



■ **Shifting the paradigm:
moving towards food
sovereignty, theoretical and
practical reflections.**

Giuliano Martiniello

Assistant Professor of Rural Community
Development, Faculty of Agricultural and
Food Sciences, American University of
Beirut, Lebanon

1. Introduction

According to the global report on food crises almost 127 million people across 51 countries faced acute levels of food insecurity in 2017. Four countries situated in the Middle East have been affected by protracted conflict and have registered very high numbers of food-insecure people: Yemen 17 million, while Syria, Iraq and Palestine together accounted for over 10 million (FSIN 2018, P. 3-2). There is little doubt that war represents the main driver of food insecurity in major complex political emergencies. However, this conjunctural analysis discounts long-term dynamics that have generated and reproduced food insecurity in the Middle East. For example, skyrocketing global food prices in 2008-2007 and the ensuing emergence of food riots by poor urban masses (Bush and Martiniello 2017) eventually fueled Arab Spring movements in which one of the main popular demands was access to bread and justice.

Such alarm bell has sounded with a particular vigor in countries of the Middle East and North Africa region which have in the last decades become incredibly dependent on international markets and food aid for the daily consumption of their growing urban populations, particularly for grains and other key agricultural commodities. Middle East governments import about a third of globally traded grain (Woerz 2014), and the region has become the most food-dependent region in the world (Harrigan 2012). These events have massively contributed to the re-emergence of debates over food questions and in particular the question of food dependency in a context of commercial concentration in the global food trade especially of global grain markets which are dominated by a small number of key exporting countries and corporate agro-industry: %70 of global grain trade and meat is carried out by huge transnational corporations, the big Four: Archer Midlands, Bunge, Cargill and Dreyfus (Zurayk 2012).

Such conditions of food insecurity and dependency have been further exasperated by persistent military and political conflicts in the region along with ecological devastation and climate change which contributed to worsen prospects of food security particularly for smallholders and the poor rural dwellers who have experienced increased hardship in reproducing their livelihoods (Bush 2016). Rahnama (2008) also proposes that the region faces "radical Islamism" emergent in "several parts of Asia, often in the context of failed developmentalism

and corrupt and authoritarian regimes" (quoted in Veltmeyer 2011, P.236)

Though with enormous differences in relation to land and water use and availability, and ecological systems, Arab countries have significantly responded through a variety of means to the threat of food insecurity. In the face of these growing food security challenges, Arab governments have attempted a variety of responses to the tremendous oscillations of global food prices, ranging from food subsidies such as in Jordan and Lebanon, incentives to the producers like in Iran, increase of food storage, to more aggressive forms of large-scale land acquisitions abroad especially in Sub-Saharan Africa by countries such as Saudi Arabia, Qatar, Emirates (Harrigan 2014: ch.3). Other attempts to counter worsening prospects of food security include a plethora of technical fixes such as agricultural intensification, expanding irrigation, value chain development, and other sets of interventions that aim to further specialize the agricultural economies of many Arab countries into niche markets such as fruits and vegetables for which, we are told, they enjoy higher comparative and competitive advantages. They are therefore advised by international financial institutions to use the revenues generated from these activities to purchase grains on the international markets. In this context, food security is increasingly seen as something involving purely technical challenges: how to match new technologies with the best management practices, how to refine more sound value chains and interconnect different localities. This approach silences the question that food security is embedded into social and political relations (see Sen 1981). A focus on technical fixes prevails among technocrats and international organizations and in discourses of companies with ulterior motives of sales maximization in seeds and pesticides.

And yet, attempted solutions to the food crisis via agricultural modernization strategies seem to reinforce a trade-based approach to food security and the preeminence of export-oriented, commercial, capitalist agriculture based upon the extensive use of chemicals, agro-toxics, hybrid seeds and severe water pumping with little or no attention to issues of improved land access for smallholders, land redistribution, environmentally sustainable and rain-fed agriculture. These short-term interventions fail to tackle the questions at the heart of food crisis experienced by MENA countries.

Many accounts of the current food crises in the region elude questions of how and why the region once known as fertile crescent, and fairly recently as a self-sufficient region and food basket, has become so heavily dependent on long-distance food trade. This contrast with what is known from time immemorial about the region's cereal production surplus which attracted European countries to the conquest of North Africa (El-Ghonemy 1993, p. 452). It is important to notice in fact how the phenomenon of food insecurity is in fact relatively young and has been driven by the region's incorporation in the world capitalist economy and the related processes of capitalist restructuring of land and agriculture (Issawi 1982, Owen 1981). The current status of severe food dependency resulted in fact from the structural and historical transformations in food, agricultural and land policies in the region which inhibited countries in the region to adjust domestic food production to growing internal consumptions needs (El-Ghonemy 1993).

Already in 1981 a report by the United Nations Commission for West Asia, The Food Security Issues in the Arab Near East, had emphasized the fact that the growth of food production in Western Asia did not match population growth (%3 per annum) and therefore largely fell short of domestic food demand which amounted to %4.5 per annum. It stressed that a relatively high dependence on imported food together with concentration of food imports in few foreign supply sources represent the basic threat to Arab food security (Sherbini 1981, p. 225).

This chapter explores the ways in which the national food and agricultural systems of the region have increasingly become globalized and subjected to the imperatives of international markets as an antidote to the current lack of explanation of the major drivers and causes behind the current state of food dependency in the region. It does so analyzing the role of MENA region within changing international food regime and the implications for food security. It then provides a genealogy of the concept of food sovereignty analyzing the evolution of ideas around food starting from the post-war period and the challenge it represents for the current food regime. It also analyzes the obstacles and opportunities for a shift towards more socially and ecologically sustainable modes of organization of production, circulation and consumption of food in the region. Final section of the chapter identifies the already existing cases of virtuous agro-ecological practices in the region that point towards alternative cognitive horizons

that counter the hegemony of currently corporate driven global food regime.

2. Food Sovereignty: Genealogy of the Concept

A useful way to approach the research question mentioned above is to propose an historically informed analysis of the changing international food regimes and the place of MENA region within it. The notion of food regime, elaborated by McMichael and Friedman (1989), refers to a mode of food production, circulation and consumption on a global scale pivoted around the interlinked roles of market and state in the context of general capitalistic development. As shown by Riachi and Martiniello (this volume) the progressive integration of the region within the international food regime contributed to molding a specific division of agricultural labour across three different food regimes. Through the implementation of land and agricultural reforms that facilitated the emergence of private property rights and propertied classes in the countryside's and the simultaneous extraversion and channeling of agricultural produces towards international markets, countries in the MENA region have contributed to the exasperation of what is today known as a condition of structural food dependency and insecurity. This capitalist model of development which maximized the use of external inputs and led to intensive patterns of utilization of land and water resources, contributed to creating a particular form of agricultural specialization across time, away from rain-fed cereal production towards fruits and vegetables markets particularly in the Gulf countries. The promotion of industrial agriculture enhanced the use of monocultures, generated loss of biodiversity, pollution and contamination of resources contributing to greenhouse gas emissions and aggravating issues of social and environmental reproduction for the approximately twenty million family farmers in the region.

