The Integration of the Political Economy of Arab Food Systems Under Global Food Regimes

Roland Riachi
Visiting Assistant Professor, American University of Beirut, Lebanon

Giuliano Martiniello
ssistant Professor of Rural Community Development, Faculty of Agricultural and Food Sciences, American University of Beirut, Lebanon

1. Introduction

There is a long historical agricultural past to seize in order to understand the dynamics and challenges of contemporary food systems in the Middle East and North Africa (MENA). Under neoliberalism, consuming enough, proper, and nutritional food is compromised worldwide, and this region is particularly affected. The main issue at stake with the contemporary global food system is that it benefits a few politically-linked local businessmen, large landowners, and corporate global food companies. Small-scale farmers are marginalized and unable to cope with market pressures under the effects of structural adjustment programs required by international financial organizations since the mid1980-s. While neoliberalism may have enabled urban citizens to access cheap food, it has limited their options to high-calorie, low quality, and less nutritious food.

Over the last four decades, most MENA governments engaged in trade liberalization, massive rolling back of the state, and austerity budget measures. Since the 1970s, Those policies often led to civil discontent and massive «bread riots» (Walton and Seddon 1994). Along with many demands for social justice, the recent Arab uprisings re-emphasized the political dimension of food (Bush and Martiniello 2017). The food crisis was metaphorically described as "the proverbial straw that broke the camel's back" by Walden Bello (in Holt-Gimenez and Patel 2012, p.iv). During the 08-2007 financial, fuel, and food crisis, also known as the Triple-F crisis, demonstrations erupted in the streets of many Arab cities; and later when wheat prices knew a second peak in winter 2011–2010, uprisings erupted in North Africa and spread to the Middle East. Some succeeded in ousting their authoritarian regimes, while others turned into bloody wars, such as in Syria and Yemen. All faced bloody repressions. Mohamed Bouazizi, whose self-immolation ignited the Tunisian revolution, may not have acted due to the hike in food prices per se, but against a repressive and authoritarian State, represented by policemen who confiscated his stall. As a fruit and vegetable street vendor, he was at the very bottom of an unequal food system and neglected by the authoritarian apparatus of the neoliberal state.

Satisfying food security has always been a major concern for Arab governments. Historically, the Arab region has subscribed to different food and agricultural paradigms, from imperial and colonial interests in industrial mono-cropping, to self-sufficiency goals under Arab nationalism, until contemporary neoliberalism. Although food is tightly linked to the region's political economy, most studies and reports have continuously highlighted population growth and scarce natural resources – water and land - as the main drivers of food insecurity in the region, with Malthusian resonances. The argument that the MENA region is one of the most food insecure regions because of its scarce resources and growing population, leading to the heavy level of food import dependency with its burden on national budget, is raised by global development and financial institutions (World Bank, FAO and IFAD 2009). A counter-argument to this deterministic and reductionist vision, which has long emphasized that environmental dryness makes the region doomed to food dependency, is that regional agriculture has instead shifted towards an extractivist production of water-intensive crops to satisfy European and Arab Gulf oil-rich consumers in fruits and vegetables.

How was the Arab region integrated within the imperial food system and the world capitalist economy? How did the Cold-war influence the Arab food systems after WWII? What were the effects of trade liberalization and neoliberalism on those countries? How is the concentration of market power in the food system hindering the right to food? These are different questions that this paper will try to answer. A useful way to approach these questions is to adopt a historical-comparative analysis about the integration of the region's agri-food production into the global food system. Understanding contemporary social relations in the food system dynamics cannot be limited to the recent period. As we will see in this paper, agriculture in the Arab region has followed the history of power that ruled and shaped the flow of capital, ecology, and food throughout the longue durée of capitalism.

Central to the effort of understanding food systems under a comparative-historical lens is the concept of international food regimes. Three decades ago, Friedmann and McMichael (1989) developed the concept of food regimes to explore the role of agriculture as a significant cluster in the development of capitalist states formation and global political economy. The food regime notion they elaborated refers to a mode of food production, circulation, and consumption on a global scale, pivoted around the market and the state in the context of generalized periods of capital development. Influenced by the Regulation school and world-systems theory, the food regime conceptual framework provides an analysis of the making of historically distinct modes of food production and regulation in succession, across long-term periods of accumulation and during their transitional periods from crises and shocks. In its inception, two food regimes were identified: a first food regime (1930-1870s) during the period of British hegemony in the world economy, or the «imperial food regime», and a second food regime (1950s1970-s) under US hegemony in the postwar world economy, also called the «industrial-development food regime» or «Green Revolution food regime». Since their seminal work was published, recent developments have proposed the emergence of a third stage, which is the «corporate food regime» that started in the -1970 80s (McMichael, 2012).

Therefore, a periodization of stable phases of food production, distribution and consumption is useful to unravel transition phases of political contestations and changes on different scales, from local to global power relationships in relation to the development of capitalism and its modes of accumulation (Bernstein 2010). This conceptual framework has also offered useful guidance to understand the technical and ecological disruptions brought by the contemporary food regime (Holt-Gimenez and Patel 2012), which we will discuss in the last section by proposing the concept of socio-ecological metabolism. Since economic interests determine State formation, ruling politics, their ideology, institutions, and policies, we adopt for our analysis a historical materialist conceptual approach. Revisiting the framework of classical Marxist base-superstructure theory, the Regulation school distinguishes the dialectics between forms of accumulation and their modes of regulation (Aglietta 2000; Boyer 1990; Jessop 1990). Explicitly differentiating periods of capitalist accumulation and their corresponding modes of regulation enables a conceptualization of the power relations in food production and consumption historically. Under this heterodox political economy framework, we highly consider Araghi's (2003) advice to be labor centric in approaching food regimes. Araghi argues that along this ordering and reordering processes of food regimes across different longue-durée periods, there are populations selling their labor power for food, whether through production or consumption.

