negotiate different power structures and how they “evaluate the new wave of attempts to green the economic development process” (ibid: 1). This approach aims at contributing to ways of changing fundamental inequalities related to gender relations and livelihoods embedded in nowadays economic development policy and agricultural practices (ibid). The book’s theoretical approach applies to women’s seed-producers as they are constantly struggling for their livelihoods. In addition, it corresponds to the thesis purpose of highlighting “gender-aware, participatory, and just economic activities to sustain livelihoods” such as the women seed-producers project (ibid: 5). This necessarily involves engaging “in a critique of the prevailing economic system as they require alternative ways of looking at the current economic model” (ibid: 5).

### 3. Methodology and methods

In this section, I present relevant definitions, data material, methodology and methods of the thesis.

### 3.1. Terminology

#### **Food security and food sovereignty**

The concept of food security was first mentioned right after Second World War at the conference of Hopkins held in the United States (US), when poverty spread up and depletion of food availability was felt (Berdai 2016). It evolved through time, from a macro-economic and quantitative concept until the 1980's to a more humanist and qualitative approach developed in the 1990's. The most common definition was formulated at the World Food Summit (WFS) in 1996, and improved in the 2009 WFS as followed:

“Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. The four pillars of food security are availability, access, utilization and stability. The nutritional dimension is integral to the concept of food security” (FAO 1996; 2009).

This definition highlights that food security only exists when food availability is associated to the possibility of its access (Akesbi 2011). Utilization refers to the nutritional well-being around food such as clean water, appropriate diet, sanitation and health care (FAO 2006). The stability dimension is followed when all latter three dimensions are complied (ibid). For international financial institutions like the World Bank, the concept is reduced to a question of quantity; food security is considered to be achieved if the importations are sufficient to feed the country's population (ibid).

At the 1996 WFS was born a new concept: food sovereignty, developed by Via Campesina, an international peasant Non Governmental Organization (NGO) created in 1993 (Via Campesina 2009). The organization takes market globalization as responsible for the increasing poverty of small farmers and for food insecurity around the globe (Berdai 2016). Therefore, they defend the right of states to develop agricultural policies in line with the interests of national producers and consumers, in spite of their international agreements. For this movement, food security should also encompass the international “right of populations, of their nations or unions, to define their agricultural and food policies without dumping towards third countries” (FAO 1996). Contrary to agricultural free trade, this right must improve food security for vulnerable people from the South and could then support the elaboration of the right to adequate food and nutrition (Berdai 2016). The movement also advocates for women's rights and gender equality in relation to food issues in

the world. They advocate for the recognition of women's strong participation in the global food chain, especially concerning the preservation of peasant seeds.

### **Women seed-producers**

The women seed-producers is a movement initiated in 2011 by Pierre Rabhi, a Franco-Algerian farmer and philosopher. In Morocco, a project of the same name was created by THM in 2012 after having noticed that the role of women in agriculture was marginalized although they are crucial actors. The objective is to form groups of women to the production and conservation of local and reproducible seeds, so that they can develop income generating activities related to seed production. Besides, the project aims at seizing the development of agroecology as an opportunity to reinforce the power of women, recognizing them as farmers and producers of agroecological seeds. In the formations, women learned about practices adapted to climate and growing conditions, at low price and guaranteeing food security and sovereignty for their families or communities in rural areas. Along the thesis, "women seed-producers" refers to the persons who benefited and participated to the elaboration of this project in Morocco. Besides seed production, many of them exercise other activities in enterprises, associations and cooperatives.

### **Agroecology**

Agroecology is a polysemic concept that can be defined as a scientific discipline, a social movement, and a set of agricultural practices (FIAN, 2012). As an alternative form of agriculture compared to intensive or conventional agriculture, it adapts agriculture to ecosystems through multiple practices: soil fertilization, composting, water saving practices, crop rotation, plant combinations, to name but a few (Rey 2013). In fact, it is close to organic agriculture, but does not need requirements specification and do not work in monocultures. Besides, it is a social movement promoting a peasant and family agriculture, the preservation of biodiversity and sometimes advocates for food sovereignty. In Morocco, the movement started with the creation of Terre & Humanisme Maroc in 2005.

### 3.2. Data material

The main sources of information for analysis are: a policy on property rights on plants, also called the law on the protection of new plant varieties (n° 9-94), the plan of action called

Green Morocco Plan (GMP), and the International Convention for the Protection of New Varieties of Plants (UPOV). The original texts could be found on the WIPO lex law database and governmental official websites for documents and projects of the GMP.

As part of a training period with THM in the *Carrefour des Initiatives et Pratiques Agro-écologiques* (CIPA, French acronym for Crossroads of Agroecological Initiatives and Practices), in Douar Skoura, Morocco, I conducted semi-directed interviews and make use of participatory observation along the five-weeks research study. The field-based data has been collected between May and June 2017 and analyzed between June and July 2017. Among ten people interviewed, eight are women seed-producers, and two men are agroecologists. Except one, they all are from two regions of Morocco, Dar Bouazza in the Grand Casablanca and Rehamna in Marrakech-Tensift-Al-Haouz, where the CIPA is situated. The interviewees are Aicha Krombi (21/05) Bouchaib & Leila Harris (21/05) Boujemaa Gueghan (13/05) Fettouma Djerrari (20/05) Ghita Elkhyari (27/05) Salma Idrissi Boutaybi (03/06) Souad Abderma (26/05) Souhad Azennoud (03/06) and Soumia Akkaoui (16/05). Informally, I have also met other women seed-producers as well as local experts like instructors and agroecologists from the organization THM. The number of persons interviewed was limited mainly due to the language barrier and lack of time. The interviews were all held in French and all the translations from French to English are mine.

I made use of my privileged experience in THM to be co-opted and got access to contacts, as well as relevant archives, documents and books. Besides, other materials such as the official website of THM, academic and newspapers articles were used as complementary data material to sustain the analysis with facts and reflections.

### 3.3. Methodology and methods

The methodology is built upon Bacchi's (1999, 2009) *What's the problem* approach, applying her research guide on policy analysis, in parallel to theoretical approaches of FPE and the 'politics of scale' by Harris and Nightingale (2015).

To analyze the policies' problem representations, I conducted a discourse analysis of the relevant policies at stake with regards to seeds and food security in Morocco: the national law on the protection of new plants varieties (n°9-94) and the GMP. Two international treaties

have been used to better understand the national policies, namely the 1991 UPOV Convention and the International Treaty on Plant Genetic Resources for Food and Agriculture used in the final discussion. The analysis was rather focusing on the GMP strategy because the law on the protection of new plant varieties is not explicitly mentioning relevant concepts. Although this can be considered as a limitation, I attempted putting forward all salient information from both policies.

In the analysis, I tried to answer selected questions from Bacchi's research guide, by examining the representations of food security, as well as the assumptions and silences appearing in the policy discourse. By following this model, it is possible to picture the Moroccan governance on seeds and what food security is represented to be. In light of FPE approaches of the 'politics of scale' and 'scale mismatch', I examined the policy documents and their scaled perceptions of food security and gender. I searched for relevant concepts with regards to seeds such as food security, sovereignty, gender equality, women, climate change and sustainable development. To answer Bacchi's (1999) question *How can it be thought differently?*, I analyzed the discourses of women seed-producers gathered in the interviews in order to understand the ways they define and understand issues of food security, seed sovereignty, and gender equality, as well as their aspirations. Then, I compared the policies' representations of food security, their scaled perceptions and response mechanisms to local women seed-producers' solutions and aspirations.

In the discussion, I interpret the findings of the analysis in order to answer the problem formulation. Therefore, I synthesize the analysis and discuss possible solutions for seeds governance as well as perspectives on the agroecological movement in Morocco.

The main methods to gather data are literature review, as well as semi-structured interviews and observatory participation in rural areas of Morocco with women seed-producers and agroecologists. First, in order to understand the scope of the issue and its context, I have read complementary literature on food security, food and seed sovereignty, agriculture and gender issues in Morocco and Africa, such as reports and Moroccan academic papers.