Riachi and Martiniello aptly show that the current condition of food insecurity of the region is not simplistically the product of natural causes (not enough water or arable land, semi-arid territory), nor it is only determined by current military conflicts. It rather results from conscious long-term choices of economic politics, which consolidated a trade-based approach to food security pivoted around the role of corporate-driven global agricultural value chains. In sum, three phases of integration of the

MENA region within the international food regime have progressively advanced the logics of capitalist profit to agriculture and intensified the degree of incorporation of the region's land, water and agricultural resources. The capitalist food regime rapidly transformed the core ideas regulating the control, access and use of food. As Polany (1956) would have put it, capitalist transformation of agriculture transformed food into a fictitious commodity, one that could be bought and sold as any other commodity. These ideas have been consolidated by the neoliberal project, but they have not always been hegemonic. The following section will explore the evolution of core ideas around food after WWII and the continuity and discontinuity with the concept of food sovereignty.

The notion of food self-sufficiency emerged in the immediate aftermath of the decolonization process, when several African, Asian, and Latin American countries framed food self-sufficiency (and productivity) as the primary objective of development. The principle of food self-sufficiency identified by Mao Zedong as a central element in the transformation and renewing of Chinese society (Chun 2013), and emerged in Latin America in the context of radical redistributive land reforms of the 60-1950s (Boyer 2010), spread in Africa and the Middle East under the push of theories of dependency and uneven development (Amin 1976) which had caught the attention and imaginary of the populations and leaders of the decolonized world. Increasingly aware of the political use of food aid by the United States through the PL 480 (See McMichael 2006) and of the challenges that recurring droughts and famines posed to national food needs (Raikes 1988), African and Arab governments found themselves at a crossroads: accepting food policies increasingly regulated by the laws of supply and demand defined by the international markets; or defining policies oriented to the control of the national agro-food system in order to reduce the dependency from the international markets and ex-colonial powers. The notion of food self-sufficiency represented therefore the pillar of broader strategies of endogenous and auto-centered development opposed to extraverted models (Amin 1976; Bayart and Ellis 2000). In this sense the concept had a markedly political valence as it aimed to highlight the existence of power relations within the world capitalist economy and the international division of labour.

The political content of the food question was

further emphasized by the powerful intervention of Amartya Sen (1981), which marks a turning point in the debate over poverty and hunger in the world. In his studies Sen proposed an approach to the capabilities arguing that the origins of famines in developing countries had little to do with questions of bad harvests but that had more to do with issues of social injustice and failing institutions. While droughts could be connected to natural occurrences, famines were politically manufactured. In other words, the deficit was not one of food supply but of democratic advancement. The kernel of the food question combined therefore expectations of wealth redistribution and democratic reconstruction. And yet countries such as Algeria, Egypt, Tanzania, Ethiopia, Burkina Faso and Nigeria, just to mention a few, made serious efforts to set up national systems of food self-provisioning (Founou-Tchuigoua 1990). The United States grain embargo to Soviet Union enacted by Jimmy Carter in 1980 was an example of how food aid was being utilized as a key instrument in pursuing expansionary foreign policy. In such politico-diplomatic and intellectual context the Lagos Plan adopted by the Organization of African Union in 1980 posed at the core of the political agenda the question of food self-sufficiency claiming that the dependent integration of the African continent within the global capitalist economy for various centuries represented the main cause of under-development of the periphery of the system. Despite the Plan did not under contain discussions over the democratic content of the food question, it represented a significant advancement in the coming together of a common view by African bourgeoisies over a variety of issues, among which food provision was central.

In response to the radicalization of analyses over the control, distribution and consumption of food, and to the worsening of food crisis and famines, the World Bank argued instead that the policies that aimed at the autonomy of the agro-food system represented an hindrance to development rather than its vehicle (World Bank 1981). Two major specialist reports influenced the debate: African Agriculture: the Next 25 Years (FAO 1986) and Poverty and Hunger: Issues and Options for Food Security in Developing Countries (World Bank 1986). The former proposed a series of 'technical' adjustments with an emphasis on agricultural commercialization, which aimed at paving the way for foreign investments in agriculture and for the modernization of 'traditional' agriculture. Such

productivist view was echoed by the World Bank's emphasis on the liberalization of markets as a privileged instrument to stabilize the availability of food.

Both views agreed that the persistence of poverty in rural areas was mainly caused by the poor rates of agricultural commercialization and by the lack of 'opportunities' to be economically active (Cliffe, Pankurst and Lawrence 1988). However, none of them addressed the question of why food producers are the first to starve during famines, and what are the larger set of forces that contribute in reproducing poverty. They also reflect the attempt to forge a single 'package' of measures of intervention for all the continent failing to take into account the diverse conditions and needs of different African countries. Moreover, the typology of agricultural production to be instantiated does not emanate from the food needs of the country but are rather established according to the law of comparative advantages. Finally, these programs of intervention mainly focus on export agriculture ignoring cereal and rain-fed agriculture which are the main domains of activity of poor family farmers.

Through these interventions the notion of food self-sufficiency gets replaced by a market-driven concept of food security which is increasingly framed within the register of the comparative advantages. The notion of food security becomes an essentially economic rather than political question: a function of the maximization of production and optimization of the circulation of food at global level. Seen from this angle, the notion of food self-sufficiency empties itself of its more politically eminent attributes – the role of the state, the choices of agricultural and land policy, and the international hierarchy of power – and becomes declined in narrowly defined economic terms. Such detour provides us with the concept of food security as we know it today: every nation must adopt a strategy that is consistent with its resources and capacities to achieve its individual objectives and at the same time cooperate at regional and international level with the aim of organizing collective solutions to questions of global food security (FAO 1996).

Today, the notion of food security is also understood through the prism of availability, accessibility and affordability. These notions put the emphasis on the mechanisms through which food must be made available to consumers, whether through trade, aid, or other humanitarian interventions. This notion of food security becomes ancillary of the notion of

global value chains given that the former can only be achieved through the fine-tuning of the latter, knowing little of farming and agrarian system, the forms of labour, the use of pesticides or GMOs. More recently the notion of food security has been articulated at the individual and household level through nutritional lenses. In such perspective the question of access to food is reduced to a series of transactions or choices that economically rational actors or households make in relation to food which are measured in terms of caloric intake, further abstracting households from the structures of power and wealth at national and international level that shape the reproduction of food insecurity and dependency.