We admit that it is challenging to seize in one paper a multi-scale, cross-space and cross-time comparative analysis of food systems in the Arab region, but we believe a historical perspective is needed to understand the current situation and prospects towards the right to food. To our knowledge, many studies have explored the concept of food regimes through case studies in many parts of the world (Bernstein 2016), but very few used it to analyze the MENA, except some country cases, namely covering Egypt (Bush 2007; M. Dixon 2014; El Nour 2017), or on the regional level, with emphasis on the contemporary period (Woertz 2014). The fundamental purpose of this paper is to explicitly operationalize the food regimes conceptual framework and go through each of the three global periods, analyzing their translation in the Arab world. We conclude with a discussion of the political ecology of the crippling socio-natural metabolic relationship under the actual food regime and its relation to the right to food and food sovereignty in the region.

2. First Food Regime (1870s-1930): Fellaheen, Imperialism and the Industrial Revolution

The first global food regime started in the late 19th century and lasted until the Great Depression. It linked food and agri-industrial crops imports from colonies to cope with European industrial expansion. A progressive stagnation and even decline of productivity in staple foods in many colonized countries led to marginalizing the peasants, while supporting settlers and large landowners in producing high-value cash crops and integrating them into imperial world markets. The first food regime, which lasted from -1870 1930s, was shaped by Great Britain as a hegemonic imperial power and was based upon grain supplies from settler colonies such as Australia, the United States, Canada and India, expanding later to the Middle-East, Africa, and Asia. In return, it purchased manufactured goods and imported capital and migrants. According to Friedmann (1993), the major wheat export countries are the ones who are shaping actual food politics.

In the 19th century, cultivation of colonial export crops proliferated in the Arab world. Under the Ottoman empire, classes of private landowners dominated Syria, Iraq and Egypt, while the expansion of commercial farming led to the concentration of land ownership (Beinin 2001). Next to subsistence

farming, regional cereal markets and pockets of export cash crops were developed. Egypt, Turkey, and Iran were the centers of cotton cultivation in the 19th century. Wine was produced in the Levant, tobacco in Turkey and Syria, and silk in Mount Lebanon (Woertz 2014; Beinin 2001). A major technological enterprise to this trade expansion in the region was the concession given in 1858 to the Suez Company to carry on the works of a canal linking the Mediterranean to the Red Sea. The purpose was to simplify imperial trade in reaching the Indian Ocean and the Horn of Africa, cutting the distance between Europe and the East. Brought as a model for developing Egypt's economy, this concession principally served European capital throughout a century (Headrick 1981). Mostly built by corvée Egyptian labor and French engineers and capital, it has mainly benefited Great Britain, which incorporated Egypt to the British Empire in 1882. The Suez Canal, along with the development of central harbors, namely in Alexandria, Izmir, and Beirut, with railways replacing caravans, have all played a role integrating Middle Eastern cities in world commercial systems (Issawi 2013).

Cotton production in Egypt resulted from the colonial relationship of subordination, which integrated the country into a global capitalist system (Beinin and Lockman, 1987). As argued by Richards (1982), the development of cotton cultivation in Egypt can be traced back to the political context it faced in 1822. In order to secure his detachment from the Ottoman Empire and fund his military apparatus, Muhammad Ali (1848-1805) sought financial means to fuel a modernization strategy by selling cotton to Europe. Cotton was the most important cultivated input for the British Industrial Revolution, which was transitioning to a capitalist mode of production. Demand for Egyptian cotton surged when the American Civil War disrupted supplies from the southern United States (Beckert 2004). To meet capitalist profits, cotton was grown on large estates, transitioning away from smallholdings of peasants farming staple crops (Alleaume 1999).

Accordingly, large farms and estates took over land for cotton cultivation that used to supply subsistence crops for peasants under pre-capitalist regimes. Forced labor in cotton fields proliferated. By the end of the nineteenth century, this left the vast majority of peasants «either landless or land-poor, while a new class of large landowners - an agrarian bourgeoisie - had emerged» (Beinin and Lockman 1988, p.8). According to Beinin and Lockman, "the central problematic of modern Egyptian history is the integration of Egypt into the world capitalist system on a subordinate and dependent basis, and the consequent growth of a capitalist mode of production and class differentiation" (ibid). This agrarian bourgeoisie and foreign capital that developed cotton production in Egypt set new means of control of the agriculture and food production that are closely tied to the imperatives of the capitalist world economy. In a colonial division of labor, the increased commercialization of industrial crops went hand in hand with changes in the system of land tenure. In its liberal sense, private property refers to the fullness of rights over property that is exercised by a legal person, individual or community. This narrow meaning of property has been imposed on a world scale since the nineteenth century as a pillar of the capitalist ideology. This has caused a wide process of de-legitimizing of customary and communal rights of people in favor of a legal and massive transfer of lands during the Ottoman reforms, known as tanzimat (1876-1839). The Ottoman Empire introduced western style reforms of land tenure with the defter khane registry in 1858 and commercial codes to increase their tax bases. This new land tenure system facilitated debt collection and allowed land to be owned, sold and mortgaged by private individuals. Through the registration of tribal land to village notables or the privatization of muchaa lands, the dynamics of capitalist agriculture led to the emergence of large landholding families and a peculiar social stratification between them and peasant smallholders, sharecroppers, and landless populations. Old communal ties and family farming on muchaa lands were replaced by private property, which passed into the hands of urban notables and tribal chiefs. As noted by Issawi, large landowners were not necessarily viewed without benefit to authorities, as they facilitated tax collection (Issawi 2013). The spread of new capitalist social relations led to the rise of a new urban bourgeoisie whose fortunes were linked to Europe (banking, silk, cotton, etc.), making a new urban-based class of landowners engaged in commercial agriculture for export. Precarious sharecropping contracts and heavy fiscal impositions proliferated, generating many agrarian and rural revolts in the in the 19th century, led by peasant communes in Egypt, Tunisia, Algeria, Morocco, Mount Lebanon, Syria, and Palestine (Kazemi and Waterbury 1991). Local elites and religious clergy were central in co-opting those movements, reaching compromises with the established authorities and increasing their control at the local level. Once they consolidated their power, they later repressed the rebellions (Burke III 1976; Kazemi and Waterbury 1991).

