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Family farming in the Near East and North Africa

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Family farming in the Near East and North Africa

By Ray Bush

This publication is part of a series of Working Papers produced in the context of the International Year of Family Farming, helping to inform regional discussions and debates about the phenomenon worldwide.

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FAMILY FARMING IN THE NEAR EAST AND NORTH AFRICA

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1 INTRODUCTION

The United Nations International Year of Family Farming 2014 came at an important time for the region of the Near East and North Africa (NENA).¹ This is because the political turmoil and uprisings that have structured politics and social policy in the region since 2010 (and as we will also see, from before this year too) demanded 'bread, freedom, social justice' (*Aish, horreya, 'adala igtema'yyia*). This slogan of protesters was heard in varied forms across the region. While most attention focused on urban rebellions in Tunisia, Egypt and Libya, where Western military intervention accelerated the removal from power of Muammar al-Gaddafi and the subsequent continued chaos, rural dissent and protest was also present across the region. Protests by small farmers across NENA had been very evident since the food price hikes of 2008 that had intensified rural malnutrition, poverty and inequality (Bush 2010). But the causes of protest had been long in the making and can be traced back to the onset of economic liberalisation in the mid-1980s, if not earlier. NENA is the world's largest food importer, relying on world markets for more than 50 per cent of its food. Price rises, particularly for wheat and rice, have given a stronger rationale to the strategic importance of boosting local production. The need to reduce the impact of the vagaries of volatile international markets for grain is—rhetorically at least—central to all countries in the region. Yet the strategy to reduce that dependence is shaped by intense local and international political pressures. The largely non-food-producing countries of the Gulf Cooperation Council (GCC) have intensified their search for land to purchase outside their national boundaries, while others, such as Egypt, have suggested the need to reinvigorate historical practices of land reclamation. All countries in the region are intent on increasing incentives to agribusiness investors.²

1. Many thanks for research assistance in assembling this paper to Giulio Iocco. Thanks also to Leo Wigger Bush. I would also like to thank the members of Thimar <<http://www.athimar.org>> for their constant support. That forum for the study of rural NENA provides outstanding insight and analysis. Particular thanks to Martha Mundy, Habib Ayeub and Rami Zurayk.

2. NENA can be grouped into the countries of the GCC: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates; the Mashreq: Egypt, Iraq, Jordan, Lebanon, Palestine and the Syrian Arab Republic; the Maghreb: Algeria, Libya, Morocco and Tunisia; and the Arab least developed countries, which in this paper will include only Sudan, Yemen and Mauritania, excluding Comoros and Djibouti.

This paper begins by exploring what the term ‘family farming’ means, and how appropriate it is in the NENA region. It will explore more generally the role of farming and agriculture in the broader political economy of the region. It highlights a preoccupation among policymakers in the region, and also elsewhere, with a very restrictive definition of food security. In questioning the dominant narrative of food security and the role of family farming in it, the paper will promote instead a view that requires new politics and social policy that listens to the needs of farmers and their struggles for food sovereignty. The paper establishes the distinctive features of the region, what might be generalised and what might not be so common between countries with contrasting patterns of development. The paper explores the role and impact that farmers have had on the social relations of production in a range of countries and the position that agriculture has played in national and regional development. It will also draw on the responses of farmers to recent upheavals and set out a series of recommendations that might bolster rural development broadly defined, including the life chances and contributions made to national development by farmers in the region. It might be useful if recommendations could be divided between, on the one hand, those that seem already to be part of the government strategy and analysis of local farming problems and, on the other, a more idealised set of prescriptive reforms that would put farmers at the heart of policy. Farmers at the centre of rural development policy might help to ensure that their voices are heard and opinions acted on in the promotion of their farming and livelihood interests. Whether that is at all possible is a political issue and one that at the moment seems a long way away.

A cautionary note is present, although not always explicitly stated, and relates to most of the data used in the discussion and to characterise the regional political economy. This is that “data on the Arab world is scanty and generally of poor quality” (Kadri 2014, 24). The most reliable data remain (mostly) the micro anthropological or ethnographic studies that explore particular regions or communities and from which perhaps some extrapolation may be made, but with care. For example, World Bank data on unemployment have been extraordinarily speculative, and the rigours and standards of rural data collection by the international financial institutions (IFIs) are often questionable at best. This is for a number of reasons, not least because available data may be dependent on underfunded, poor capacity and sometimes disinterested national governments (El Nour 2012; Lowder et al. 2014). All data on the rural NENA need to be interrogated carefully. All data are laden with value and, in relation to farming, farmers and agricultural strategy, are also shaped by particular interpretations and views of modernity.