In recent years, the notion of the right to food, which emerged in international law with the Universal Declaration of Human Rights but had been somehow downplayed, and revamped at the World Food Summit in 1996, has given impetus to the growth of food democracy movements. Governments understood that the technological advancements of the green revolution in Asia and Latin America had not actually reduced the problem of hunger people. The right to food began gaining visibility in international law with the work of the Committee on Economic Social Cultural Rights of the United Nations. In 2004, the committee's work produced the voluntary guidelines for action that government must take in order to implement the right to food. It produced three obligations for government to implement the right to food: respect the right to food; protect right to food (control private actors and TNCs or speculators), fulfill the right to food. A mandate for a Special Rapporteur on the Right to Food was established. The right to food is a legal concept which obliges states to act in order to foster the right to food for poor and low-income households through school meal programs, social programs to assist people and so on. These legal instruments have been useful in some occasions as examples in India and Brasil show in protecting peasants from dispossession and enacting social programs and monitoring governments activities, in the attempt to keep them accountable. Movements for food democracy linked to the right to food emerged also in condemnation of the massive impact of the industrial food system on the ecosystem and on human and animal health. By showing the nefarious implications of the corporate industrial food system such as increased greenhouse gases, polluted water and eroded soil, reduced biodiversity, and deteriorating organic matter of the soil, it put in motion an embryonic

and challenging process of democratization of the food system. Attempts at making the food system bottom-up require a transition from boosting volumes and cheap calories to taking into account sustainable and ecologically sound agricultural practices and health conditions, as well as increase social and environmental protection programs. Reforming the food system is necessary but not easy to achieve given that there are technological, infrastructural, cultural, economic and political obstacles to change.

3. Food Sovereignty vs Food Security

In the face of the current political, economic and ecological challenges, critical scholars have started to look for a new developing paradigm for the MENA region. This section explores the ways in which the concepts and notions elaborated in the food sovereignty paradigm represent an alternative to the dominant corporate-based food paradigm. It analyses the ways in which food sovereignty distances itself from the current paradigm of trade-based food security. It asks, what are the challenges and opportunities of food sovereignty in the region and if it can enhance a shift in the ways in which food is produced, exchanged and consumed, and therefore analytically framed.

As we have seen, food security in the hands of the IFIs and other development agencies has concentrated on the ability of countries to purchase food on global markets; to liberalize domestic and international food markets and get local prices right (World Bank 2016, as quoted in Bush and Martiniello 2017). The emphasis of IFIs policy toward food insecure economies has been to promote the weary policy of comparative advantage: even poor countries should try and generate income that will enable food purchases on global markets rather than focus inward on generating greater autonomy and food sovereignty locally. Seen from this perspective, the notion of food security is merely interpreted through economic lenses and it loses all its more politically eminent attributes, such as the role of the state, the choice of food and agricultural policies, and the international power relations in food systems.

The modern world food system has commoditized food to the extent that the hungry can only access sufficient nutrients for survival if they can purchase food. Food as a commodity has both an exchange and use value. Yet because it is a commodity that is both essential for life and stretches across many commodity chains, poor people are vulnerable to the uncertainties that surround access to it. These vulnerabilities are acute if the state under which they exist fails to ensure adequate local production or cannot purchase and then distribute food at prices that are affordable for the hungriest (Bush and Martiniello 2016). If the country is poor and its territory ecologically marginal, there is likelihood of recurrent and persistent food crises and

accompanying political opposition as occurring nowadays in the case of Yemen.

The strongest reaction to the hegemony of food security has emerged under the heading of food sovereignty. This term refers to the right of nations and people to control their food systems, their markets, modes of production, food habits, and environment (Holt-Gimenez, 2011; Wittman, Desmarais, & Wiebe, 2010, p. 2). In 1996, La Via Campesina, the transnational umbrella gathering peasant organizations all across the world, defined food sovereignty as the right of each nation to maintain and develop its own capacity to produce its basic foods respecting cultural and productive diversity' (La Via Campesina 1996)

Food sovereignty has been characterized as an attempt to develop a strategy that will reconstruct economic and ecological diversity and supersede homogeneity of the exchange value regimes (McMichael, 2013). Food sovereignty sets itself apart from the idea and practices of food security that are rooted in notions of international trade, free markets and price equilibrium. Food sovereignty represents an epistemic fracture from previous intellectual traditions placing at its core the political character of the food question (McMichael, 2014). Political discontent has mounted with a modern food system that has been so dependent upon uniformity, capital intensity, GMOs and green revolution technology, and the food sovereignty paradigm provides opportunities to define alternative modes of thinking about food beside possibly helping to solve of its major challenges (Bush and Martiniello 2017).

The pivot of the food sovereignty narrative is the centrality it gives to the rural world and the role of smallholders' knowledge and practices in it running against developmentalist narratives that posited the disappearance of the peasantry and the inevitability of urban futures. In doing so, it values food producers as the subjects of social and political change (see Zurayk 2012). It reminds us that smallholder farmers globally produce more than 60% of food calories, yet they occupy only 30% of all agricultural land (Samberg et al 2016). This data is particularly significant in the light of the feminization of agriculture as although women produce most of the food in the global south, their role and knowledge are often ignored, and their rights to resources and as agricultural workers are violated. Food sovereignty asserts food providers' right to live and work in dignity.

Moreover, according to the French National Centre for Scientific Research, the environmentally devastating agro-toxics used in the corporate-driven food production food generated 75% loss of plant genetic diversity on farms in the past 100 years. Connected to that is the right to food which is healthy, ecologically sustainable and culturally appropriate, which is the basic legal demand underpinning food sovereignty. Guaranteeing it requires policies which support diversified food production in each region and country. In the food sovereignty framework, food cannot be treated simply as any another commodity to be traded or speculated on for profit. Food must be seen primarily as serving the sustenance of the community and only secondarily as something to be traded. Under food sovereignty, local and regional provisions take precedence over supplying distant markets, and export-orientated agriculture is rejected. The 'free trade' policies which prevent developing countries from protecting their own agriculture, for example through subsidies, tariffs and public policies, are also inimical to food sovereignty. Food sovereignty emphasizes locality and the control over territory, land, grazing, water, seeds, livestock and fish populations on local food providers. Privatization of such resources, for example through intellectual property rights regimes or commercial contracts, is explicitly rejected. It therefore stresses the importance of anchoring control of food system within local communities and their ability to build upon existing indigenous and traditional knowledges and skills needed to develop localized food systems. It therefore contests corporate oriented research and the produced technologies such as genetic engineering.