The region became ruled by European countries by the end of the 19th century, the longest rule being in Algeria. Western countries imposed statutory land systems and forms of organization that linked agriculture to international markets, like in the case of cotton production in Egypt. In 1885, French authorities pressed the Bey in Tunisia to issue property registration reforms, a process that removed land from the jurisdiction of traditional customs and Muslim jurisprudence. In 1886, contracts were initiated allowing European acquisition of public or habus lands in the form of a perpetual rent, called inzal (Lewis 2013). In 1898 a decree enabled European settlers to serve as «substitutes» to the colonial power and purchase the right to exploit those public lands, registering them under their European national identity (Elloumi 2013). Between 1881 and 1886, the number hectares owned by Frenchmen alone more than doubled; by 1897, they had almost quadrupled (ibid). At the end of the century, around fifty parcels represented 450 thousand hectares of colonial lands and in 1910, settlers were occupying 800 thousand hectares (Poncet, 1951; Elloumi, 2013).

At the heart of the food system appropriation process during the first food regime, we find the instrumentalization of laws and the introduction of property reforms to be central. Ottomans rulers extracted exorbitant land taxes from the fellaheen through assigned local agents in exchange for granting large landholdings. Later, with the British and French mandates over the region after WWI, colonizers expanded their farms and corporate entities. Property and usufruct rights were granted by colonial administration to certain tribal chiefs, senior officials, and influential native families, on whom the power of the foreign rulers depended. The result was a juxtaposition of export-oriented agriculture, mostly on irrigated lands controlled by colonizers, large native farms, and a vast area of a poor rain-fed sub-sector producing at subsistence levels occupied by most of the farming and nomadic populations. Processes of polarization in the distribution of land and income started to take root in most countries in the region.

The same elements in the process of appropriation of agricultural surfaces are seen in the entire region, through the manipulation of land rights and their transfer to local notables or European colonizers. Nonetheless, mushaa still represented %70 of Palestine in 1930s (Issawi 1988 p. 286). The installation of the kibbutz primarily took place on dispossessed muchaa lands, purchased from British authorities by the Joint Zionist Council, the Jewish Colonization Association, or later, the Jewish National Fund. With large funding by the Rothschilds, those lands were transformed by mechanization and groundwater pumping to the first intensive orchards (namely citrus) in the region and presented by European mandate authorities as models to follow by native populations to make the «desert bloom» (Weulersse 1946). It is through land dispossession that private property was consolidated as a form of primitive accumulation and later sustained by a whole set of legal instruments enforced by colonial authorities.

At the beginning of the 20th century, about %80 of agricultural lands were cultivated with cereals in the Levant (Issawi 1988, p. 271). Half of the cereal production was grown for subsistence, while the remaining was sold in local and regional markets. Olives constituted the bulk of fat supplies. Livestock production was also extensive, but fodder production for livestock was only common in Egypt (ibid, p. 97), notably berseem, or Egyptian clover. With the growth of cotton, there was a deficiency in the production of cereals, and Egypt was forced to import large quantities of staple food, rather than exporting them as before. On the eve of World War I, cotton made up 93 percent of Egyptian exports (Richards 1982, p.9). As a result of military-induced food shortages, many Egyptians faced hunger by 1918. In Cairo, the cost of living for a typical poor family tripled between 1914 and 1919, leading to the March 1919 Revolution. In response to repression, rural insurgency erupted, featuring attacks on telegraph and railroad stations, symbols of British authority. After a sustained period of growth in agricultural production in the region (1914-1800), the blockade of trade brought about by WWI generated social devastation. By the end of the war, half a million people had perished in Greater Syria. Mount Lebanon was particularly affected, as it had re-oriented its agriculture towards mulberry trees and silk (Owen 1993). A lucrative strategy during peacetime, the lack of meaningful cereal production proved disastrous during the war, as no grain reached the coast and the area lacked income from silk, with export-oriented agriculture halted during the crisis.

Yet, after a period of recovery, on the heels of WWI, dietary intake in the Middle East was richer than in other developing countries like India, but still lagged

behind developed countries. Bread dominated diets in the Middle East with %63 and %70 of caloric intake in Palestine and Egypt respectively (Bennett and Lloyd 1956). By 1935, after recovering from the WWI and the great depression, the Middle East returned to being a wheat exporter as it was before the war. Anatolia, Iraq, Transjordan, and Egypt were major producers. Iraq exported considerable quantities of barley and feedstock to the UK (ibid, p.171). Between 1934 and 1939, average annual barley exports from Iraq to the UK were 200,000 tons (ibid). While the Middle East as a whole was a net grain exporter, there were regional imbalances between surplus regions like Iraq, Egypt, and inner Syria and importing regions like Palestine, Lebanon, and the Arabian Peninsula.

The first food regime in the region is characterized by a shift from local feudalism, overseen by the Ottoman Empire, to mercantilism, supplying imperial industrial mono-crops. The relations of production metamorphosed rapidly with waves of privatization of muchaa and other state lands, which dismantled communal agriculture. The mode of regulation during this phase was centered on liberal ideals, notably, the supremacy of private property advocated by imperial powers. In summary, the first colonial food regime emerged from industrial cash-crops governed by imperial powers, mainly Great Britain. Imperial relations with colonies and so-called modernization of land tenure, along with free trade policies, technological innovations of transport, and the geopolitical importance of the Suez Canal were the main pillars of the incorporation of the region within the first international food regime. After the Great Depression, the collapse of free trade, and the emergence of protectionism, the Bretton Woods Agreement-gold pegging standard turned in favor of an international US dollar-led trade, sustained by the Marshall Plan and the creation of the International Monetary Fund (IMF) and the World Bank Group, paving the way to the new post-WWII trans-Atlantic hegemony of the second food regime.