In order to support the analysis with facts, I have selected several reports and articles relevant to the thesis' topic. The articles written by the Moroccan economists Najib Akesbi (2011) and Meryem Berdai (2016) on the GMP have been particularly salient. The literature on seed systems in Africa was mainly found on the websites of the NGOs GRAIN, Via Campesina and the Alliance for Food Sovereignty in Africa (AFSA). In addition, articles by Eric Holt-Giménez (2009, 2013), Olivier De Shutter (2009), Duquesne and Rabhi (2017a, 2017b) and Guy Kastler (2009, 2016) were utilized in order to understand the issue from a global perspective. The joined report *Right to Food and Nutrition Watch – Keeping seeds in Peoples' Hands* (2016) was an important source of information with numerous relevant articles. I acknowledge that some of these sources are highly political so they were all used with caution.

Besides, the qualitative literature review helped constituting the theoretical framework based upon the theories of Bacchi (1999; 2009), Harcourt and others (2015, 2012), Harris (2015) and Nightingale (2015, 2012) and sustained the analysis with relevant material. Carol Bacchi has helped me find a guideline to structure the thesis and ask salient questions in order to carry out the analysis. In parallel, I used the book *Practising Feminist Political Ecologies: Moving Beyond the 'green economy'* by Harcourt and others (2015) to reflect on the interactions between politics, the environment and gender, which is essential to understand and compare the problem representations by Moroccan green governance and by women seed-producers. In this book, several chapters have been particularly useful, such as the ones by Harris, Nightingale and Rocheleau. Indeed, they give important critical, intellectual and political insights on “alternatives” to neoliberal environmental governance (Harris, 2015: 162). Moreover, Harris and Nightingale are utilized in the thesis to conceptualize the ‘politics of scale’, which allows thinking otherwise and reflecting on the consequences of broad-scales changes on lived and everyday scales (ibid). Nightingale’s conceptualization of ‘scale mismatch’ is helpful in order to understand the moments of conflicts between scales of knowledge with regards to seeds management in Morocco.

In March 2017, I have contacted THM in order to meet women seed-producers and participate in their project “Support to women seed-producers for an equal, solidarity-based and sustainable development in Morocco”. I do not intend to represent women seed-producers exhaustively. I acknowledge that they do not represent rural Moroccan women either and that more in depth interviews would have been profitable to the thesis' purpose. Notwithstanding,

the interviews and observatory participation give an important insight to access knowledge on women seed-producers, the project by THM and agroecology in general. Thus, I have been able to obtain a unique vantage point on seeds management in Morocco by women seed-producers' individual and collective narratives. Besides using the interviews in the analysis, the persons I met provided necessary contextual information. Prior to the analysis, an overview on the seed system and agriculture in Morocco is introduced.

#### 4. Background: the seed system and agriculture in Morocco

To understand the current seed system and its implementation in Morocco, property rights on plant varieties and the Green Morocco Plan must be presented in parallel to the evolution of agricultural policies in Morocco. These policies are complementary in the seed system as one regulates breeders' rights on certified seeds and the other applies and intensifies the use and commercialization of these seeds.

Since the middle 1980's, agricultural policies in Morocco were driven by a political will engaging high but selective state intervention (Akesbi 2011). Then, this policy was restructured to start a new phase characterized by the state's withdrawal and trade liberalization (ibid). According to Akesbi, with this new orientation, the state changed its goals from "food self-sufficiency" to "food security" (ibid: 95). The intervention of the state drastically reduced and Morocco had to export enough in order to import the food its agriculture could not produce any more. This pushed the management of public intervention organs to be directed by market imperatives, with projects aiming at eliminating the obstacles for internal and external trade. The state then privatized agro-food internal and external trade, as well as activities such as fertilizer trade. The subventions for consumable agricultural inputs have been gradually removed (ibid). In the 1990's, policies of liberalization have been pursued, especially towards the elimination of importation restrictions, which includes the liberalization of seeds and plant varieties (ibid; Agrimaroc 1998).

In 1994, all World Trade Organization (WTO) members accepted to protect intellectual property rights concerning plant varieties (GRAIN 2015). Therefore, in 1997, the first version of law on the protection of new plant varieties was adopted in Morocco (Law

9/94) (WIPOlex 2017). This law was formulated from the International Union for the Protection of New Plant Varieties (UPOV) Convention. This intergovernmental organization works explicitly for the privatization of seeds all over the world through intellectual property rights on plant varieties (GRAIN 2015). Member states must implement the UPOV Convention and translate it in the national law. The Convention was first redacted in 1961 and modified several times until the last version in 1991. Each new version reinforced the rights of enterprises and limited the ones of farmers regarding seeds (ibid). The 1991 version eliminates farmers' right to conserve privatized seeds and reduces the breeders' scope of action.

Parallel to the dynamic of agriculture liberalization was a process of bilateral free trade, translated into a series of Free Trade Agreements (FTAs), almost all containing their part on agriculture. Since the 1990's, adhesions to the UPOV rapidly increased, reaching 74 countries today (UPOV, 2016). A great part of this achievement comes from rich countries' pressure to make less-industrialized countries adhere to the UPOV. Thus, in most bilateral and regional FTAs in which the United States (US) and the European Union (EU) subscribe, the application of the UPOV or laws alike are mentioned as an obligation. This strategy is built on the idea that farmers conserving and exchanging seeds are important competitors to global seed trade (Via Campesina & GRAIN 2015). For example, the EU-Morocco FTA states that Morocco must join the UPOV 1991 Act and accede to Budapest Treaty by 2004 (Euro-Mediterranean Agreement, 2000). In 2004, a similar FTA was signed between the US and Morocco stipulating that "Morocco must provide patents on plants and animals. Morocco must also ratify UPOV Convention (1991) and Budapest Treaty by 2006." (US-Morocco FTA 2004; GRAIN 2016: 4). By 2006, Morocco had joined the last UPOV Convention and amended its property rights law. This law protects the certifications of new plant varieties, defines the scope of this protection and the resulting rights, and provide for civil and penal sanctions against any infringement of these rights (Agrimaroc 1998).

In the words of Akesbi, this is a "free trade frenzy" that is not adapted to Morocco's development and does not lead to an internal reform of the agricultural sector (Akesbi 2011: 96). Among multiple structural problems in Moroccan agriculture, food dependency summarizes all the others (ibid). Indeed, food dependency for basic products has increased along the years and importations had to relay the local production gaps. This was emphasized by a change in internal consumption habits, which resulted in the degradation of the coverage rate of consumption, leading to food dependency (ibid).

In 2007-2008, the financial and food crisis provoked “hunger riots” in many countries including Morocco (Le Monde 2008). This revealed food security to be an important challenge for the future, exacerbated by climate change, natural resources scarcity and demography. At the same time, the new green revolution started. This agricultural dynamic is named after the green revolution of the 1930-60’s, when practices changed towards the application of new technologies to agriculture for high yields (Holt-Giménez & Altieri 2013). It keeps the same bases as the green revolution, added with transgenic technologies, trade liberalization, the prevalence of the private sector and environmental concerns (ibid). Therefore, it is in the context of this renewed interest for food security that the Green Morocco Plan (GMP) was launched in 2008.

The GMP is an agricultural development strategy built around two main pillars. The first pillar concerns the development of modern agriculture with a high added-value and high productivity, meeting internal market rules based on private investments. The second concerns solidarity-based support to small agriculture, especially in remote rural and peri-urban areas, to help improve farm revenues through a financial contribution from the state (ASFD 2017). The GMP strategy seeks to rehabilitate agriculture and makes it the “principal engine of growth and driving force against poverty” (ibid). Thus, the main function of this plan of action is Morocco’s development and modernization. Also nicknamed the “zero hunger” plan, the GMP puts food security as one of its core objectives (Le matin 2011; Felloun 2012). Therefore, the plan seeks to make the agricultural sector more attractive for private investments and increase the Gross Domestic Product (GDP).