2 FARMERS, FARMING AND AGRICULTURAL MODERNISATION

2.1 FAMILY FARMERS?

The Food and Agriculture Organization of the United Nations (FAO 2013, 5) defines family farming as activity including all family-based agricultural activities that are “a means of organising agricultural, forestry, fisheries, pastoral and aquaculture production which is managed and operated by a family and predominantly reliant on family labor, including both women’s and men’s. The family and the farm are linked, co-evolve and combine economic, environmental, social and cultural functions.”

This working definition is important if the caveats and context for understanding family farming remain integral to the analysis of the changing constituency and role that family farming is experiencing. In establishing the definition for the International Year of

Family Farming, the FAO (2013, 6) also stressed the importance of understanding “family farming structures, activities and functions” that are impacted by “the diversity of national and regional contexts; agro-ecological conditions and territorial characteristics; available infrastructures; policy environment; access to markets; access to land and natural resources; access to technology and extension services, access to finance; demographic, economic and, socio-cultural conditions; availability of specialized education”.

The tendency, as we will see, is that the political and economic structures and processes, particularly of conflict and war, and also economic liberalisation and patterns of rural dispossession, have preoccupied policymaking circles. This has led to the neglect of the deleterious impacts on family farmers—notably, increased patterns of social differentiation and rural (under)development. Where “enabling policies to foster key changes” (FAO 2013) have been taken in NENA, they have tended to undermine local rural conditions of existence for poor people in rural areas in particular—farmers, landless people and female-headed households—and, therefore, challenged rural well-being under the guise of modernisation and food security.

The term family farming may be used as a ‘catch all’ expression, but it can only be used analytically if it is systematically unpacked. Probably the most important caveat when talking about family farming is the size implication: clearly there are family farmers who are able to generate enormous agricultural surpluses, and those who are only able to eke out an existence that may barely keep the family alive. Would the term small, medium and large farmer be more appropriate to use? Although the issue of size is crucial, it is also necessary to define these measures of size (small, medium etc.) in the particular historical and social context of the case study under consideration. We might, rather, refer to farmers, the term peasant carrying many negative connotations used by urban-based planners and policymakers that they, peasants, whether with historically specific medium or large landholdings are ‘backward’. In some contexts, it may also be important to consider the role that ethnic or tribal (loosely defined) affiliation plays in securing continued access to land. Ethnic and tribal or family affiliations may play an enhanced role or may become a lens through which land access or conflict over fragmentation of holdings is viewed. These forms of conflict are usually most dramatic where access to land and rural resources is most acute, as in Yemen, Sudan and parts of Upper Egypt.

This paper tries, where possible, to locate family farmers and farming in the context of particular policy changes and the historical transformations that have transpired in NENA country cases. In particular, we want to stress the need to examine family farming in the historical circumstances of the case under consideration. These circumstances of local and national agricultural policy, of differential incorporation into local and international markets, will need to be set against the range of local landholdings and soil fertility as well as water availability. But the forms of production also need to be documented, as do the social relations that underpin production—family size and age profile—as well as the gender dynamics of production, including agro-pastoralism.

This short paper cannot do everything. What emerges is an indication of a possible research agenda. Farming in general, and family farming in particular, is only one dimension of agriculture and, more importantly, rural development. And this is not only an element of government or international agency policy, as many farmers are able to try to strategise beyond the reach of bureaucracy and programmes developed in local capitals or overseas. We need to understand that policy always impacts unevenly, and usually not as intended,

and part of the work of researchers is to understand why and how this takes place. It is important to generate new and more nuanced knowledge of rural NENA and to ensure that family farmers are integral to this process of knowledge generation, rather than tagged on after policy has emerged. We might try to help establish what is generalisable in the region and what is, instead, historically specific to each country case.

2.2 AGRARIAN QUESTIONS?

Concern with definitions is not just a pedantic theoretical point. The categories that are used help understand the processes of farming and policy that have been employed in the region. They also help explain the levels of political and social conflict that may arise, and how policy might be used to embolden or undermine the efficacy of family farming. They may also help explore the extent to which farming has been impacted by contact with or transformation from the global economy, under pressures of trade liberalisation, quality controls and tariffs. For example, what kind of future does family farming have in the context of presently hegemonic views of modernisation that seek to downplay the continuing significance of the countryside as opposed to patterns of rapid (jobless) urbanisation? According to one of the most influential 20th century historians, “The most dramatic and far-reaching social change of the second half of this century [the 20th century], and the one which cuts us off for ever from the world of the past is the death of the peasantry” (Hobsbawm, 1994, 289).