3. Second Food Regime (1940s1970-s): Green Revolution, Arab Nationalism and the Cold war

The second food regime reversed the existing flow of food from the Northern to the Southern Hemisphere, fueling Cold War industrialization in the Third World. The food regime, which lasted from WWII to the collapse of the Bretton Woods agreement, was characterized by the completion of the nation-state system, following the decolonization process. After WWII, diets in western countries underwent a process of meatification and consumption of packaged durable foods. Synthetic fibers replaced cotton; corn syrup and other sweeteners became a substitute for colonial export crops and were now produced in the center, especially in the US (McMichael 2012). Grain was also subsidized and moved back to core countries. The second food regime was based on a process of transnational restructuring of the agro-sector, with intensive meat production, and the durable food sectors, as central components, and subsidized agriculture (Friedman and McMichael 1989). The dominant global narrative entailed the promotion of the modernization theory and its adoption in Third World countries as a new paradigm. An important component of modernization theory was the United States-led 'Green Revolution', which was mainly perceived as an exportable technological paradigm (Otero 2008). In 1968, in a speech celebrating fifteen years of development assistance successes for making agriculture "more intensive, more productive», thanks to the use of hybrid seeds, chemical pesticides and synthetic fertilizers, William Gaud, director of the United States Agency for International Development (USAID), who coined the term stated: "Developments in the field of agriculture contain the makings of a new revolution. It is not a violent Red Revolution like that of the Soviets, nor is it a White Revolution like that of the Shah of Iran. I call it the Green Revolution." (Gaud 1968).

Since independence, newly formed Arab nations had a major food security concern, placing increased emphasis on the production of subsistence food crops, engaging in land reforms, subsidies, prices support, cooperatives, and credit facilities. The Green Revolution ideal was a driving force in the Arab region, through the central control of resources and inputs, the promotion of large-scale infrastructure, water projects, and irrigation schemes. The post-WWII decades saw revolutionary changes by military and nationalist officers, land reforms, the advent of oil-based economies, Import Substitution Industrialization (ISI) strategies and the rise of a new urbanized middle class. At the time of independence, foreign-owned lands (individual and companies) as a percentage of total cultivated lands represented nearly %30 in Algeria, %20 in Libya and Tunisia, %10 in Egypt, and %3.6 in Morocco. (El-Ghonemy 1993, p.456). The Western push for food surplus disposal coincided with the relative neglect of agriculture by Middle Eastern states and priority was accorded to the initiative of private (often international) capital. Yet many Arab governments saw the problem of unequal land distribution as the culprit for low productivity. With agrarian reforms and repossession of foreign lands, tenants had their rent ceiling controlled, giving them more tenure security and providing a push to initiate rural development. Land reforms, therefore, were implemented almost everywhere in the region: substantial land distribution in Nasser Egypt's, Baathist rulers of Iraq and Syria, and the Shah of Iran initiating his White Revolution, used land reforms as a measure for economic development and modernization.

More equitable land distribution was meant to raise productivity, create higher incomes, and increase purchasing power. Also, countries of North Africa such as Algeria underwent significant land redistribution policies. El-Ghonemy records a substantial improvement in the quality of life in North African rural areas from the 1950s to the 1980s. From 1951 to 1982, rural poverty levels were reduced from %56,1 to %17.8 (El-Ghonemy 1993). As noted earlier, agriculture employed a major section of the total labor force (between 3/1 and 3/2) and contributed between 20 to %35 of total GDP in the 1980s. In addition to land reforms, reducing the cost of agricultural loans, reducing the tax burden on farmers, rapid rural electrification and health care, the development of communication and transportation, were all signs of progress made during this era, with substantial technical and financial foreign assistance.

It was Cold War foreign policy, primarily driven by US politics of containment, that shaped the flows of development aid capital, funding large-scale infrastructure and extension programs. During this developmentalist era that followed WWII, it was science and technology that best represented the supremacy of Western countries. Led by Rostow's modernization theory, this vision stated that prosperity required an increase in production that would first require the tools of scientific and technological knowledge, which were held by industrialized countries. Dams were a credo of this era. On 26 July 1956, Abdel Nasser announced the nationalization of the Suez Company, following the refusal of the Americans and the International Bank for Reconstruction and Development (IBRD) to finance the Aswan Dam. Instead, with a pro-Western government, Lebanon was granted a major loan to construct the Qaraoun dam on the Litani river (Sneddon and Fox 2011; Ghiotti and Riachi 2013). Egypt, Syria, and Iraq were allocated Soviet assistance to build large reservoirs, which nevertheless contributed to tensions between the two branches of Baathism. The Euphrates dam, or Tabqa dam, forming the Assad lake, was expected to irrigate 640,000 hectares of land along the Syrian part of the river. The Baath party presented the project as a milestone in the foundation of a Socialist transformation of the country along the 1958 and 1963 land reforms. However, as Batatu (1999) notes, the emerging reformed tenure system revealed flagrant inequalities. Since 1970, there has been a decreasing shift in the number of smallholders, while middle and large landowners' power and size grew, not surprisingly as part of the regime's inner circle.

Despite implementing several types of large infrastructure projects, land reforms, and rural development programs, inequality, landlessness, infant mortality, and illiteracy rates remained high. These initiatives were also restrained by the extensive bureaucratization of agriculture, through a variety of government interventions, weakening producer' incentives and motivation and increasing transaction costs.
Through the privatization of communally held land, women lost their long-established equal rights in land use under customary tenure, but they were also deprived of self-produced crops as land settlement schemes were confined to male household heads. Allotment of individual rights in land were pro-male and pro-cash-crops, which supported a reallocation of labor to the disadvantage of women. In addition, the redistributive scope of agrarian reforms in Egypt, Morocco, and Tunisia excluded wage-dependent landless workers from the transfer of property rights (Bush and Ayeb 2012). Foreign aid and investment in agriculture prioritized export industrial crops (but not traditional food crops) and importing farm machineries and seed breeds. Priority in terms of

expenditures was accorded to non-productive sectors of government administration, notably military expenditures, including the purchase of arms and the armed forces wage bill (Woertz 2014, p.29).