In line with Morocco’s National Strategy on Sustainable Development, another important objective of the GMP is to promote climate change adaptation and sustainable development (Tebaa et al. 2016). Important measures concerning seeds are falling into this objective. In particular, it provides a significant support to genetically engineered and hybrid seeds for a better resistance to sicknesses and drought. This point will be explored further in the analysis. Thus, the GMP has a specific strategy concerning seeds to secure the use of certified seeds and improve its commercialization in the horizon 2020 (Afrique Agriculture 2016). According to M. Sadiki, general secretary at the Agriculture and Sea Fishery Department of the government, the development of the seed sector is a “major pillar in the national agricultural policy” (ibid). The sector is used as leverage for socio-economic development towards modernization. Thus, the National Federation of Seeds and Plants (FNIS 2017) benefits from the government’s support in order to reinforce its capacities and

promote seed trade. Moreover, the GMP supports the National Society of Seed Commercialization (SONACOS 2017) that demonstrates increasing revenues. The GMP also created the National Office for Food Safety and Security (ONSSA 2017) to control the safety of seeds, plants and animals.

Finally, the GMP supports projects of income-generating activities for rural women and women's cooperatives as part of the second pillar (Tebaa et. al 2016). Although the GMP says to contain a gender approach, it concerns traditionally female sectors and gender equality is not mentioned as an important aspect of the strategy (MCA-Maroc 2016). Since the GMP was launched, several funding organizations have stressed the importance of integrating an inclusive and transversal approach to gender, as well as the need for a clear gender action plan (ADA 2012; ADB 2016; CTB 2016; EC 2013; FEMISE 2013; HRC 2016). Many of them stressed the issue of rural women's and girls' illiteracy (ADA 2012; ADB 2016; FEMISE 2013; PAPMV 2012). In 2015 the Ministry of Agriculture said they were elaborating an evaluation of the gender approach in the GMP but no such gender action plan could be found so far (Menara 2015; PAPMV 2012). The same year, a gender-related item has been added to the budget of the Ministry of Agriculture, with a part for the GMP gender approach (RG 2015; Menara 2015). In addition, the government states that between 2002 and 2012, more than 700 projects have been financed for 14 000 rural women and 1000 agricultural cooperatives and associations were created in the frame of the GMP (Le matin 2014; Maroc Agriculture 2014).

## 5. Analysis

In this part, I analyze the scale politics and representations of food security in the law on the protection of new plant varieties and in the Green Morocco Plan. Then, I compare these representations with women seed-producers representations of food security to demonstrate 'scale mismatches' in terms of development and sustainable development, women and gender equality, as well as education.

### 5.1 Food security and the politics of scale

Often associated to sustainability, food security resonates for many people as a sense of durability, solidity and livelihood security (Nightingale 2015). However, food security, like sustainability, is used in many different contexts, including ones that favor some and neglects others. Increasingly, food security is associated to economic growth and the modernization model of development (De Shutter 2009). According to Nightingale, although some concepts, like food security, seem innocent, and their use seems laudable, they require critical scrutiny (2015: 193). That is why one should look for normative ideas behind its utilization and should examine the way the concept may perpetuate a global system of inequalities. Indeed, food security is considered as a guarantee of development. Thus, there is a pressure to comply with certain requirements, in spite of its basic foundations. In food security policies, scale is often interpreted in fixed terms and its foundations may be neglected. Thus, I argue that food security is not harmless and constitutes a relevant lens to explore the ‘politics of scale’ in the seed system in Morocco.

Moreover, the seed system illustrated by the property rights law and the GMP are participating to the corporate food regime. A food regime is a “rule governed structure of production and consumption of food on a world scale” (McMichael in Holt-Giménez & Altieri 2013: 91). The current corporate food regime, coined by McMichael (2009), is composed of the global food system’s government ministries, international institutions, agri-food monopolies and think tanks that produce the technologies and discourses to enforce the rules of this regime (ibid). These rules are illustrated by free trade agreements, the European Common Agricultural Policy (CAP) or policies alike (ibid). In this part, I examine how the Moroccan green governance is sidelining the local scale and rather favoring the corporate food regime, first in the law on property rights on plants and second in the GMP.

The law on the protection of new plant varieties is a complicated regulation, with a misleading vocabulary, like all the policies alike applied in the rest of the world (AFSA & GRAIN 2015; Duquesne & Rabhi 2017a). This legal tool has been introduced to encourage research in biotechnology and foreign breeders to invest in the Kingdom (Agrimaroc 1998). It underpins the development of the national seed industry. Besides, it encourages foreign breeders to introduce their improved varieties, because they feared that these would be illegally exploited (ibid).

This law does not explicitly mention any of the concepts of interest to this thesis but demonstrates technical, technocratic and neoliberal representations of seed and food security.

Moreover, it shows a scaled perception of seed trade, as it is not accessible to small farmers or women seed-producers. The law intends to favor international and Moroccan multinationals that develop hybrid and genetically engineered seeds, also called improved seeds that are eligible for certification. In the world, 5 multinationals (Monsanto, Dupont, Syngenta, Bayer and Limagrain) are controlling over 75% of commercial field seeds (Kokopelli 2017). By doing so, the law completely neglects the local scale of women and men farmers.

Thus, for a breeder to legally commercialize a variety, it must be “new, distinct, uniform and stable” (Law 9/94: 5). By definition, a variety varies from one plant to another. It means that plants from peasant seeds are not accepted under this definition because they are unstable and multiform. Indeed, traditional reproducible seeds are subject to changes over time because it evolves in respect of the climate and the earth, which is also why these seeds are very resistant to environmental changes (Boujemaa Gueghan 13/05). On the contrary, improved seeds are homogenous and do not evolve through time because they are not reproducible. Food insecurity followed by the 2008 crisis led Morocco to import hybrid seeds massively in order to answer national demand (Agrimaroc 1998). The disproportionate use of these hybrid seeds may lead to a real danger for the biodiversity and risks eliminating the local genetic heritage (*ibid*). Their interest lies in the fact that they provide high yields the first year, and the second year they provide so few results that the farmer must buy new ones each year (Salma Idrissi Boutaybi 03/06; GRAIN 2005). In addition, if not already added to their genetics, many seeds need additional chemical inputs to be purchased at the same companies (Duquesne & Rabhi 2017a). The use of pesticides and herbicides create mutant pests and plants that resist to the external inputs and get stronger, which then requires developing and using new inputs (*ibid*).

In the law, seeds are considered under the wide expression of “propagating material for the production of plants” (Law 9/94: 2). This expression ignores all the symbolic and significant aspects of seeds. It is considered as a product, an object that can be commercialized and privatized like a computer (Via Campesina & GRAIN 2015). Indeed, the idea of property rights on plants is inspired by patent on invention in the industry or intellectual property rights in art and media (Agrimaroc 1998). It shows a clear market representation of food security and seeds. In fact, it is worth noticing that peasant seeds are the seed industry’s raw material, which is considered as “public resources” and then privatized after modification in laboratories (Kastler 2009).

Besides, this law addresses “breeder’s rights”, which mainly refers to the persons “discovering” or “developing” a variety (Law 9/94: 3). Knowing that these seeds are predominantly elaborated by multinationals, “breeder” mainly refers to the persons who chemically developed a variety in their laboratory instead of the farmers who actually bred seeds for millennia. Thus, the rights provided in this law are clearly not intended to peasants (GRAIN 2015). Worse still, the breeders’ rights include the right over any variety that is “not clearly distinguishable” from the breeder’s variety (Law 9/94: 10). This leads private companies to verify in farmers’ lands if their variety can be found, whether it is the same variety or simply has very similar characteristics (AFSA & GRAIN 2015). There have been examples where they appropriate the land or crop production of people because their plants developed the same characteristics as one breeder’s certified seeds (Soumia Akkeoui 16/05). Most of the times, this happens because the farmer’s land is close to intensive agricultures from which the wind bring seeds and external inputs (GRAIN 2011). According to Fettouma Djerrari (20/05), this occurred very few times in Morocco, compared to other countries. Nonetheless, it demonstrates how this right can be used against the peasant seed system and small farmers.