Whatever weight you give to this statement, family farming (peasants) remains very much in evidence globally—perhaps as many as 500 million, of which 3 per cent may be in NENA (Lowder et al. 2014, 1). And this at a time when regional policymakers and the IFI advisors persistently promote an idea of ‘progress’ that asserts that all societies have an industrial future (Shanin 1997), where dependence on family farmers to feed NENA is expected to diminish, replaced by industrial food production and agribusiness (*inter alia* Algethami 2013). Family farming offers a dimension to the debate that has been characterised more generally in relation to agricultural modernisation in the global South as one of ‘agrarian questions’ (Bernstein 2004; 2006). These questions relate broadly to issues of accumulation, production and politics. Does agriculture in the region have the capacity to generate food and non-food output that exceeds an amount necessary for self-provisioning? And if it does, which obstacles prevent this potential from being realised? And what policy would be needed to ensure a more equal distribution and consumption of food in NENA? How can issues of extensive malnutrition be addressed alongside high levels of obesity? In Egypt, for example, more than 30 per cent of children are stunted because of dietary constraints, yet 35 per cent of adults are obese, and there are even higher figures for stunting among children in Yemen (57.7 per cent), Sudan (37.9 per cent) and Somalia (42.1 per cent) (FAO 2013, 23).

Asking agrarian questions establishes the importance of investigating the extent to which capitalist production has become generalised, and how family farming may mediate the impact of markets, traders and pressures of local monopoly, entrepreneurs and global demands. Is there widespread wage labour? Has generalised commodification of subsistence meant the need for family farmers to engage (only) in the market? And if so, what are the conditions of existence for those who cannot so engage? Are family farmers thus caught in a limbo between dependence on the market for farming and subsistence yet unable to generate access to it because of resource limitations or other restrictions? Bernstein (*inter alia* 2014) has described such farmers as ‘classes of labour’ reproduced through scarce and oppressive wage

labour. Here, 'classes of labour' suggests a move away from terms such as workers, peasants, traders and family farmers too, as indicative and illustrative of contemporary 'fragmentation of classes of labour'. This fragmentation is synonymous with what elsewhere has been referred to more descriptively as a global pattern of 'deagrarianisation' (Bryceson 1999). This refers to an increase in the proportion of rural income that accrues from non-farm income and pluriactivity (van der Ploeg 2013) and downward pressure on farm size. It also refers to intensification of the labour process for those who work on both their own land and as wage labourers for others.

In contrast to this position, the persistent and distinctive character of family farming is demonstrated in the ways farmers and their families and different members of rural communities combat (or acquiesce to) a fundamental dilemma. This is the struggle for "autonomy and progress in a context characterised by multiple patterns of dependency and associated processes of exploitation and marginalisation" (van der Ploeg 2008, xiv). In trying to fathom why, despite their omnipresence, the persistence and distinctive significance of small farm households and peasants are continuously downplayed or redefined, van der Ploeg has stressed "that there is a critical role for peasants in modern societies and that there are millions who have no alternative to such an existence". The attempts to marginalise the role of family farming emerge in the contemporary period because of 'globalisation' in its many different forms, which tends to "destroy the peasantry along with the values that it carries and produces" (ibid.).

The contemporary world food system is structured by patterns of conflict that are shaping and reshaping the ways in which family farming is disintegrating and being re-integrated into it. The importance of understanding family farming in the context of the emerging food regime helps to locate food production as an element of international food systems, governed by rules and regulations shaped by the geopolitically dominant states of Europe and the USA (Friedmann and McMichael 1989; McMichael 2013a). It is especially important to assess processes of struggle among and between farmers and government in the NENA context, as the debates about the 'Arab uprising' have only seldom focused on the missing voices of poor people in rural areas (Ayeb and Bush 2014). A distinctive research focus on the role and efficacy of family farming in NENA will require an examination at the level of politics. Is there evidence for large-scale peasant movements independently or in alliance with workers and other social forces to pressure for social justice and economic transformation? (Bernstein 2010; Akram-Lodhi and Kay 2010, 255–256).