La Via Campesina's vision of food sovereignty emphasized ecology, entailing 'the sustainable care and use of natural resources especially land, water and seeds. In doing so it helped opening social enquiry to socio-ecological interactions and to the synergisms with biological components as a foundation for sustainable agro-ecological systems. The debate was advanced further with the popularization of the ideas of agro-ecology and ecological farming. In this regard, Vandana Shiva has argued that the paradigm of industrial agriculture has been rooted in war. The twin laws of exploitation and domination she argues "harm people's health and the environment" (Shiva 2016, p. 2). Her response has been to advance the importance of strategies that expand agro-ecology or relationships that link and embrace the

interactions between soils, seeds, the sun, water and farmers. Her analysis elaborated now for more than 30 years, is to remind policy makers that "Taking care of the Earth and feeding people go hand in hand" (Shiva, 2016, p. 12). Food sovereignty therefore requires shifts in the food production and distribution systems in order to protect natural resources and reduce greenhouse gas emissions, avoiding energy-intensive industrial methods that damage the environment and the health of those that inhabit it.

Such call for agro-ecological practices has been made more urgent in the light of the catastrophic effects of climate change whose implications are massively felt by smallholder producers who depend on nature for their livelihoods. Even FAO, the organization that has promoted the green revolution paradigm for the past 50 years, started to cast doubt over the ecological viability of this model of production. José Graziano da Silva, FAO Director-General, argued at the 2018 second international symposium on agro-ecology in Rome: "the world keeps producing food according to Principles of Green Revolution of the 1960s and soils, forests, waters and air quality keep degrading. We need a transformative change"

In his view, a focus of increasing production at any cost has not been sufficient to eradicate hunger, despite we produce more food to feed the humanity. Agro-ecology embodies such necessary epistemic shift by helping to promote a transformative change in the global food system while simultaneously preserving the environment as it enhances the resilience of farmers, boosts local economies, safeguards natural resources and promotes adaptation and mitigation of climate change, and values local and indigenous knowledge. It is important to note that agro-ecology and food sovereignty are interlinked. There is no food sovereignty without agro-ecology and the latter is the agronomic technique of food sovereignty. Food sovereignty is thus embedded in larger questions of social justice and the rights of farmers and indigenous communities to control their own futures and make their own decisions emphasizing local control and autonomy. As Windfuhr and Jonsen have argued: "food security is more of a technical concept, the right to food a legal one, and food sovereignty is essentially a political concept" (Windfuhr & Jonsen 2005).

The concept of food sovereignty in fact helps

reframing and re-politicising the food question contributing to open up the democratic space for food producers in the global South in a context where the policy space for agriculture is crowded with philanthro-capitalist and aid agencies which by and large, are promoters of commercial and market led agriculture. That is, despite a significant number of farmers wishes to move out of agro-chemicals and hybrid seeds, they are locked into the system because of the absence of alternative modes of production that support agro-ecological perspectives. This would help to create a resilient farmers' economy where there is little or no support by donors who often value market led commercial agriculture over production of local food or food availability.

The 2007 Nyéléni Declaration LVC's official conference statement, detailed the negative nature of imported technics – their role in safeguarding the interests of others, particularly the interests of the monopolies, above those of the people. It criticized 'technologies and practices' that damaged local capacities, including the environment and the soil within which metabolically sound agriculture can take root. Against this top-down agricultural revolution, LVC values, recognizes and respects diversity of traditional knowledge, food, language, and culture. It defends and advances a peasant path to modernity and development by stressing the right of peoples, communities, and countries to define their own agricultural, labour, fishing, food and land policies which are ecologically, socially, economically and culturally appropriate to their unique circumstances. It includes the true right to food and to produce food, which means that all people have the right to safe, nutritious and culturally appropriate food and to food-producing resources and the ability to sustain themselves and their societies. Food sovereignty means the primacy of people's and community's rights to food and food production, over trade concerns. A food sovereignty approach can be helpful toward defining and implementing agricultural investments that support the active realization of the right to food (and associated rights) by placing those most impacted by hunger and food insecurity at the centre of decision making. Or, put differently, 'employing a food sovereignty framework can help to address how the right to food can be fulfilled in a given context and thus can serve as an important tool for envisioning—or reenvisioning—agricultural investment' (Schiavoni et al 2018, p.3).

4. A paradigm shift to tackle food security in the MENA region?

The notion of food sovereignty developed in Latin America under the impetus of rural social movements that, especially in cases such as Brasil, allied with progressive sections of the state. Food sovereignty has become the political manifesto that eventually helped to coalesce fragmented peasant organizations into transnational agrarian movement (see Borras and Edelman 2008). Food sovereignty has ever since moved to East Asia and to a certain extent in Africa, but its discourse did not take root in the Middle East. And yet, some critics of the current operation of the international food system have started to reflect upon the possible opportunities and challenges that the food sovereignty paradigm offers for the analysis of the food crisis and its possible solutions (Ajl 2018) especially in region which still hosts 20 million smallholders (Bush 2016).

Despite the appeal that the concept has to highlight the salience of food questions in the MENA region, the implementation of a food sovereignty framework in the region is complicated by persistent war, military conflicts, ecological devastation, pauperization of water sources, climate change, and mass migrations. As Ajl has noticed food sovereignty may be a brilliant means to melt the interests of rural landless people in the Brazilian countryside and urban foodless people in the favelas but in MENA, anti-systemic struggle is often at the stage of securing sovereignty as in the case of Palestine for example, rather than imbuing it with social content and meaning (68:2018). In other words, given that the region is wrapped into multiple military and political conflicts that have at their core questions of political sovereignty in different sites such as Syria, Yemen, Palestine and Iraq, how can food sovereignty supersede these barriers and become as useful vector of transformatory politics?

Seen from the perspective of the nation-state, the food sovereignty framework which initially focused on the right of nations, provides a strategy to tackle food insecurity and dependency in a context of rampant food concentration and increasingly volatile prices. And yet though the absence of organized peasant movements (Palestine is the only exception) makes the

grounding of a food sovereignty vision and praxis extremely complicated, as Ajl (2018) brilliantly demonstrated, the food sovereignty concept has some antecedents in the intellectual history of the region. For example, in its call to detach from the operation of food empires, the concept re-evoke the appeal to the notion of delinking elaborated by the Egyptian economist Samir Amin (1990) and its attempt to move away from food dependency from international food markets. Moreover, these antecedents of food sovereignty call for the significance of populist agronomy especially in Tunisia where the attention to the hydraulics problematique of the country pushed to think and develop ecologically sustainable water management technologies among others.