Additionally, the breeder’s right does not extend to non-commercial purposes. It does not extend to “acts done by farmers for the purpose of breeding other varieties, *on their own holding*, by using the harvested material which they have obtained by growing the protected variety, except for arboricultural, ornamental and floral plants.” (emphasis added) (Law 9/94: 12) This means that farmers cannot use their variety to produce other varieties, which is a common method to select and reproduce plants. In addition, it is well detailed that it should not concern plants leading to food. This means that the law is clearly dedicated to the seed industry and market. Moreover, the law provides sanctions against any infringements of the breeder’s rights. For instance it is not allowed to conserve certified seeds from one year to another. In theory, farmers are not allowed to keep peasant seeds and sell them either, but in practice there is no system to monitor and control the use of peasant seeds, unlike in European countries (Boujemaa Gueghan 13/05). One could argue that a certain tolerance is permitted, but other farmers remain suspicious of the system and avoid problems by not selling their peasant seeds (ibid). Therefore, considering the difficulty in order to sell seeds legally, the women seed-producers project aims at evolving towards a breeding ground project so that women can sell the trees coming from their peasant seeds, instead of the seeds themselves



(Fettouma Djerrari 20/05). This strategy avoids potential legal issues and could more easily lead to revenue generation for rural women.

Eventually, the complexity of the law shows that it is not intended to local farmers, unlike M. Sadiki pretending that the seed system “works to bring a better response to farmers’ expectations and contribute to reinforce food security.” (Afrique Agriculture 2016). In fact, the illiteracy rate is very important in rural areas, especially for women with 72% (HCP 2014). However, the certification requires numerous documents testifying the uniformity and stability of the seeds. Thus, it ignores the reality of local farmers. Souad Abderma (26/05), a woman seed-producer and president of a women’s cooperative of organic goat cheese, is struggling to get her seeds certified as organic seeds because of the bureaucracy and multiple obstacles. She says to be fortunate compared to other women seed-producers because she could study in France and she intends to persevere in her efforts (ibid). According to her, the certification is rarely granted to cooperatives like hers.

This system shows that the green governance behind this law assumes to achieve food security with irreproducible and chemically engineered seeds that are no meant to last more than a year and are not adapted to the climate and local land. If food security is to be achieved through this type of laws, this means only technology and market-based activities should be able to bring food security. The law demonstrates a technocratic and neoliberal representation of food security. In addition, the law has been created for the interest of a large-scale seed industry and devalues the local scale where farmers still develop and conserve peasant seeds for their sustainable livelihoods, including food security.

In the GMP, the concept of food security is mentioned as one of the main objectives. At first glance, the concept seems to be used positively because the plan seeks to provide nutritious food for all Moroccans (Bachir 2011). However, it appears to hide a global system of inequalities, perpetuated by the corporate food regime (Nightingale 2015; Holt-Giménez & Altieri 2013). The GMP refers to food security but then completely overlooks this issue. To achieve food security, the GMP aims at securing market supply in food commodities coming from certified seeds. According to Berdai (2016), the availability of food is the most used indicator to measure food security. This demonstrates that food security is represented to be merely a question of food quantity. In fact, food security is primarily mentioned in discourses, seminars and international meetings but does not lead to an efficient strategy (ibid).

According to Akesbi and other economists, the plan even seems to “program” food insecurity for years to come (Akesbi 2011: 98; Berdai 2016). Although this is not the purpose of this thesis, it highlights a certain representation of the problem as if food security would be a convenient reason to conduct a neoliberal policy. In addition, it implies who benefits from this framing and who does not (Nightingale 2015; Bacchi 1999). Thus, I argue that food security is used as a political tool to support the corporate food regime.

As mentioned above, the GMP is composed of two main pillars. The first concerns large-scale intensive agriculture while the second applies to smallholders. In that sense, the food security strategy can be identified at two scales. The GMP affirms that no sector is ignored but a limited list of sectors is identified as “growth sectors” with high added value and high productivity as part of the first pillar (Akesbi 2016). The other sectors must confine themselves to the “solidarity support” of the second pillar (ibid). The sectors in question are highly gendered, and it appears that there are no female-dominated sectors identified as “growth sectors”, which are receiving most financial support and private investments (ASFD 2015). Although the Minister of Agriculture said the priority lies in the second pillar, it seems clear that the first pillar is privileged over the second (Le Matin 2011; Akesbi 2016). According to Souhad Azennoud (03/06), the GMP has an intellectual perspective, a vision that is not coming “from the field”. In that sense, the “politicians” do not know well ecology issues and the local agriculture they seek to address. For example, Souhad stresses that the GMP, structured by sector, classifies organic agriculture as one sector apart whereas it concerns every other sectors (ibid).

In addition, within the second pillar, the GMP represents the local in fixed terms (Nightingale 2015). The strategy represents local agriculture as backward by proposing farmers an evolution towards mechanization and modernization (ASFD 2017). The second pillar financially supports farmers towards reconversion and intensification for higher productivity (ibid). In fact, on the long-term, the GMP seeks to transform family agriculture into intensive agriculture. This will also lead small farmers to dependency. As Bouchaib & Leila Harris put it: “agriculture is seen as backward and the industry is supposed to be the way forward” (Bouchaib & Leila Harris 21/05). This couple of agroecological farmers and seed-producers is deceitful about this reality. Besides, the pillar II says to be an approach of “poverty alleviation” (Badraoui 2014). The local is represented as “in need” of this modernization to overcome poverty. However, according to Bouchaib and other seed-producers, this lead to credits and debts, which then means losing food sovereignty, that he

defines as “the peasants’ pride and dignity” (Bouchaib Harris 21/05). In the GMP, poverty seems to be defined as a question of income and technical material and knowledge. In that sense, it is contrary to Sen’s conception of poverty understood through various factors as literacy, health and basic services, being much closer to women seed-producers’ conception of poverty and sustainable livelihoods (Sen 1985; Krishna 2012).

In Moroccan green governance the concept of food security seems harmless on the surface but it is embedded in normative ideas of growth, gender and development. By using a managerial and neoliberal approach of food security, the bases of the concept have been neglected and food sovereignty becomes incompatible with food security. According to Nightingale (2015), these representations have far-reaching consequences on the reproduction of inequalities. That is why it is imperative to challenge the current beliefs on food security and think upon “alternative rationalities” people apply and strategies for sustainable livelihoods (Nightingale 2015: 187; Bacchi 2009). In the next section, I argue that the representations of food security participate to the devaluation of local people’s understandings of food security and seed sovereignty, demonstrating scale mismatches with women seed-producers.

## 5.2 Scale mismatches

In this part, scale mismatches regarding food security and seeds are illustrated in terms of development, economy, sustainability, gender equality and education.

### 5.2.1. Modern development and economy

The most striking scale mismatch can be identified in the way the law on new plant varieties and the GMP represent food security associated with growth and the modernization model of development. The government shows a clear political will to favor green growth and a new green revolution in Morocco, like followed in many countries in Africa (Holt-Giménez & Altieri 2013; Balaghi 2014). Indeed, the King mentioned “the necessity to favor a green growth dynamic” when talking about sustainable development in the GMP (Tebaa et. al 2016: 63). In fact, food security is represented as a neoliberal tool to make Morocco a developed country:

“It was imperative for our country to take charge of the agricultural development sector, through a highly voluntary strategy, initiated and followed by His Majesty the King, in order

to enter in a new cycle of development, towards modernization and performance.”<sup>2</sup> The Minister of Agriculture, M. Akhannouch.

In the GMP and the property rights law, Morocco is framed as requiring development. For the government, development means having a high GDP and a strong purchasing power for Moroccan people (ASFD 2017; Badraoui 2014). Thus, the representations of food security are promoting a “neoliberal logic of governance” (Akesbi 2011: 194). According to Akesbi, the maximization of production takes precedence over any other consideration in the GMP (Akesbi 2011). That is why the agricultural sector is highly valued to foster economic growth in the GMP and that the law on new plant varieties is beneficial for international seed companies.