Beneficiaries of government programs tended to be large farmers, often at the expense of small-scale farmers, while the cost of the schemes crowded-out the fiscal space, leaving less resources for crucial social services such as education, healthcare, and social protection. Moreover, the increased water use required by cash-crops contributed to environmental degradation and a long-term loss of productivity. Land was degraded, soil fertility was altered due to dam constructions (such as Aswan Dam), natural vegetation was destroyed, and displaced rural populations' (such as the Nubians) land rights were ignored, resulting in increased conflict over land in favor of Green Revolution precepts, promoting a productivist approach to the food security objective. During the 1960s and 1970s, ISI strategies became the new wave for industrialization in the Arab region. Self-sufficiency was the drive in many countries implementing ISI policies to boost economic growth (Harrigan 2014). From the early 1970s, there was support for the agricultural sector to ensure domestic food production many of Arab countries. Investments in the agricultural sector increased along with the use of tractors and fertilizers, not to mention the rapid increase of irrigation of arable land (Harrigan, 2014). However, the practice of ISI resulted in policies biased against rural areas and favoring urban ones, with the agricultural intensification, pricing policy, domestic taxes, consumer subsidies, and public investments policies (Lipton 1977).

This brings us to El-Ghonemy's (1993) conclusion that despite governments' efforts and plans for food self-sufficiency since the 1960s, MENA countries failed to feed their people from domestic production, but sustained high rates of agricultural growth and increases in real income per person working in agriculture. According to Ghonemy, food insecurity was likely to remain high in the 1990s if agriculture continued to be neglected, particularly rainfed areas, where most of the rural poor live. Dependency on food imports was substantial, while wheat imports and cereal aid remained high over the last two decades: a permanent feature of the food situation in North Africa. In 1988, food imports as a percentage of total domestic requirements was %69 in Algeria, %47 in Egypt, %42 in Tunisia, %31 in Morocco, and %12 in Sudan (ibid, p. 452).

Besides Egypt, most of the cereals grown in the 1990s (wheat, barley, millet, and sorghum) were produced by smallholders with less than 5ha and located in rainfed areas with massive output fluctuations due to rainfall variations. Other factors shaping cereal production instability included government policies pricing cereals far below world market prices, the intervention of governments in the allocation of land, and uneven irrigation among cereals and non-food crops. Moreover, Arab governments reduced cereal-growing and sponsored the cultivation of high-value food crops, such as vegetables, fruits, and green fodder for livestock production (ibid, p. 455).

In general, transformations were to the disadvantage of the large traditional rain-fed sector, where most of the poor cultivators and all nomadic-pastoral populations lived. Large commercial farmers have often encroached on pasture land and the nomadic population has gradually been restricted within smaller boundaries. Coupled with the growth in population, which more than doubled in North Africa between 1960 and 1988, this has heightened demand for owning or leasing agricultural land (El-Ghonemy 1999). In Egypt, agriculture was heavily taxed to provide capital and resources for industrialization; in Iraq and Iran, oil revenues led to a relative neglect of agriculture and the oil boom generated Dutch disease and an import boom that affected farmers. Only Saudi Arabia, Libya, Jordan, and Morocco subsidized wheat production in the 1970s. With wasteful financial means, those attempts were a complete ecological disaster, depleting non-renewable aquifers to grow wheat in extremely arid areas, as an attempt to apply the Green Revolution ideals. As the population grew, the Middle East as a whole lost its ability to grow its required food from renewable water resources by the 1970s.

Such relative neglect of agriculture vis a vis industry was reinforced by the ratification of PL480 in the US, which disposed of the use of food surplus for development aid in developing countries. PL480 in the United States lobbied for the wheatification of diets in developing countries, at the expenses of traditional staple crops like cassava, rice, maize, and beans. Between 1958 and 1965, Egypt was the largest recipient of US food aid worldwide. Its wheat imports increased from %0.1 of total imports in 1955 to %18.6 in 1964 and became a severe drain on foreign exchange. Securing cheap food imports at preferential prices became a high priority of Egyptian foreign policy and the US was the only country able to supply the required quantities. About half of PL 480 supplies in the Middle East went to Egypt and Israel in the 1960s. Roughly the same share went to Morocco, Algeria, and Tunisia. Other countries in the region received less than %10. By 1978, Egypt was again the largest recipient of PL 480 food aid, with %30 of the total (Burns 1985, p.174).

As a result, diets in developing countries became wheatified and most countries in the Middle East became net grain importers, as they were massively involved in procuring cheap food supplies for an expanding urban workforce. Farmers, in turn, had a hard time in competing with subsidized grain imports, especially in the absence of protectionist measures, which neoliberal restructuring had removed (Bush 2016). Such a situation of food dependency was made worse by the use of food aid as a political weapon: a lesson the Arab countries learned when a food stoppage against the region was contemplated in retaliation to their oil embargo in 1973, following the suspension of the Bretton Woods system and its impact on their revenues. Arab governments came to understand once more that their food security was a precondition of their political stability, as the role of food in US foreign policy dramatically changed since the approval of PL 480 in 1954. By the 1970s, almost all countries in the Middle East were dependent on grain imports. The «Green Revolution» bears all the qualifications of state-led capitalism, with agricultural intensification and large-scale infrastructure. With the exhaustion of the Fordist mode of accumulation, a new mode of regulation based on world trade liberalization, deregulation of agriculture, speculation, financial markets' demands, and increased corporatization of value chains in global food production helped precipitate crises and the emergence of the third food regime.