And yet, despite the MENA region faces huge problems of man-driven water scarcity and skyrocketing food imports, high vulnerability to climate change and significant problems of transboundary pest diseases, agro-ecology can help tackling issues of management of freshwater ecosystems which are essential to human health, environmental sustainability and economic prosperity. This is furthermore important in a region where rain fed agriculture occupies %60 of farmland. That is, there is room to revitalize rain-fed agriculture via agro-ecology since it reduces the risk of uncertainties by making the system more resilient and smallholders less vulnerable through diverse and multiple cropping patterns, water conservation strategies and bio-diversity. This might help improve the deteriorating soil fertility in the region for example through supplementary agro-forestry practices for smallholders. In order to do so, new synergisms and investments need to take place especially in facilitating farmers' field schools to provide a space that allows smallholders' experimentation in order to deal with existing and emerging problems.

That is, it should include multiple approaches such as includes activists participatory research, field research on farming systems that aim to 'enable local people to share, enhance, and analyze their knowledge of life and conditions, to plan and to act' (Chambers 1994, P. 963-935). Participation should be more inclusive and holistic to farmers perspective. And for participation to become more transformative, Giles Mohan (2007) argues that we need to see it as a 'form of citizenship in which political processes are institutionalized and people can hold others accountable' (p.799). This expresses the exercise of power both at the individual to the

collective which local farmers seem to lack. The projectization of agriculture often comes with the unorthodox language of 'empowerment' (Rahnema 2010) mainly practiced by development agencies as an alternative savior for 'development. There is a need to question whether empowerment is farmers driven and for what purpose.

To improve the scale up in the practices of agro-ecology, there needs to be a backing of policy makers with totally viable alternatives that should be smallholder friendly and environmentally considerate. Policies need to see agroecology as a holistic approach that can contribute to the betterment of health issues, among others. The above cannot be effective unless there is a democratic space that cater for the needs of the poor. And yet, agro-ecology is not just a series of technical prescriptions, it is rather an approach that values farmers political participation and social movements in decision making. The greatest obstacles scaling up in agroecology emanate from the power and influences of Transnational Corporations over public policies and research, especially the pesticides and seeds company. In this sense, agroecology poses a tremendous threat to corporate power over food and farming systems. It is thus through the legal, legislative and policy mechanisms that corporate agribusiness power poses the biggest road blocks for agroecology neglecting issues of good health and the environment itself. Since agro-ecology pushes against the corporatization of food and farming systems, it explains why peasants and other smallholder farmers are facing huge repression from government and other transnational corporations repressive food chains. The third food revolution or supermarket revolution (Lang & Heasman 2004) indeed has a lot exposure to food waste that exposes us more to ecological footprint. This may bring us to a call for "food governance-how the food economy is regulated and how food policy choices are made and implemented" (Lang & Heasman 2004, P.3). There is also need to incorporate agroecology in the regulatory (policy) and legislative frameworks of sustainable agriculture. Thirty countries have already adopted legal frameworks to promote and facilitate the role of agro-ecology in rural development policies.

5. Existing Agro-Ecological Practices and Struggles in the Region

Despite the current dominance of food empires, it's worth noticing the existence in the MENA region of pockets of virtuous and sustainable agro-ecological practices and democratic struggles championing the local right for food and land that emerged as responses from below to the challenges imposed by neoliberal agricultural restructuring. As shown in the documentary *Palestinian Seed Queen* by Mariam Shahin, Vivien Sansour, started initiatives of recuperation of heirloom seeds varieties that were disappearing in occupied West Bank. Israel's illegal occupation of the West Bank has dramatically damaged the Palestinian sector. Farmers have been deprived of access to land, water resources and markets. Dark wheat, called *Abushamra* in Arabic, was selected and promoted given that it grows with little cost. The increase in cases of cancer in the north pushed many people to try and go back to more traditional lifestyles. After harvest one third of the seeds is kept by one farmer while the remaining is divided among two other farmers, so the network expands. As a local farmer put it in a meeting with other participants pointing to the deterioration of nutritional content of industrial food: 'Bread has become like eating spoons of sugar and does not taste like bread anymore'. The idea is to revitalize rain fed agriculture and bring it back traditionally grown food to our markets, kitchens and tables. Vivien's heirloom seed movement is challenging Israeli agribusiness monopolies in the Palestinian occupied territories. In a context in which everything traditional is labeled as primitive, the network emphasizes the role of peasants in seeds preservation and recuperation of terraced land. The journey of going back to eating healthy food starts with the preservation of heirloom seeds varieties such as *mulukhiya*, *foul* (fava beans), and so on. Food is successively cooked and then shared with people to taste. The network has in other words become a platform to share agro-ecological practices and learn from each other.

The Palestinian local farmers groupings in the West Bank is one case example of this. Often in collaboration with civil society groupings (either informally or formally organized), NGO's and international organizations trying to enhance agro-ecological practices, Palestinian smallholder farmers

are successfully trying to alleviate the problem of land degradation by using a mechanism of land reclamation to retain soil fertility and produce higher yields. In the Palestinian West Bank, local farmers are "bringing more land into cultivation by reclamation of mountainous areas" and thorough selection of plants fit for the topography of the land such as "fruit trees, the dominant crop forming %91 of the cultivated land" of which "olive trees and stone fruits are most preferred to farmer" (ANERA 2013, p.3-2).

Other virtuous initiatives promoting food sovereignty and agro-ecologically sustainable environmental transformation include the 'food sovereignty days' promoted by the *Observatoire de la Souverainete Alimentaire e de L'Environnement (OSAE)* based in Tunis. This innovative NGO brings together an array of activists, researchers and family farmers in the attempt to raise public awareness about issues such as agro-ecological practices, the preservation of heirloom seed varieties and the struggles farmers are raising against genetically modified seeds. Yet these initiatives also pointed to the enormous challenges' family farmers are encountering in a context of subordinate and uneven incorporation into local markets and growing power of food empires and big pharma.

Similarly, in Egypt, there has been cases of deploying "agroecology as a weapon" and one that "can serve as solution."¹ One farmer who "joined the small organization of farmers in his village, to improve the quality of his produce" commented: "I buy supplies with colleagues to save money, and we sell our production together to reach the highest price. This makes us stronger together, to resist high prices and the weakening of the Egyptian pound" (ibid). Egypt however continues to face dwindling space for agriculture for urbanization purposes and many impoverished farmers have had to change professions to sustain their families in absence of a system that protects smallholders from global prices fluctuations.