The government considers that the use of certified seeds by farmers is an efficient way to valorize and disseminate genetic progress and contributes significantly to productivity and economic growth (Agrimaroc 1998). The law mimics the UPOV and thus does not adapt to the national context. It is a standardized template applied to Morocco (ASFA & GRAIN 2015). In addition, the law facilitates incomers through investments and the standardization of seeds in the world. The fact that the GMP promotes private investment in agriculture demonstrates the idea that Morocco is dependent on importations (Akesbi 2011). In the words of Nightingale, this emphasis on financial support reflects “the move towards enterprise development and market formation as the solution to underdevelopment.” (2015: 193). This means Morocco’s development should be achieved by following a model of development based on the global market. According to Nightingale, it is quite new that there are neoliberal models to development practice (ibid). It is an alarming trend for her, demonstrated by these policies and the way the government expect to sustain its population in face of certain issues.

According to Olivier de Shutter (2009), the UN Special Rapporteur on the Right to Food, the UPOV system and policies alike are neglecting farmers’ needs in the interest of agribusiness needs, and putting traditional seed-saving and exchange systems at risk, as well as the biodiversity. According to Aicha Krombi (21/05), an agroecologist and seed-producer, unfortunately, many people think the mechanization of agriculture started by the green revolution model and revived by the new one is the best model. Among other things, this

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<sup>2</sup> Translated from French : « il était impératif pour notre pays de prendre en main le développement du secteur, à travers une stratégie fortement volontariste, initiée et suivie par Sa Majesté le Roi, afin de le faire entrer dans un nouveau cycle de développement, vers la modernisation et la performance » (Le matin 2011)

model led to a change in people's consumption habits because it favored intensive monocultures, coming from improved seeds that uniform the food production. In the words of Bouchaib, because small farmers cannot accept to be bankrupt or have debts, "peasants sell their land to live like pigeons in the city." (Bouchaib Harris 21/05). Thus, small farmers cannot afford to keep their land and increasingly move to the cities. As Salma Idrissi Boutaybi (03/06) explains, agricultural lands are increasingly sold to become real estate transactions. Then they are sold to rich Moroccan people, foreigners or other countries from the Middle East (Farmlandgrab 2013). In addition, consumption habits have changed with the current seed and food regime. The women seed-producers I interviewed all noticed that Morocco has lost many varieties of seeds. In the world, it is estimated that 75% of seed varieties disappeared in a century (FAO 2009). According to Salma (03/06), the change in consumption habits has contributed to silence this biodiversity loss. People have been encouraged to buy sophisticated commodities and abandon more nutritive and natural food. For example, the consumption of meat is increasing, especially in the cities, which is leading to an increasing part of land dedicated to feed the livestock instead of feeding people (Aujourd'hui 2015; Duquesne & Rabhi 2017b). Now the food in Morocco comes from foreign improved seeds, especially European and American. Salma (03/06) thinks that with agro-food, people have the impression to have a choice but in reality they do not because everything is standardized and monopolized.

For some women seed-producers, the future of Morocco should not be dictated by large-scales actors like the West, represented by Europe and the US. According to Leila, Morocco is "under the orders of other important countries and the World Bank", that is why it is essential for her to preserve seeds in order to avoid this takeover (Leila Harris 21/05). However, the UPOV was formulated by a Swiss organization and the GMP is largely influenced by the new green revolution ideas coming from the West. Two other women seed-producers had a clear anti-colonial discourse and considered that Morocco was subjected to international organizations and banks rather than developing an autonomous agricultural policy (Salma Idrissi Boutaybi 03/06; Fettouma Djerrari 20/05). Besides, Soumia Akkaoui (16/05) mentioned that there is no financial support for research in Morocco because the government "values more researches from American or international firms" than local ones. A similar discourse was also raised concerning gender equality and will be explored further.

In terms of economy, women seed-producers promote a seed and food system based on the locality. This implies a short-circuit production and distribution, as well as practices

respecting people's work and the environment like fair trade and agroecological practices. According to Bouchaib (21/05) and Aicha (21/05), the women seed-producers project fosters assistance and solidarity between people concerned, consumers and producers. Thus, they defend a strong social and solidarity economy, or community based economy as explained by Cameron and others (2013). Indeed, Cameron and others define community based economy through five dimensions: surviving well, distributing surplus, encountering others, caring for commons and investing in the future (ibid). The ethical "diverse food economies" they define corresponds in many ways to the women seed-producers economical practices, intended to negotiate the challenges of nowadays' neoliberal system (Dixon 2010: 120; Cameron et al. 2013).

In addition, according to Molly Scott Cato, green economics principles are: ecological balance rather than economic growth, sharing rather than exploiting resources, local economy, widening to feminists and southern knowledge and academics (Scott Cato in Harcourt et al. 2012). Thus, she advocates for alternative ways to do economy as the women seed-producers intend to do. In that sense, the Moroccan 'green' governance does not correspond to this definition and uses this appellation to put forward its good intentions. In fact, women seed-producers are "moving beyond the 'green economy'" (Harcourt et al. 2015). Although Morocco is physically 'greener' since the GMP was launched, the price is going to be high because it will face major limitations including environmental issues, for example water shortages (Salma Idrissi Boutaybi 03/06). In view of the above, the 'green' governance highly mismatches with women seed-producers' aspirations for a solidarity economy based on the local.

### 5.2.2. Climate change and sustainable development

There is a scale mismatch between policy-makers and women seed-producers regarding the sustainability of the governance model of food security. In the GMP, sustainable development is represented as the guarantee of food security for the next decades. In their view, sustainability has to do with the durability of food supplies whatsoever, not with the respect of the environment. In parallel, climate change is seen as costly; for the gains of the GMP, the negative impacts on return on investments, the droughts that affect the GDP (ADA 2012). Climate change is thus represented as an obstacle to economic growth. Moreover, small farmers are represented as vulnerable. Because they cannot adapt to climate change and

adopt sustainable development practices, the GMP will help them (ibid). This is completely undermining the local collective knowledge and women seed-producers' practices.

The climate change and sustainable development dimensions are one of the most important foundations of the GMP. Under these dimensions are mentioned sustainable agriculture, more efficient and more economic adaptive measures and the preservation of natural resources (ADA 2012). It says to promote a resilient agriculture ensuring food security. At first glance, it does seem to correspond to women seed-producers' objectives. However, one should be careful on the use of these terms and their impacts on local scales (Nightingale 2015). Within this dimension, is addressed "the agricultural development funds and the incitation to adopt good agricultural practices resilient to climate change and sustainable development" (ADA 2012: 11). Among other things, the subventions accorded to farmers to adapt to climate change are meant to provide a significant support for the utilization of genetically engineered and hybrid seeds, "characterized by a better resistance to sicknesses and drought." (ADA 2012: 11). Indeed, these seeds resist to pests and weeds, and can survive without much water. As explained above, this resistance is short-lasting as mutant pests and weeds resist more and more to the pesticides and herbicides, which then requires buying more external inputs. For policy-makers, the resistance of these seeds is the guarantee of food security, understood as sufficient intake of calories per habitant provided by food supply on basic products (FEMISE 2013: 66). Some projects of the GMP may actually be working favorably to combat climate change but it does not seem to be the case concerning seeds.

For women seed-producers, adapting to climate change and ensuring food security should not involve the destruction of micro-organisms in the earth (Salma Idrissi Boutaybi 03/06; Ghita Elkhyari 27/05). In the world, 20% of lands are degraded due to intensive agriculture (Duquesne & Rabhi 2017b). In fact, women seed-producers have the skills to cultivate seeds and then select and preserve them without degrading the land (Souad Abderma 26/05; Fettouma Q 20/05). The peasant informal seeds systems represent 70% of the seeds used on the African continent (Africa Diligence 2015). Opening African markets to commercialized and privatized seeds is destabilizing this local agricultural production (ibid). According to Souhad (03/06), small farmers are stripped off their abilities to breed seeds, pushed to buy certified seeds and becoming dependent on the system. With agroecological practices, it is possible to develop seeds that are reproducible and limiting climate change consequences (Burger et al. 2012). For example, reforestation permits to counter soil erosion

and droughts (Boujemaa Gueghan 13/05). Agroecological practices also provide various solutions against pests and spontaneous plants like combinations of plants or plant manures (ibid). For them, food security is characterized by the adaptation to the local ground and climate. Foreign improved seeds in Morocco may be growing with high yields the first year but then they are unable to adapt to droughts and erosion. According to some, this food regime is highly disadvantageous for developing countries, for instance because the climate in Southern countries is less predictable than in Northern countries and they are more subject to environmental change consequences (De shutter 2009; Meienberg 2010).