4. Third Food Regime(1970s-present): Neoliberalism in the Arab food systems

Today's corporate food regime is characterized by the monopoly of market power and mega-profits of agri-food corporations. The Bretton Woods system collapse in 1971, the oil and food crisis of 74-1973, the breakdown of international commodity agreements in the 1970s, and the inclusion of agriculture in the Uruguay round of the General Agreement on Tariffs and Trade (GATTS in 1986) that led to the establishments of the World Trade Organization (WTO) in 1995, along with the decoupling of farm subsidies from price support schemes in the United States in 1996, represented key features of the transition to what McMichael (2005) calls a Third, «corporate food regime». The third food regime massively accelerated the circulation of global food commodities along with a newly defined corporate temporality, enabling corporate profits from market price fixing which lead to producers receiving low markups, while input suppliers, intermediaries, processors, and retailers had all the maneuvering power to leverage prices to their profit.

Neoliberal policies paved the way for agribusiness-dominated markets, a monopolistic structure of few corporates, from the chemical industry and biotechnology inputs to final processed food products. At the level of national policies, this led to dismantling small farmer subsidies and rural support, while liberalizing trade and investment relations, leading to a massive wholesale conversion of the global South into a 'world farm' (McMichael 2005). Rural exodus disrupted food production, powerful foreign retailers imposed contract farming on farmers, while supermarketization undermined local economies. This new corporate food regime has also pivoted around a private re-regulation of the management of food and the dominance of food empires and transnational corporations (Van der Ploeg 2012). Following low oil prices and a restraint in foreign aid, neo-liberal reform agendas promoted government expenditure cuts and support schemes. Neo-liberal adjustment policies implemented by authoritarian regimes in the region marginalized rural areas by cutting subsidies and reinforcing a regime of private property in land, thus rolling-back previous advances brought about by redistributive land reforms. In Egypt, this meant the liberalization of land rents and the real estate

sector, resulting in land speculation and a reversal of Nasser's land redistribution policy, with many small farmers losing their land, notably with the implementation of Mubarak's Law 96 in 1997 (Bush 2000).

Since the mid1970-s, massive protests erupted against economic reform policies that led to budget cuts, reduced subsidies, and increased the price of basic goods. Widely referred to as «hunger uprisings, bread riots, food riots, and even IMF riots" (Walton and Seddon 1994), mass protests erupted against economic liberalization, structural adjustment, and 'austerity measures', which accompanied the reforms. In 1977, the Egyptian government raised food and fuel prices by over %30, as part of austerity reform designed under the auspices of the IMF, provoking rioting in several major cities (ibid). In the 1980s, many countries in the region knew that popular protests contested the effects of economic reforms. This led to the overthrow of the regime in Sudan, political reforms in Egypt, Morocco, Tunisia, Algeria, and Jordan. In Lebanon, massive demonstrations took place in Beirut in 1987 against the effects of devaluation of the local currency in the midst of its civil war (ibid). All these governments, including Syrian Baath, undertook IMF StandBy arrangements for stabilization programs (infitah programs, «liberalization») and benefited of World Bank development loans in exchange of structural adjustment programs. The salience of the political economy of food and agriculture has been recently highlighted in the wake of the Arab Spring.

Under neoliberalism, Arab countries were engaged in reforming their agricultural sectors with pro-market policies, liberalizing input and output prices, reducing state activity, dismantling state marketing boards, deregulating international trade, improving market infrastructure and trading norms, and establishing the legal framework for a market-based economy (Harrigan and El-Said 2009, p.50). In doing so, their intervention reinforced a trade-based approach to food security, working according to the economic principles of international comparative advantage and pushing countries to move away from wheat, barley, and other grains towards higher value (export) crops such as fruits and vegetables and tree crops. Earnings from such exports could then be used to pay for food imports, especially grains. The trade-based approach to food security represented a reversal of the earlier Arab emphasis on self-sufficiency and domestic food production. This new agricultural export trend, which benefited large landowners and traders and was detrimental to small farmers, was pivoted around an extractive logic based on the maximization of value extraction from nature without taking into account the necessity of its regeneration, leading to enormous environmental problems.

While import-dependent on most staple foods, namely cereals, agricultural production in the Middle East has increasingly become more specialized and concentrated on niche export markets. Lebanon, Syria, Jordan, Morocco, Tunisia, and Egypt became progressively significant exporters of fruits and vegetables to Gulf countries and the European Union. Despite being represented as poorly endowed with natural resources, Arab countries accounted for around %15 of the global tomatoes market in recent years (UN-Comtrade 2019). Morocco is the fourth exporter of tomatoes worldwide; in 2017 alone it accounted for %6.5 of the world's market share (ibid). Also, Jordan has become among the ten larger exporters during the last decade and holds %4 of the total global tomatoes market share. Despite ongoing war, Syria represents around %2 of the exported production, Egypt %1, and Tunisia %0.5 (ibid). Production in the Mashreq region is often destined to Gulf countries, while, in the Maghreb, it is generally directed towards European Union countries. Egypt provides both regions.

A long-lasting feature of the third food regime has been the persistently high prices of commodities, including food, and their price volatility. The period between 11–2003 was marked as the longest, most inflationary, and most inclusive commodity boom of the twentieth century (Moore 2010, p. 232 as quoted in Bush and Martiniello 2017), with 2008 representing the initial peak and another occurring more recently in 12–2011. Moore's explanation for this is that rising costs of production are connected to natural resource depletion and, more significantly, to the growing hegemony of finance capital over the entire global agricultural value chains. Economic liberalization and growth in the Middle East have often benefited only a few politically connected businessmen close to the respective regimes. This has fueled a new rush of speculation, with finance capital flowing into commodity markets, land grabs, and primitive accumulation aimed at stripping resources rather than investment in productive assets promoting new speculation and sustaining volatility in commodity markets (Bello 2009; Ghosh 2010; Akram-Lodhi 2012; Isakson 2014).