In Lebanon, local farmers market of *Souk El Tayeb*, renowned for their organic food, that started with "10 producers offering provisions and traditional food" to currently "over 106 registered producers"

1 Sawan, Ahmed. 2016. "From Egypt to Palestine, agroecology as a weapon: COP22 from Rhetoric to Action", *Orient XII*, Accessed July 18, 2018. <https://orientxxi.info/magazine/from-egypt-to-palestine-agroecology-as-a-weapon,1555>

and sellers of processed food products² is another agro-ecological successful story within the region. Other NGO's like *Arcenciel* have provided trainings in conservation management and better agroecological practices of conservation agriculture. Local Lebanese organizations such as *Buzurna Juzurna* are managed through farmers social networks and provide employment to local farmers such as hiring of Syrian refugees for gardening and selling their vegetables produce every week in Beirut at *Haven for Artists* in *Mar Mkhael* (ibid, p.5). Other agroecological trainings carried out also tend to focus on the "importance of preserving good open pollinated seeds", "growing vegetables between the trees and orchards and planting aromatic culture at the edges of terraces" (ibid, p.6) despite that much of historical agrobiodiversity has been lost in Lebanon, and the apple varieties are limited to just three or four (ibid, p.7). These initiatives are also trying to raise awareness on the meaning of agro-ecology and what it entails in terms of agricultural practices in a context in which there is, reduced access to healthy unpolluted commons and natural resources such as seeds, soils and water which are all scarce resource around the Mediterranean Basin, increasingly grabbed by corporate actors removing it from the hands of smallholders who are the most able to use them sustainably (ibid).

And yet, despite the challenges that the region presents from an ecological point of view, it is somehow surprising to learn from a recent article in *The Guardian*, that "Syrian seeds could save US wheat from climate menace."³ With the Syrian conflict taking its toll, Lebanon's *Beeqa* region became the transitory station for a seedbank, one that is idealized that "could help feed the warming planet."⁴ From

2 URGENCI and Terre & Humanism. 2017. "Towards a Mediterranean LSPA Network! Learning Journey to Lebanon. November, 22-25th 2017."

3 Schapiro, Mark, 2018 "Syrian seeds could save US wheat from climate menace" *The Guardian*, Accessed July 18, 2018. <https://www.theguardian.com/world/2018/jul/06/syrian-seeds-could-save-us-wheat-from-climate-menace>

4 Sengupta, Somini. 2007. "How a Seedbank, Almost Lost in Syria's war, Could Help Feed a Warming Planet." *The New York Times*, Accessed July 18, 2018. <https://www.nytimes.com/2017/10/13/climate/syria-seed-bank.html>

generational species of wheat, barley to animals such as goats, both the original and transitory station foci is “in preserving and researching seeds in hot, dry areas- conditions now being faced by many of the Earth’s food-growing regions” (ibid). Syrian agriculture thus provides learning potential on crop resilience to diseases and our changing climate. For instance, the Syrian domesticated wild wheat - ‘Syria *Aegilops tauschii*- has resilient genes that have survived over thousands of years and was shown to be pest and fungal resistant (such as Hessian fly) amidst increasing temperatures and too much rains which the US and Mexico currently face (ibid). So, whether these seeds’ genetic patrimony can be employed to boost industrial agriculture in the US, it seems legitimate (through provocative) to ask, what about using them to construct the base for a project of food sovereignty in the MENA region? Such initiatives should go hand in hand with re-invigorating research and development of mountain agriculture, marginal terraces, oasis and other forms of rain-fed agriculture along with agricultural practices and traditional irrigation management habits that have helped people to co-habit with the environment for long time.

Another key component of struggles for the right to food include women’s mobilizations to access, use and have a control on water for irrigation in Tunisia showing us the extent of patriarchal relations and feminization of agriculture in the Middle East. Reportedly, women have contested their absence from decision making in issues concerning agricultural production and the use of water (Moumen, 2013) by forming a collective by sticking to their female informal groupings to gain support, power and as a way to combat their invisibility. This also emanates from the fact that water in Tunisia has been so political since the 1990s, with the intervention of the World Bank and the disengagement of the state from direct water management of irrigated areas, measures [that] have been taken (like price incentives and water saving irrigation techniques) to enable better management of operating costs of irrigation and water resource conservation, but have failed to incorporate irrigator organisations who were not involved in the rules that govern the operation of the schemes (ibid, p.2). Women smallholders continue to lack warranty on land, which limits their access to credit, are disadvantaged in on-farm production due to gender biases of agricultural knowledge transfer from their families and have poor information systems. The Nadhour Women’s

protest from their village farms to the city directed at CRDA (Regional Commissioner for Agricultural Development) was in approach against this “clientelist practices in the use of water and how they aggravate inequalities” alongside the “norms of patriarchy” (ibid) that quite exists within the region.

The cases mentioned above point us to the possible directions of progressive social transformation in the region, but also the inherently political and social character of food questions in the region. This helps us going beyond questions of technical fixes treating them as questions of entitlement, food production, access to food supplies, food distribution, etc. According to Misra (2017) to solve malnutrition within the Asian region, it “involves facilitating the rural poor’s access to nutritious diets through democratizing and reorganizing the agriculture sector in a manner that is eco-friendly and unconstrained by market imperatives” (p.1). And whereas countries such as Lebanon and its neighbours are praised for its Mediterranean diet, the MENA region’s reliance on mainly genetically enhanced cereals or grains such as rice and wheat is still at large while promoting better healthier lifestyles is still missing in both policy and practice. The evolution of community health kitchen in Lebanon, Jordan, Yemen and others is a counterproductive mechanism to combat malnutrition during times of crisis. Community health kitchens have provided a safe sphere for vulnerable communities via community feeding gatherings, and have provided an opportunity for women to generate income while “preserving traditional/health food, and enhancing social rehabilitation for both host communities and refugees in context of a crisis.”⁵ And though many might debate that there is enough food, this does not over rule the fact that “%50 more food will be needed by 2030 (Godfray et al. 200b as quoted in Ingram 2011, p.428) and there will be concerns that the risk of food insecurity will likely grow” depending on the simultaneous needs to reduce negative environmental feedbacks meets these demands (ibid).