Food security is represented to be a question of quantity by policy-makers, while for women it is about quality coming from the locality. This quality stems from nutritious, healthy and diversified local food. The standardization of seeds and its chemicals lead to a diminution of the nutritive elements in food and its diversification (Duquesne & Rabhi 2017a). When discussing food security, all women seed-producers interviewed mentioned health as being at the heart of the concept. According to Souad (26/05), nowadays sicknesses are coming from unhealthy food stemming from improved seeds. In addition, in rural areas, there are very bad quality seeds which are often expired, or contain rat poison (Ghita Elkhyari 27/05). In the words of Soumia (16/05), “the health and the rights of rural people are not taken seriously”. With the food security as used by the governance, “we don’t ensure anything; we are going to hit the wall”, as Salma says (03/06). Besides, according to women seed-producers, this food should come from the local, not from foreign international companies. Some insisted on the fact that seeds are crucial to be adapted to the local ground and climate (Boujemaa Gueghan 13/05; Fettouma Djerrari 20/05; Ghita Elkhyari 27/05). There is a clear scale mismatch between policy-makers and women seed-producers concerning seeds and food security. Hence, the experience of local women is not taken into account and they face many issues concerning local seeds. As summarized by Ghita Elkhyari (27/05): there is a difficult access to varieties and traditional peasant seeds, an arbitrary circuit of organic seeds (primarily coming from France), on the market, the seeds are not adapted and cannot be conserved, in addition to poor diversity and high prices. These issues lead many women seed-producers to use the French NGO Kokopelli to access peasant seeds that could adapt to their regions in Morocco. Sometimes, they do not buy the seeds but exchange them (Bouchaib 21/05). It allows them to access good quality peasant seeds and be part of a larger movement for food and seed sovereignty. This movement participates to their multi-scalar conception of the local contrary to the GMP’s static representation of the local as backward (Nightingale



2015). Thus, the scale mismatch around climate change and sustainable development issues lies in the fact that the Moroccan seed system follows a technocratic and technical scale representation of food security that is not fitting the local scales' perception of food security and seed sovereignty.

### 5.2.3. Women, gender equality and the locality

As mentioned previously, the GMP is formulated at two scales, the large scale and the local scale agricultures. Although the GMP intends to make the strategy accessible to every scale, it does have a scaled perception of women. Therefore, women's projects are mainly concerned with the local scale agriculture of the second pillar. It means in some way that women are assumed to be good for certain sectors and not for others. The GMP does mention a gender approach but it does not intend to go beyond traditional paradigms (EC 2013). As there is no clear gender action plan, the GMP presupposes equal opportunities between women, men and youth for the access of projects. Hence, it ignores gender disparities and could easily lead to the perpetuation of inequalities (ADB 2016). Moreover, the issue of food security is portrayed within the framework of a patriarchal society. Even if the GMP includes projects dedicated to women, they are not yet empowered because of the lack of access to credits, resources, technical formation, a low rate of alphabetization and the under-representation of women in organizations and professional institutions (Maroc Agriculture 2014). According to Souad (26/05), "men are lucky with the GMP" because the strategy favors large scale agriculture, which is predominated by men. For her, favoring large farms equals favoring men. Thus, this demonstrates a scale mismatch in terms of gender in the food security strategy. Promoting this food and seed system does not seem to favor gender equality or empower women. In addition, the strategy does not deal with women land rights issue. As a matter of fact, women have almost no rights on land due to Muslim law and customs. They represent the majority of farmers' labor force but own merely 12% of agricultural land (World Bank 2011; Macro International 2010). This silence shows that rural women are not represented as able to own, or represent, the territory and the local.

In contrast, most women seed-producers stated that gender equality is part of the agroecology philosophy. As Aicha Krombi (21/05) says: "agroecology is a life ethic in which respect is key.". For Souhad (03/06), women are the "seed saving security" as they traditionally keep and reproduce seeds, while men usually favor large crops. Wearing a t-shirt

stating “Vive les femmes!”<sup>3</sup>, Souad (26/05) quoted a Moroccan proverb: “Women are the seeds of the earth”. For her, the nature is feminine and femininity can bring change because it is preventive, unlike masculinity. According to her, that is why women generally care about food, the economy and the future. Teaching agroecology to women and men is a solution for gender equality according to women seed-producers. With the project, many women have been able to get some autonomy by going outside their homes and learning in formations and sometimes earn their own salary (UN Women 2016). Thus, according to Souhad (03/06), the evolution towards gender equality and the empowerment of women are happening thanks to agroecology and projects like the women seed-producers project.

The scaled perception of women in the GMP can also be noticed by a certain representation of rural women. For instance, the ASIMA Project is supporting fields particularly held by women such as argan or herbs and medicinal plants (ASFD & ADA 2013). Among other things, it mentions the improvement of rural women’s income and the importance of rural women in agriculture. Nonetheless, it represents rural women in fixed terms and ignores their value as seed-keepers (Pschorn-Strauss 2016). For example, the project says to “support economically viable fields of sustainable development where the rural woman plays a central role” (ibid: 2). The “rural woman” expression represents rural women as an homogenous group characterized by common powerlessness and subordination, and as if they would all have the same issues and aspirations (Mohanty 1986). In addition, the GMP has a static approach of rural women, as if they were bound to their territoriality (Nightingale 2015). Women are perceived as not moving so much outside of their territoriality. On the contrary, women seed-producers highly value networks; as Fettouma (20/05) explains, without the women seed-producers project, they would not gather with other women conserving and producing peasant seeds in Morocco and they would not be able to create seed houses in different regions of the country. Therefore, women seed-producers have a multi-scalar conception of the local (Nightingale 2015).

For Salma (03/06), the gender approach is not salient in Morocco. She says it is a Western concept that THM must apply to “please” key funders, such as the UN and other international institutions. For her, what matters is not gender but individual competences. She states that both sexes should be able to develop any competence, no matter one’s gender. Indeed, the way it seems to be applied in Morocco in many contexts is that whenever the “gender approach” is mentioned, it mainly concerns women’s cooperatives. According to her,

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<sup>3</sup> “Long live women!” in English.

“gender” is a synonym for “women’s cooperative” in the GMP, it is “involving women, ignoring gender” (Krishna 2012: 15). The strategy includes it to put forward some quantifying results, not for the gender equality cause. The “700 projects” and “1000 cooperatives” created in the frame of the GMP are appearing in every governmental and journalistic sources of information when searching for gender and the GMP (ASFD 2015; Le matin 2014, 2015; Maroc Agriculture 2014). In fact, like Fettouma (20/05), Salma criticizes a certain approach to gender that silences men’s part of gender equality and especially victimizes women instead of valuing their hardship work, struggles and victories. By giving a specific approach to women, the GMP represents men as the norm and silences their role. In fact, Salma and Fettouma have a postcolonial approach to gender, similar to Chandra Mohanty’s criticism of white middle class feminists portraying Southern women as victims and “in need” (Mohanty 1986).

In addition, according to many women seed-producers, this model privileging modernization and profit for companies does not serve women’s rights, as capitalism seem to go hand in hand with patriarchy (Pinks 2016; Salma Idrissi Boutaybi 03/06; Fettouma Djerrari 20/05). In feminist scholarship, neoliberalism and capitalism have often been criticized as contrary to gender equality struggles (Prügl 2014; Bexell 2012; Zillah 1998). According to some, neoliberal green governance perpetuates gender inequalities by privileging corporations and market expansion (Shiva 1999; Pinks 2016; Harcourt et al. 2012). At the same time, this tendency accentuates environmental damages, especially in the global South by facilitating industrial monocultures, biotechnology, and genetic engineering (Shiva 2009, GRAIN 2012). According to Vandana Shiva, intellectual property rights on seeds and genetic engineering in agriculture are “patriarchal projects” to steal Third World women and deprive them from the knowledge and abilities to preserve the biodiversity, for their own profit (Shiva 1999: 37; Shiva et al. 1997). In addition, neocolonialism is concerned when this food regime is instigated from Western corporations convincing Southern governments to engage in intellectual property rights and food security strategies such as the GMP. It is in their interest to beneficiate from the development of Morocco and other countries, and to push governments to eliminate obstacles such as the informal seed system, which happens to be dominated by women. That is partly why it is not in their interest to profoundly act for gender equality and women’s rights in agriculture. The mismatch concerning gender equality is revealed by the law and the GMP’s representations of food security in relation to gender, but also in terms of education.