3 NENA: FAMILY FARMING AND FOOD SECURITY

3.1 FAMILY FARMING: FROM THE PLAN TO THE MARKET

The persistence of family farming highlights two enduring features of rural (under)development: the importance of access to land and the overwhelming evidence that poverty is greatest in rural and not urban-based settings. The two themes are linked, and much of the debate relating to family farming has sought to address these issues. In short, the period from decolonisation to neoliberalism (from the 1970s) was a period of state intervention to plan and organise agricultural production, especially to reduce the impact of colonialism—extensive rural neglect and poverty—and to manage or transform a mostly bimodal system of large-scale agriculture and small-scale family farming. With the onset of neoliberalism there

was a dramatic move away from state intervention. Largely international pressure for the removal of the State from economic intervention led to policies that at least rhetorically promoted market-led land reform. The removal of state support to family farming enhanced opportunities for agribusiness to shape global markets and the manner in which NENA was to be unevenly incorporated into them.

The colonial legacy in NENA left high concentrations of smallholder family farmers, enormously high levels of rural poverty and landlessness. Exceptions where there was no history of colonisation in any classical sense included North Yemen and Saudi Arabia, Turkey and Iran. Patterns of land tenure had served the interests of the British, French, Italian and Ottoman colonial interests. Post-colonial settlements favoured State-led agrarian transformation and in particular the establishment of stable peasantries alongside State-run farms in Tunisia and Algeria. Tunisia's 10-year plan of 1962–1971 allocated 41 per cent of all investment to agriculture, and 80 per cent of this investment was managed by the State. Yet farmers' interests did not dramatically improve, and state farms were criticised for being inefficient. This raises questions relating to the character and efficacy of family farming.

Transformation in Algeria was even more necessary and protracted. Covering an area the size of Western Europe with a much longer period of French colonialism (by 50 years), the struggle for independence took 1 million Algerian lives, and over eight years as many as 8,000 villages were destroyed. The seizure of French estates by landless people led to *autogestion* schemes of worker self-management. The State took control of more than 1 million hectares of land that had previously been held by absentee landlords. After Morocco's independence in 1956 the State increasingly controlled agricultural trade, subsidised inputs and wheat, flour and edible oils and set targets for cropping.

Land reform in Egypt is probably the best known and most dramatic. This is because it was quick and was accompanied by a radical rhetoric. Beginning in 1952, soon after the Free Officers seized power, and continued in 1961, the reforms redistributed about one seventh of the country's cultivable land from large landowners to smallholders and tenants and some landless people. It retained private property, but, unlike reforms elsewhere, Nasser's reform passed land to the farmers or *fellahin* (Owen 2000). The social and economic conditions of all small-scale farmers and nearly landless people worsened during the colonial period. By 1951, 0.1 per cent of landowners owned 20 per cent of the cultivated land. One hundred and ninety-nine large landowners owned 7.3 per cent of the agricultural land, while 3 million *fellahin* owned less than 1 *feddan*³ These near landless people constituted 75 per cent of landowners but held just 13 per cent of the total cultivable land. In Syria the State appropriated about one fifth of the cultivated land in 1958 and 1963, and in Iraq a half of cultivated land was appropriated and redistributed after 1958.

The land reforms reduced rural poverty and improved the well-being of family farmers in the Maghreb (El-Ghonemy 1993; 1999). Poor people in rural areas also benefitted from government subsidies and better health and education facilities. The turning point for small farmers and landless people in NENA was the move away from planning towards market-led reforms in the 1970s onwards. These are addressed in detail in Section 4.