5 Anid, Dominique. 2018. “The Healthy Kitchens.” ESDU, Accessed on July 20, 2018. http://www.karianet.org/uploads/local_food/11518604861Healthy%20Kitchens%20-%20ESDU_Karianet.%2019.1.18.pdf

Conclusions

This chapter explored the roots of contemporary food security challenges in the MENA region through an historical analysis of the international food regimes and the ensuing transformation of land and agricultural policies. It then discussed the emergence of the food sovereignty paradigm and its critique of the current neoliberal corporate food regime from a theoretical point of view. It also discussed the challenges to the grounding of questions of food sovereignty and agro-ecology in the MENA region as possible solutions to mitigate pressures of climate change, soil deterioration, and water scarcity.

In MENA most food is imported to meet the market demand which has a negative impact on the nutritional component (preservatives may be added to increase the shelf life). Second, the smallholder farmers do not have enough support from the governments compared to middle large-scale farmers who practice large monocropping agriculture. Thus, the “economic narrative” of agriculture is that it is “merely an instrument towards promoting economic growth” (Rivera-Ferre as quoted in Misra 2017, p.5) where “agriculture’s role in transitory economy is to generate surplus food and capital to accelerate capitalist development through urbanization and industrialization” (ibid, p.5). Third, agriculture or food production in Most Arab countries is limited “by severe shortages of water and arable land, leaving the region dependent on food imports and vulnerable to weather and market fluctuations” (Khouri et al. 2011, p.2). And finally, the economization of agriculture to fit into industrialization and globalization model remakes it to “become technology and capital intensive [hence] generating an abiding anti-smaller bias; leads to a standardized monoculture; artificially depresses the rural economy; and, become detrimental to both population and planetary health” (Misra 2017, p.5).

Given MENA’s limited natural resources made particularly scarce through over-extraction of water, the region is presented with particular challenges when it comes to cultivatable land. Khouri et al (2011, p.51) asserts that “the only option is to increase productivity” should not be limited to research and development but as well as targeting the focal areas that can aid in improving food security in the Arab countries. And although the authors propose a lean work relationship between public-private partnerships, they acknowledge that the region

must seek to enhance ‘agricultural production in each country in ways that are economically, socially and environmental sustainable’ while “reducing exposure to market volatility by improving local, short-distance supply chains that enhance the horizontal networks of the chain and consolidate cooperative of small producers (ibid, p.52)

As argued by FAO officials, development experts, and academics at the above-mentioned symposium on agro-ecology; the ecological limits of the Green revolution model have become now clear. And this is particularly evident from the Middle East perspective given the relative scarcity of resources. In Mr Stéphane Le Foll, French Member of Parliament (TBC) argument:

The model imposed around the world which uses a lot inputs, chemistry, machines at the hearth of Green Revolution that FAO once supported, it came at the end of the cycle. Aimed at building on nature itself, we need a doubly green revolution; we need local knowledge, and a dialogue between indigenous and scientific knowledge as well. We also need to govern the process. Major international bodies are at the heart of the issues ensuring that these debates can take place. Yet it is important to set up major lines of public policies which are important to achieve other objectives.

This talk raises contemporary issues facing the food sovereignty paradigm. It raises questions in today’s paradigm shift of food policy praxis, the significance of local farmers and their organizations. It posits us to ponder how prominent governments handle the changes local farmers face. promoting instead a focus on local knowledge, social justice and social economy of the rural areas. This could be a way to counteract the level of inequalities of which the countryside both exposed to unequal power relations in terms of gender gap and wealth distribution itself. In the words of Shi Yan, there is need to recognize that agriculture is not an industry (agriculture without farmers) close to capital strategy rather than people. Examples from China show political practices that have aimed at rural re-generation. This is to add that there has been an agro-ecological civilization tending towards solving agrarian problems that local farmers have been facing over generations.

Bibliography:

- Ajl, Max. 2018. "Delinking, food sovereignty, and populist agronomy: notes on an intellectual history of peasant path in the global South." *Review of African Political Economy*, 84-64 :(155)45
- Amin, Samir, 1976. *Unequal development: An essay on the social formations of peripheral capitalism*. New York & London: Monthly Review Press
- Amin, Samir. 1990. "The agricultural revolution and industrialization" In H. A. Amara, & B. Founou-Tchuigoua (Eds.), *African agriculture: The critical choices*. London: Zedbooks: 11-1
- Amin, Samir. 1990. *Delinking: towards a polycentric world*. London: Zedbooks
- Amir, Samir. 2012. "Contemporary Imperialism and the Agrarian Question." *Journal of Political Economy*, 26-11 :(1)1
- ANERA. 2013. "Evaluating Knowledge-sharing Methods to Improve Land Utilization and Improve Food Security of Palestinian Small-Scale Farmers." ANERA. 29-1
- Bayart, Jean-François, and Ellis, Stephen, 2000. «Africa in the World: A History of Extraversion.» *African Affairs* 67-217 :(395)99. <http://www.jstor.org/stable/723809>.
- Borras Jr, Saturnino M., Edelman, Marc and Kay Cristóbal. 2008. "Transnational Agrarian Movements: Origins and Politics, Campaigns and Impact," *Journal of Agrarian Change*, 204-169:(2,3)8
- Boyer, Jefferson. 2010. "Food security, food sovereignty, and local challenges for transnational agrarian movements: The Honduras case," *Journal of Peasant Studies*, 351-319 :(2)37
- Bush, Ray and Martiniello, Giuliano. 2017. "Food Riots and Protest: Agrarian Modernizations and Structural Crises." *World Development*, 207-193 :91
- Bush, Ray. 2016. "Family Farming in the Near East and North Africa." *International Policy Centre for Inclusive Growth (IPC-IG)* 29-1 :151
- Chambers, Robert. 1994. "The Origins and practice of participatory rural appraisal." *World Development* 448-437 :(7)22
- Christina, M. Schiavoni, Salena, Tramel, Hannah, Twomey & Benedict, S. Mongula. 2018. "Analysing agricultural investment from the realities of small-scale food providers: grounding the debates." *Third World Quarterly*: 19-1. DOI: 01436597.2018.1460198/10.1080.
- Chun, Lin. 2013. *China and Global Capitalism: Reflections on Marxism, History and Contemporary Politics*, New York: Palgrave Macmillan,
- El Ghonemy, M. Riad. 1996. «Recent changes in agrarian reform and rural development strategies in the Near East.» *Rural Development International* Workshop, Goedeoloe (Hungary) FAO: <http://www.fao.org/docrep/x3720t/x3720t02.htm>
- El-Ghnonemy, M. Riad. 1993. "Food Security and Rural Development in North Africa," *Middle Eastern Studies* 446-445 :(3)29
- El-Sherbini, Abdel-Aziz. ed. 1979. *Food Security Issues in the Arab Near East: A Report of the United Nations Economic Commission for West Asia*. Oxford: Pergamon Press: 241.
- Friedman, Harriet and McMichael, Phillip. 1989. "Agriculture and the State System: The Rise and Decline of National Agricultures, 1870 to the Present." *Sociologia Ruralis*, 117-93 :29
- Harrigan, Jane and El-Said, Hamed. 2009. *Aid and Power in the Arab world: IMF and World Bank Policy-Based Lending in the Middle East and North Africa*, London: Palgrave
- Harrigan, Jane. 2014. "The Evolution of Food Security Strategies in the Arab World." In *The Politics Economy of Arab Food Sovereignty*. -39 72. London: Palgrave Macmillan. Doi: https://doi.org/3_9781137339386/10.1057
- Ingram, John. 2011. "A food systems approach to researching food security and its interactions with global environmental change," *Food Sec.* 431-3:417 DOI: 10.1007/s9-0149-011-12571
- Issawi, Charles. 1982. *An Economic History of the Middle East and North Africa*. Columbia University Press.
- Khouri, Nadim, Shideed, Kamil and Kherallah Mylene, 2011. "Food Security: perspectives from the Arab World," *Food Sec.* 1)3); 5-156. DOI 10.1007/s4-0101-010-12571
- La Via Campesina. 2007. "Declaration of Nyéléni." *World Forum for Food Sovereignty*, February 27. Accessed July 2018 ,20. <https://movimientos.org/node/9223?key209223%=20%>
- Lang, Tim and Heasman, Michael, 2004. *Food wars: the global battle for mouths, minds and markets*. London: Earthscan Publications.
- Martiniello, Giuliano. 2015a. "Food sovereignty as a praxis? Rethinking the food question in Uganda," *Third World Quarterly*, 525-508 :(3)36, Special Issue on "Food Sovereignty: convergence and contradictions, condition and challenges," with guest editors Eric Holt-Gimenez, Alberto Alonso-Fradejas, Todd Holmes, and Martha Jane Robbins
- McMichael, Phillip. 2013. *Food regimes and Agrarian questions*. Halifax & Winnipeg: Fernwood Publishing.
- McMichael, Phillip. 2014. "Historicising food sovereignty." *Journal of Peasant Studies*. -933 :(6)41 957
- Misra, Manoj. 2017. "Moving away from technocratic framing: agroecology and food sovereignty as possible alternatives to alleviate malnutrition in Bangladesh," *Agriculture and Human Values*: 16-1
- Mohan, Giles. 2007. "Participatory Development: From Epistemological Reversals to Active Citizenship," *Geography Compass*, ¼: 796-779
- Mooij, Jos. 2011. "Development and Change in Asia" in (eds) Veltmeyer, Henry. 2011. *The Critical Development Studies Handbook: Tools for Change*. Pluto Press, London & New York, 236-233
- Moumen, Wided, 2013. *Inegalites e dynamiques de genre dans l'agriculture irriguée: cas de six perimetres publiques irrigués da Nadhour (gouvernorat de Zaghuan-Tunisie)*. Unpublished PhD thesis, Université Toulouse 2.
- Owen, Roger. 1993. *The Middle East in the World Economy, 1914-1800* (revised, illustrated, reprint). revised, illustrated, reprint. London and New York: I. B. Taurus, 400.
- Polanyi, Karl, Arensberg, Conrad M. Pearson, Harry W. eds: 1957. *Trade and Market in the Early Empires*, Chicago, IL: Henry Regnery.
- Polanyi, Karl. 1944. *The Great Transformation: The Political and Economic Origins of Our Time*, New York: Rinehart
- Rahnema, Majid. 2010. 'Poverty' or "Participation" in W Sachs (ed), *The Development Dictionary*, London: Zed Books: 194-174 ,144-127.
- Samberg, Leah H., Gerber, James S., Ramankutty, Herrero, Mario and West, Paul C. 2016. "Subnational distribution of average farm size and smallholder contributions to global food production," *Environmental Research Letter*. 12-1 :11.
- Sen, Amartya. 1981. *Hunger and Famines: An Essay on Entitlement and Deprivation*. New York: Oxford University Press.
- Shiva, Vandana. 2016. *Who really feeds the world*. London: Zed Books
- Via Campesina. 1996. "The Right to Produce and Access to Land." (November 17-11, Rome Italy), Accessed July 2018 ,20. <http://www.acordinternational.org/silo/files/decfoodsov1996.pdf>
- Windfuhr, Michael and Jonsén, Jennie. 2005. *Food sovereignty: Towards democracy in localized food systems*. Rugby: ITDG Publishing.
- Wittman, Hannah, Annette Desmarais, Aurélie and Wiebe, Nettie, 2010. *Food Sovereignty: Reconnecting Food, Nature and Community*. Halifax and Winnipeg: Fernwood.
- Woertz, Eckart. 2014. "Historic Food Regimes and the Middle East." In *Food Security in the Middle East*, edited by Zahra Babar and Suzi Mirgani, and Mirgani Suzi , 38-20. Oxford: Oxford University Press.
- World Bank, 1986. *Poverty and hunger: Issues and options for food security in developing countries*. Washington, DC: World Bank
- Zurayk, Rami. 2012. *Food, Farming and Freedom: Sowing the Arab Spring*. Charlottesville: Just World Books.

Website Links:

- Anid, Dominique. 2018. "The Healthy Kitchens." ESDU. Accessed on July 2018 ,20. http://www.karianet.org/uploads/local_food/11518604861Healthy20%Kitchens20%-20%ESDU_Karianet.2019.1.18%.pdf
- Sawan, Ahmed. 2016. "From Egypt to Palestine, agroecology as a weapon: COP22 from Rhetoric to Action", *Orient XII*; Accessed July 2018 ,18. <https://orientxxi.info/magazine/from-egypt-to-palestine-agroecology-as-a-weapon,1555>
- Schapiro, Mark. 2018. "Syrian seeds could save US wheat from climate menace" *The Guardian* Accessed July 2018 ,18. <https://www.theguardian.com/world/2018/jul/06/syrian-seeds-could-save-us-wheat-from-climate-menace>
- Sengupta, Somini. 2007. "How a Seedbank, Almost Lost in Syria's War, Could Help Feed a Warming Planet." *The New York Times*. Accessed July 2018 ,18. <https://www.nytimes.com/13/10/2017/climate/syria-seed-bank.html>
- URGENCI and Terre & Humanism. 2017. "Towards a Mediterranean LSPA Network! Learning Journey to Lebanon. November, 25-22th 2017."