#### 5.2.4. Education and knowledge

Most women seed-producers interviewed said to aspire for educating rural women and girls. Souad (26/05) and Souhad (03/06) engage in literacy training projects in parallel to their cooperatives. Two of them mentioned Montessori schools, which are alternative education systems from larger scales (Salma Idrissi Boutaybi 03/06; Souad Abderma 26/05). This pedagogy was created in Italy and there are numerous schools in France and Europe. In that sense, the West is valued. The women seed-producers encountered wish for future generations to have a better education and to enlarge their scope and scale.

However, the Moroccan green governance does not address this desire for education. When one explores in more detail the proposed solutions to achieve food security, their response mechanisms are technical (Nightingale 2015). For instance, the law on new plant varieties is not made accessible to women seed-producers in its form and in practice mainly due to its complexity. Moreover, the GMP is not in line with women's aspirations of education. The GMP proposes trainings with technical knowledge about inputs and other materials. There is a scale mismatch because the strategy is concerned with linking scales in a way that local people will have access to certain knowledge and techniques in their own locality (Nightingale 2015). It is assumed that their knowledge is scarce or should be gathered with technical knowledge from larger scales. In addition, policy-makers make suppositions about the ambitions of smallholding farmers by assuming that they want a reconversion and so forth. According to Nightingale, all these "patronizing attitudes" lead to distrust in policy-makers (2015: 197). Again, rural places are represented to be in need of support from other scales, while remaining in their remote localities and not moving to larger scales. This reveals a deeply scaled notion of the state and food management (ibid). As a result, it does not benefit local farmers but the government and seed companies, namely the corporate food regime.

This diverges from women seed-producers' desire for education thanks to networks and through larger scales. Studying outside of their remote localities, like in larger cities or in the West, is highly valued by women seed-producers. Some of the women I met have studied in France and came back to work and make a change in their native land (Souad Abderma 26/05; Souhad Azennoud 03/06; Aicha Krombi 21/05). They see education as the best way to improve their life chances. Due to the poor education system in rural Morocco, women and girls ask for more knowledge coming from the outside, as I experienced it. During my

internship, I was asked multiple times by the girls, and some boys, to teach French in the village I was living in. Thus, I taught French twice a week and they would come even the days there were no classes. Profoundly attached to their locality, women seed-producers also have knowledge and skills to share with larger scales. For Souad (26/05), Salma (03/06), Leila (21/05) and Souhad (03/06), working the land, cultivate and keep seeds is not as technical as the seed system assumes it to be. For them, it is a work of soul. They have a spiritual conception of agriculture. In the words of Souad, “agriculture is love given to the earth so that it gives you fruits”. Salma mentioned a network between the sky and the earth when talking about agriculture. According to Duquesne & Rabhi food and seed issues should have an “absolute priority in fields of knowledge” (2017a: 12) because the livelihood and survival of humanity is at stake. Seeds have a spiritual and mysterious force as they are the symbol of life and their importance for humanity is indefinite. This spirituality with regards to seeds is rather incompatible with the property rights law and the GMP.

## 6. Discussion

In this part, I present the main findings of the analysis, including some of the implications of food security representations and politics of scale, then are discussed potential solutions to address women seed-producers’ rights, followed by some considerations on the agroecological and food sovereignty movement.

To summarize, the ‘politics of scale’ and *What’s the problem* approach are relevant lenses to explore the Moroccan green governance on seeds and the agroecological movement of women seed-producers. The analysis demonstrated scale mismatches with regards to topics as large as the neoliberal development model, sustainable development and climate change, women and gender equality, education and knowledge.

Therefore, the problem representations of food security reveal that policy-makers have a neoliberal representation of “good governance” (Nightingale 2015: 194). Moreover, the GMP’s neoliberal representation of food security adds further justification to the global economic logic (ibid). Food security is represented to be a question a quantity and availability more than a matter of nutrition or human rights. Sustainable development and climate change are mainly used to justify the current system with laudable intentions. In terms of gender equality, the food security strategy does not seem to consider engaging with a comprehensive

gender approach or empowering women as an advantage. Education, an important issue in Morocco, is addressed in the GMP for the purpose of the industrial agriculture's development, contributing to the depletion of family agriculture and limiting the expansion of agroecology.

The analysis shows that the law on new plant varieties and the GMP have an instrumental approach to food security which is more dedicated to the seed industry and their interests than small farmers and Moroccan food security, and sovereignty. Of most concern to this thesis, the policies on seeds reflect very different representations of food security compared to local women seed-producers' understandings of the same, as well as their solutions and aspirations for sustainable livelihoods. This confirms Nightingale's theory that we are witnessing "a top-down dictating of governance needs for local people" which also shows a new turn in which the state relegates responsibility without redistributing resources (2015: 194). Thus, the artificial help given by the second pillar of the GMP is meant to favor the current seed system and the corporate food regime (Akesbi 2011; Holt-Giménez & Altieri 2013). This undermines local farmers' and women seed-producers' autonomy and sovereignty over food and seeds.

The analysis also reveals that rural villages are perceived by local people at a different scale compared to the scale used in the GMP. Women seed-producers define the local in terms of community and family scales, but often as well in terms of networks beyond the territorial space of the village. Hence, networks help to produce capital and emotional support for the community or the family (Nightingale 2015). The GMP seeks to generate similar networks but clearly has a more technocratic and static approach of the local, especially concerning rural women. In that sense, it misses a crucial component of remote areas, which are the "abilities to be connected outside of place" (ibid: 203), illustrating their multi-scalar conceptions of the local. In addition, the GMP has a scaled perception of gender that neglects rural women's mobility and scope of action.

In addition, policy-makers' main argument for the law on property rights and the GMP is that it ensures food security. They justify anything, including the widespread use of improved seeds, with this argument (Monsalve et al. 2016). In reality, it is proven that agroecological practices provide as much production as conventional agriculture with the same conditions (Burger et al. 2012; Côté 2014). THM introduced agroecology in Morocco because family agriculture is not enough productive and conventional agriculture is harmful for the environment. Instead of ensuring sustainable food security, the Moroccan, and global,

food regime destroys the small farming and seed saving practices that actually ensure food security and without whom the world would not be fed (De Shutter 2009; Duquesne & Rabhi 2017b).

Consequently, these representations have human and environmental implications that raise important questions on global inequalities, human rights and the environment. Monsalve and others (2016) noticed that, although they are essential, seeds and agricultural biodiversity are often neglected when mentioning the human right to adequate food and nutrition. In fact, small farmers, especially women, face severe threats due to the corporate food regime because of the privatization of seeds and the increasing destruction of agricultural biodiversity (ibid; Pschorn-Strauss 2016). The international legal framework of intellectual property rights and policies inspired by the Green Revolution such as the GMP are restricting seed management systems and peasant practices in order to protect the seed industry's interests (Monsalve et al. 2016; Peschard 2016).

As aforementioned, farmers' dependency on the industrial seed system is the most striking implication of this food security model. The green Moroccan strategy does not consider alternative ways of achieving food security and completely ignores food sovereignty (Berdai 2016). As small-scale food and seed producers do not have the financial means to buy commercial seeds and inputs, they are often forced into debt, bankruptcy and migration to the cities' periphery (Kastler 2016). This can be considered as a violation of the human right to adequate food and nutrition and the right to work (ibid). Another problem is the loss of knowledge and skills (THM 2014). One consequence of these regulations is that local knowledge on seed production and preservation is less transmitted than ever before (Salma Idrissi Boutaybi 03/06). Therefore, these policies impose legal and technical barriers to the peasant seed system built upon farmers' rights to use, exchange, conserve and sell their own seeds (Kastler 2016).