Land grabbing has surged after the 2008 food crisis. Hundreds of millions of hectares of acquired land re-oriented the landholding structure of many African countries towards large-scale cash crops agriculture for export (Martiniello 2013; Borras and Franco 2013; White et al. 2013). This has had major implications on farmers' livelihoods, in terms of ecological damages and small-scale family farming. Since the oil crisis of the 1970s, several land-poor countries, including GCC and Egypt, started to invest in close neighboring countries richly endowed with agricultural lands but prone to famine, like Ethiopia and Sudan. Within pro-market reforms, investments from the Gulf countries towards North African countries emerged in the 1990s (Woertz 2017). To increase its foreign reserves, the Egyptian government has actively pushed for a more export-oriented agricultural model that took off with the support of Gulf investments. Since the 2008 food crisis, GCC states preferred to increase investments in raw products (cereals, fodder, oilseeds, livestock, and vegetables) abroad through more land grabbing in Asia and Africa to avoid market dependency (Shepherd 2014). Foreign direct capital investments are mainly derived from Sovereign Wealth Funds and directed towards agro-industrial complexes. This has allowed Gulf oil-monarchies to diversify their business portfolios and food supplies into what McMichael (2013) calls «agro-security mercantilism».

While purchasing power in countries targeted by land grabs is lower than in Gulf countries, their consumption potential, along with a growing population, makes them profitable markets to conquer with fast food franchises and international brand processing industries (Vignal 2016). This expansion in GCC food industry groups has a double movement: on the one hand, it exploits the resources needed for their business, such as raw agricultural products that are integrated into the production chains controlled by the Gulf groups; on the other, countries which have become object of land grabs constitute privileged markets for the products processed by the same agro-industrial groups. As noted by Adam Hanieh (2018), this accumulation of capital in the hands of few ruling families is linked to the presence of hydrocarbon resources in the region. Also, part of GCC capital portfolio are supermarkets, hypermarkets, and malls. Many of these retail companies, namely from Saudi Arabia and the UAE, are owned by the same large corporations that are active in other parts of the commodities circuits (ibid). In addition to the exploitation of land and labor abroad, corporate capital is taking over traditional commercial structures threatening the existence of local economies. By shaping global food supply networks, diet patterns, and culinary cultures, supermarkets are not only dislocating the ties between society and nature, they contribute to the profound disturbance in human health by encouraging the over-consumption of food, calories, and energy (Goodman and Sage 2016).

There is a clear rise in diet-related chronic diseases, micronutrient deficiencies, and obesity in all social groups in the region (Fahed et al. 2012). Since the mid1960-s, per capita supply of calories in the MENA region has increased from 2200 pc kcal/day to over 3000 in the late 1990s and is expected to reach almost 3200 pc kcal/day in 2030 (WHO and FAO 2003). However, it is not the number of calories that is important, but the sources of nutrients. What Otero et al. (2015) call the «neoliberal diet» holds perfectly as a nutritional shift in the region. As Otero et al. (2015, p.35) note: "Neoliberal diet is characterized by inequality of access to quality food. Unable to afford quality diets and with insufficient time to prepare healthful food, the working classes are the most exposed to this diet's low cost yet energy-dense (high fat and empty calorie) traits.» As a result of an «industrialization of the diet,» the region has progressively lost its traditional diet in favor of increased consumption of animal-based products, pre-processed foods, sugars, and fats (Fahed et al. 2012). This shift has been linked to multiple factors, which include dietary changes brought by rapid economic development, notably from oil rents, cultural westernization, urbanization, and a sedentary lifestyle with low physical activity levels. The dietary regime in the region has massively moved away from the traditional, namely the Mediterranean diet based on consuming dairy products, olive oil, non-processed foods, fresh vegetables and fruit, legumes, whole wheat bread, and fish, to mostly processed foods high in saturated fats and refined sugar, with a hike in meat consumption (Badran and Laher 2012). This coincides with what Otero et al. have defined as an alignment to neoliberal diets and consumption patterns (Otero et al., 2015).

According to the Brazilian Beef Exporters Association (ABIEC 341,660 ,(2018 tons of cattle meat was shipped from Brazil in 2018 to 15 out of the 22 existing Arab countries, representing %20.8 of country's meat export. As reported by EuroMeat, despite the fact that Saudi Arabia's population is only a third that of Egypt's, in 2016, the Kingdom

imported %50 meat in 2016 than the North African country (EuroMeatNews 2018). In order to cope with this rising demand for meat, Brazil's total meat production increased eleven-fold between 1961 and 2010 and meat exports quadrupled between 2000 and 2010, becoming now the largest exporter of beef (Weis 2013). This growth is based on both a highly competitive industrial grain-oil seed-livestock flexi-crops complex and expansive cattle ranching and soybean culture that razed great parts of the Amazonian rainforest (Weis 2013; North and Grinspun 2016), which shows that the ecological impacts of the regional food system are not only local, but also imported from faraway geographical areas.

Marx noted that there is a metabolic symbiotic relationship between the social and nature, which is at the core of all relationships, defining the labor process as «the metabolic interaction between men and nature» (Goodman and Sage 2016, p.132). Central to political ecology studies, the concept typically focuses on the relationship between a depleted biosphere and exploitative social relations, on resource degradation at points of production and pollution at points of consumption, leading to disruption and rupture of natural regenerating cycles (Foster and Magdoff 1998). At the heart of the metabolic rift theory is the capitalist relationships of production and the antagonistic separation between the periphery and the center, in other terms, the depleted countryside and the concentrated wealth in the city (Harvey 2006). For Marx, restoration of the metabolic relationship would only be possible through a strong «synthesis between city and countryside» (Moore 2000; McClintock 2010; Foster and Holleman 2014). This widening separation of rural producers from urban consumers has disrupted traditional nutrient cycling, causing extensive soil fertility depletion and dependence on imported fertilizers, which started with guano from Peru in the 1830s before the development of chemical fertilizers (Foster 1999).