3. A *feddan* is a unit of land area equivalent to 1.038 acres (0.42 hectares).

TABLE 1

Number of holdings and size of agricultural area by land size

Countries by region and group	Census year	Holdings/ Agricultural area	Land size class									
			Total	Less than 1 Ha	1–2 Ha	2–5 Ha	5–10 Ha	10–20 Ha	20–50 Ha	50–100 Ha	100–200 Ha	200–500 Ha
Middle East and North Africa (7)		Total holdings	8,700,946	5,639,144	964,506	999,578	595,003	311,148	156,429	22,911	7,985	1,242
		Total area	23,077,617	1,954,940	1,515,556	3,293,984	4,416,228	4,087,981	4,471,725	1,557,439	1,320,956	458,628
Algeria	2001	Holdings	1,023,799	223,115	128,864	239,844	181,267	142,980	88,130	14,294	4,063	1,242
		Agricultural area	8,458,680	70,516	162,315	722,275	1,200,598	1,896,466	2,484,971	930,765	532,146	458,628
Egypt	1999-2000	Holdings	4,541,884	3,955,941	365,362	170,625	35,996	10,953	3,007	N/A	N/A	N/A
		Agricultural area	3,750,699	1,403,153	665,914	684,168	353,250	236,010	408,204	N/A	N/A	N/A
Libya	1987	Holdings	175,528	25,213	17,654	43,904	40,406	28,285	15,987	393	686	N/A
		Agricultural area	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Jordan	1997	Holdings	88,452	47,509	28,728	6,532	3,291	1,778	409	151	54	N/A
		Agriculture	278,589	12,003	60,857	41,892	41,032	48,787	25,734	18,871	29,413	N/A
Lebanon	1998	Holdings	194,829	141,594	27,434	19,536	3,127	1,983	911	244	N/A	N/A
		Agricultural area	247,940	48,648	37,716	62,649	23,517	26,246	26,518	22,646	N/A	N/A
Morocco	1996	Holdings	1,496,349	380,039	272,412	411,967	247,766	125,169	47,985	7,829	3,182	N/A
		Agricultural area	8,732,223	170,361	420,577	1,495,239	1,894,722	1,880,472	1,526,298	585,157	759,397	N/A
Yemen	2002	Holdings	1,180,105	865,733	124,052	107,170	83,150	N/A	N/A	N/A	N/A	N/A
		Agricultural area	1,609,486	250,259	168,357	287,761	903,109	N/A	N/A	N/A	N/A	N/A

Source: adapted from Lowder et al. (2014, 36).

Table 1 shows that in NENA 60 per cent of all farms are less than 1 hectare, but more than 50 per cent of the land is farmed by holdings of over 10 hectares (Lowder et al. 2014, 13). Eighty-four per cent of holdings may be under family farming, but they control only 25 per cent of the cultivated area (FAO 2013, 3). This high level of inequality in holding area has immense consequences for those poor family farmers and what we can call near landless people, where dependence on wage work off-farm or on the land of other farmers is the most intense and where the livelihood strategies are the most challenged. The level of inequality is probably best seen, however, when it is evident that up to 85 per cent of all holdings are farmed by those with less than 5 hectares, while about 6 per cent of holdings are between 10 and 50 hectares and constitute 40 per cent of total land area. In Lebanon the number of farmers grew by 36 per cent between the early 1960s and 1971, and 75 per cent access less than 1 hectare yet occupy 20 per cent of farmland. Ninety-five per cent access less than 4 hectares but use only 51 per cent of farmland. Those with more than 10 hectares represent 20 per cent of farmers but occupy 30 per cent of arable land.

Unequal landholding, unequal access to inputs, marketing and distribution, and, more broadly, poor rural development, including lack of access to education, health and other services, impedes opportunities for small farmers' sustainability and food production. We see why and how policy has mostly failed to address these themes in Section 4 below.

3.2 FOOD SECURITY AND NENA

The world food crisis in 2007–2008 put the issue of food security and family farming on the NENA agenda. In fact, it had never gone away. This is because more than 50 per cent of the food consumed in the region is imported. NENA is the largest food importer of any region, and, linked to rhetoric about persistent population growth and limited resources of cultivable land and water, food security takes on a particularly acute and strategic dimension. NENA seems especially susceptible to market volatility in wheat, where exports represent 18 per cent of world production, and only six countries account for 75 per cent of wheat exports (World Bank 2008).

Food import dependency in a region where 43 per cent of the population is rural and where poverty is widespread has sustained a trade-based view of food security. This is the dominant narrative: economies that are not self-sufficient in food guarantee their food supply—imports—by generating access to revenue to buy food on international markets (Breisinger et al. 2012). This is a 'strategy' that has preoccupied regional governments and IFIs and one that is premised on strong and vibrant national economies. Yet herein lies a paradox. Take a country like Egypt, for example. High levels of per capita growth of at least 3 per cent per annum over 10 years up to the 2011 uprising might be expected to provide a lasting and sustainable platform for economic diversity and food security. Yet we know that while Egypt developed, Egyptians did not: more than 50 per cent live on less than USD2 a day, and economic growth was based on land speculation, crony capitalism and neglect of family farming (Bush 2014; Achcar 2013; Abdelrahman 2014).