The destruction of agricultural biodiversity is another implication of these policies (Monsalve et al. 2016). This seed system enhances homogeneity and standardization which highly affects biodiversity in addition to industrial agriculture practices (ibid). This destruction is translated by land degradation, soil depletion, and loss of biodiversity (ibid; Duquesne & Rabhi 2017b). Moreover, this issue is exacerbated by climate change consequences, which expands the challenge of achieving the rights to food and nutrition in Morocco.

The International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), also known as the Seed Treaty, was formulated by the FAO in 2001 and effective in 2004 to protect farmers' rights:

“to save, use, exchange and sell farm-saved seed and other propagating material; to the protection of traditional knowledge relevant to PGRFA; to participate in decision-making on matters related to conservation and sustainable use of PGRFA, and to the fair and equitable sharing of the benefits arising from the use of plant genetic resources for food and agriculture.” (FIAN 2016: 10; ITPGRFA 2001).

Therefore, this treaty is presented as a key opportunity to implement farmers' rights and equity between companies and farmers all over the world (Kastler 2009). Morocco has signed it in 2006 but there is no clear implementation of the treaty so far (WIPOlex 2017). According to Karine Eliane Peschard (2016), the proliferation of regulations, intellectual property rights, trade agreements and environmental policies has led to conflicting norms in international legal regimes. The most relevant conflict concerning farmers' rights is between the UPOV and trade agreements on the one hand, and the ITPGRFA, on the other (ibid). Thus, international trade and property rights on plants highly restrict the rights formulated in the Seed Treaty. In fact, this treaty is meant to create a multilateral access system under which all signatories to the treaty who put their genetic resources at the disposal of the system gain access to all genetic resources that other parties make available (Kastler 2009). This access extends to conservation and research but farmers' access depends on the willingness of the states. Signatory states promised to respect “the rights of farmers” who maintain these genetic resources, as they always did, in exchange of this access system (ibid). In the Article 9.3, the Seed Treaty states:

“Nothing in this Article shall be interpreted to limit any rights that farmers have to save, use, exchange and sell farm-saved seed/propagating material, subject to national law and as appropriate.”

The contradiction of this article lies in the last part of the sentence, as the implementation of farmers' rights appears to be in the hands of the states. In addition, the mentioned benefit-sharing is supposed to financially compensate farmers' contributions to the access system. However, this system is hardly implemented due to multiple restrictions for farmers to ask for their share (Kastler 2009). In fact, after negotiations, the Seed Treaty quickly became non-binding. Eventually, according to Kastler (2009), Peschard (2016) and other civil society organizations, the problem remains unaddressed as the corporate sector continues to pursue its



efforts to exploit agricultural biodiversity for private interests. Kastler (2009) considers that civil society organizations committed to implement farmers' rights as stated in the Seed Treaty should gather under an international organization to defend their rights or create an autonomous structure at the global level.

According to women seed-producers, in order to address farmers' rights, there should be no intellectual property rights, nor monocultures, but agroecological methods spread, education and women's rights in agriculture (Ghita Elkhyari 27/05). As Souad (26/05) says:

“If we can change conventional for integrated agriculture, it is good, if we change from integrated to organic, it is better, but if we change from organic to permaculture, it is ideal”.

However, today's global and national discourses on food security are not addressing women's issues so local organizations like THM work in gender-aware, locally specific and participatory approaches of food security (Lacey in Harcourt et al. 2012). As the Alliance for Food Sovereignty in Africa describes it, food sovereignty systems are “Feeding the World, Regenerating Ecosystems, Rebuilding Local Economies, and Cooling the Planet – all at the same time.” (AFSA 2011). I would only add “Respecting Gender Equality” to these objectives, as Via Campesina or THM would do. The women seed-producers project is in line with this definition of food sovereignty systems as women seed-producers aspire to feed their communities, renew ecosystems, strengthen local economies, slowdown climate change and empower people regardless of their gender. The title of Pinks' article (2016) is suitable to women seed-producers: “Food is a feminist issue”. Indeed, they aim at freeing themselves from industrial seed practices and patriarchal constraints.

According to Holt-Giménez and Altieri (2013), the agroecological and food sovereignty movements should merge and combat the corporate food regime together. Agroecological movements are generally constituted of practitioners in agriculture while food sovereignty movements are more political and advocating for their rights publically (ibid). THM and the women seed-producers project are in between as they adopt both philosophies although they rather practice than advocate. Thus, THM adopts an apolitical approach; so far, they try to make change without getting noticed by the authority (Souhad Azennoud 03/06). The day they convince and train thousands of people, then maybe they will represent an important actor against policies and seed companies (Aicha Krombi 21/05). Due to the political context, there is no direct struggle against the government like it could be possible in France or elsewhere (Bouchaib Harris 21/05). Therefore, they maintain a pragmatic strategy

and their resistance lies in their practices and discourses. According to Souad (26/05), when small farmers will realize they can produce their own seeds and could ensure the food security of their community and even Morocco's, the system will change. That is why it is crucial to inform and mobilize people as people's awareness is one guarantee to ensure food security and food sovereignty.

In parallel, the corporate food regime is increasingly trying to integrate agroecological practices while protecting the current food system (Holt-Giménez & Altieri 2013). For instance, in Morocco, I have heard of some agroecologists who accepted subventions of the GMP. Then, the GMP would give them external inputs and improved seeds that they would delegate to other people (Boujemaa Gueghan 13/05). Working with agroecological projects is a good strategy for policy-makers to make their practices acceptable (Holt-Giménez & Altieri 2013). That is why agroecological and food sovereignty movements like THM should keep creating networks with other movements to mobilize and reinforce the worldwide movement. As mentioned in the analysis, THM and some women seed-producers are in contact with other organizations like Kokopelli in France or feminist organizations, which contribute to the transnationalization of the movement for agroecology and food sovereignty systems (Keck & Sikkink 1998).

Besides, international debates such as FAO's events, the Climate Change Conference of the Parties (COP23) in November 2017 at Bonn, the regional and international conferences for food sovereignty, like the VIIth International Conference of Via Campesina, are crucial spaces to create and consolidate coalitions in the worldwide movement. The rights of farmers to their seeds should be included or imposed on the agenda of these events in order to solve food and climate crises and to achieve food sovereignty (Kastler 2016).

## 7. Conclusion

This thesis reveals interesting linkages between gender, politics and the environment in the precise topic of seed management in Morocco. It demonstrates scale mismatches in many ways as women seed-producers are expressing very distinct understandings and aspirations for sustainable livelihood to those represented in the policies.

The law on property rights and the GMP are attempting to ‘green’ the economic development process of Morocco, by using concepts as food security, sustainable development, climate change adaptation and gender equality, and by involving the local. However, their representations of the problem are sidelining local people’s understandings of food security and perpetuating the inequalities embedded in this economic development model. In addition, it is clear that the neoliberal turn of Morocco helped food security to be considered merely as a question of quantity and availability, instead of its former conception of food security as related to “self-sufficiency” and autonomy (Akesbi 2011).

In the words of Harcourt and others, the movement for the production and preservation of seeds in Morocco is between “spaces lost” and “spaces gained” as the policies do not favor their activities but their movement is constantly growing (2012: 1). Women seed-producers’ discourses and actions constitute clear alternatives to current hegemonic discourses on seeds and agriculture (Gramsci 1971-1997; Harris 2015). Additionally, they revive Moroccan local economy, environments and biodiversity (Harcourt et al. 2012). According to Harcourt and others, they “meet the challenges of the future by taking back what belongs to women” (ibid: 1). Thus, their collective action is rather political as they reclaim sustainable livelihoods and gender equality (ibid). Besides, women seed-producers offer the possibility to think otherwise in face of global economic logics and Western approaches (Nightingale 2015). Eventually, this thought-provoking subject shows that it could be relevant to reinforce the agroecological and food sovereignty movements, and place the solutions of peasants and women in agriculture at the heart of food systems.

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