Dixon, Hattersley, and Isaacs (2014) present the disrupted exchange between social and natural systems in the contemporary metabolic rift as propelled by four major ecological ruptures. We find them very compelling to the analysis of the MENA region: 1) agro-ecological depletion due to an unsustainable food production and distribution system, which can be perceived in the region at different scales, e.g. the depletion of aquifers to produce cash crops for exports, the decreasing soil fertility of the Nile riverbeds, the establishment of water-intensive oases in many North African and GCC countries for date production, or even the more distant effect of meat consumption on the Amazonian forest. There is also much evidence about the impact of climate change on the region through increased temperatures coupled with erratic rainfall patterns, which are affecting agricultural production and food availability. 2) An erosion of food sovereignty at the nation-state level mainly due to a configuration of corporate food supplies with new food retailing systems as well as to land dispossession of small farmers. Vivid attention must also be attributed to the introduction of genetically modified crops in the region, in which Monsanto is continuously trying to conquer a promising market, especially for its drought-resistant grain varieties. 3) The erosion of cuisines, which is very consistent in the region, where the penetration of corporate interests is eradicating knowledge and skills of preservation, cooking, and provisioning. This is noticeable in shifting away from the Mediterranean diet. 4) Stressed human metabolic states, this is happening with the affordable and easy access to dietary energy consumption of processed food coupled with a lack of physical activity. The corporate restructuring of local food environments has reduced options for obtaining 'good nutritional' diversity.

The concepts of agroecology and food sovereignty are at the heart of the need to heal the socio-natural metabolism to counter the dominant food regime (Holt-Gimenez and Patel 2012; Martiniello in this number). Inherent to both, there is a need to recognize that diet and agriculture have co-evolved in their specific original 'local' environmental conditions. Locality and traditional food are ecologically relevant issues with health benefits. Regularly acclimatized to high temperatures and climate change, the Mediterranean diet has been shown to be the world's best standard for human health (Dernini et al. 2017). This should be central to any prospects of the right to food in the region. There is a very interesting causality to be further explored in contemporary food systems between what is a metabolic syndrome in nutritional health and medical jargon and Marx's notion of metabolic rift.

In summary, neoliberal interests have praised entrepreneurial farmers, considering that corrections between supply and demand will provide competition and favorable market conditions to producers and consumers. In this neoliberal mode of regulation, the role of the state is to promote the internationalization of food trade and its increasing commercialization under free competition. Neoliberal capitalism is characterized in particular by the erosion of the remaining social welfare in favor of a market-organizing State, the liberalization of capital flows, goods and services, and the emergence of finance as the dominant sector of the economy. It is in this context of the capitalist mode of production that James O'Connor (1998) refers to a second contradiction of capitalism, an ecological one, which is the problematic interaction between nature and capitalist dynamics. It is not the existence of environmental barriers which limit the material possibilities of the existence of human societies in a Malthusian sense, but the degradation of the environmental conditions with intensive capitalist mode of production. The extractivist nature of capitalist uses and abuses of nature constitute a need for the accumulation regime, by degrading environmental systems, as long as capitalism has the means to quasi-free access to raw materials to maintain itself.

5. Conclusion

This article examined the different historical moments of the political economy of food in the Arab region using the concept of food regimes. The uneven agrarian and social relations to food, enacted by the dynamics of state formation over time and space, has long been pivoting around the interplay of local and world powers. States' hegemonic maneuvering of agriculture and food consumption by means of controlling labor and natural endowments have crafted historical and contemporary periods in the Arab world. Central to the first food regime, there is the introduction of land property reforms and the creation of an agrarian and urban bourgeoisie developed upon the imperialist need of industrial crops, notably, cotton and silk. The dislocation of communal lands in the Mashreq and the Maghreb during the ottoman tanzimat and mandates period paved the way to privatization of land tenure, colonization, and the conversion of farmland into industrial production. This set new means of control of agriculture and food production in the region in the early phase of development of the capitalist world economy. Despite the shift towards intensive agriculture since the Cold War Green Revolution, countries in the MENA region have failed to attain food self-sufficiency - Syria being the only exception, though the beginning of neoliberal reforms and the current war have erased it (Matar and Kadri 2018). Beyond being marketed as social reforms, land tenure during the second food regime has mainly been beneficial to large landowners, consolidating the power of private property rights. With US wheat dumping policy, the MENA lost its ability to grow its required staple food and became dependent on food aid, which played a major role in the wheatification of diets. During the third food regime, wealth became highly concentrated in the region in oil-countries. Neo-liberal reforms engaged in government budget cuts and trade liberalization under the auspices of international financial institutions.

Structural adjustment programs implemented by authoritarian regimes in the region have resulted in the marginalization of rural areas by cutting subsidies and introducing unfair competition in access to land and water resources. There is a wide outrage over neoliberal policies and the circle of power it created or reproduced in the region. Syria, Tunisia, and Egypt are good examples, with aggressive liberalization, accompanied by budget cuts and pro-market policies to attract international private capital to profit a small politically-linked business network. In parallel, small-scale farmers suffered from the removal of subsidies, international food price volatility, and unfavorable climate change conditions for agriculture in recent years, which are expected to worsen. The current dominant corporate-led food regime has to be challenged.

As Wittman (2011) notes, there is a need to shift to a food paradigm where the food sovereignty model is centrally founded on agrarian citizenship and ecologically sustainable local food circuits, in contrast to the actual large-scale, capitalist, export-based agriculture in the region (as per the Nyéléni Declaration, Mali, February 2007). There is an urgent need to exit the productivist agricultural paradigm inherited from the Cold War Green Revolution. We believe that engaging in a shift towards food sovereignty should go beyond the rural-urban dichotomy. While only %3 of the continuously growing Egyptian population live in the countryside, two-thirds of Sudanese and Yemeni live in rural towns, villages, and hinterlands (FAO 2017). As David Harvey argued (2006), cities are spatial concentration of wealth that are the product of the world capitalist system. Without overlooking the challenges faced by small-scale farmers, exploring urban-based food movements must also be a priority. The right to food must be used in context-specific struggles and mobilizations, without reproducing liberal slogans of economic freedom, entrepreneurship, and individualism, but instead standing with food systems that respects diversity, heritage, and solidarity.

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