The World Bank's recognition of the strategic importance of the region's rural sector, and government rhetoric to this effect, has reinforced rather than interrogated the trade-based view of food security. The Gulf States, for example, have entered into a land grab in the greater Horn of Africa, among other regions, to compensate for their lack of domestic food production (TNI 2012; Land Matrix 2012). Only 1.7 per cent of the GCC's 259 million hectares is currently cultivated, and although until recently the Kingdom of Saudi Arabia spent enormous sums of money growing heavily subsidised wheat, it now instead purchases land outside the country to cover its domestic food needs. It is likely that Saudi Arabia will stop all wheat production by 2016, challenging its farmers to grow alternative crops and increasing its wheat imports to above 2 million tonnes. The Saudi strategy, launched in 2009 as the King Abdullah Initiative for Saudi Agricultural Investment Abroad, has been promoted as a programme to enhance global food security, but there is not yet much evidence of that (Al-Baqmi 2013). Saudi Arabia's drive to incentivise local business groups to improve investment is likely instead to accelerate speculation in land deals and dispossess small farmers. The Minister of Agriculture, Fahd Balghunaim, has noted, "There are good prospects for agricultural investments. Agriculture is one of the lucrative areas for investments because there is a growing demand for food. We expect more investments in the near future" (The Middle East 2013, 2).

At least two consequences follow from the Saudi strategy and that pursued by other members of the GCC. First, increased agribusiness involvement in food production disempowers family farmers and the deliverability of an alternative to food security—namely, food sovereignty (see the final section of this report) (Borras and Franco 2012; McMichael 2013b; Wittman et al. 2011). Second, globalisation of food production undermines the possibilities of countries with structural food deficits and recurrent famines, such as Sudan and Ethiopia, to promote engagement with local farmers and pastoralists to boost production for local consumption. Failing to enhance and defend the interests of family farming has the knock-on effect of jeopardising rural well-being, nutrition and education or rural development more broadly defined. One estimate is that Saudi businesses already have USD11 billion of investment in countries as diverse as Brazil, Canada, Ukraine, Poland, Ethiopia and Sudan (The Middle East 2013, 2; Lippman 2010).

Trade-based food security continues to promote an idea of comparative advantage for family farming and large-scale agriculture. “MENA countries have a comparative advantage in producing fruit and vegetables—provided that domestic institutions and regulation allow efficient marketing chains” (World Bank 2008, 1). The World Bank has suggested the need for NENA to improve techniques for buying cereals to avoid price impact of market volatility. And the World Bank has noted that its funding is channelled into support for upstream sectoral analysis, help with reducing rural–urban divides and focusing on community projects that address rural poverty in Morocco, Yemen and Tunisia (World Bank 2008, 3). The driver for this is the private sector, and there is little by way of recommendation for the food-insecure farmers other than that farmers must be able to respond to market prices more effectively. Getting the prices right is a familiar neoliberal mantra, and regional governments and IFIs have emphasised since the 1970s that the drivers for agricultural reform are not family farmers but foreign direct investment, agribusiness and large-scale investors—this at a time when the paradox continues of the first to experience food shortfalls and dietary constraints are the producers of food or near landless rural dwellers.

In Lebanon, USAID recognises the significance of the country having the highest proportion of cultivable land per capita in the Arab world. About 60 per cent of the population live outside Beirut and rely on some form of income linked to agriculture. In 2012 up to 30 per cent of people lived in poverty, with 8 per cent living on less than USD2.4 a day—figures which will be worse in 2014, not least because of the influx of Syrian refugees and the constant needs of Palestinian camps often left out of national accounts. More than 300,000 Lebanese citizens cannot meet their basic food needs. Yet instead of addressing issues of land and resource access, pricing structures, improved delivery of subsidies to target the most needy family farmers and livestock owners, USAID promotes a food security strategy that rewards larger land owners. It cooperates with the Chambers of Commerce, industry and agriculture to boost sales into “international exports of high value fruits, vegetables and flowers”. To do this it assists in the development of technical capability for greenhouses and farmers who already have a sound resource base (USAID 2014a; 2014b).

4 NENA: RURAL (UNDER)DEVELOPMENT, WAR, ECONOMIC REFORM AND CLIMATE CHANGE

4.1 CONFLICT AND WAR

The NENA region has experienced the highest number of international wars and civil conflict of any region in the world. Since the Second World War, conflict between Israel and its neighbours, and the continued occupation of Palestinian territory, US and Western intervention in the Gulf and occupation of Iraq, civil wars in Lebanon, Yemen, Syria, chaos in Libya and long-lasting war in Sudan have led to an enormous human and economic cost. That cost has serious implications for the undermining of vibrant and ecologically self-sustaining family farming. War and conflict slash gross domestic product (GDP) and economic infrastructure, slaughter innocents on an enormous scale and have served to subordinate regional economies to global pressures of globalisation.

Sudan is a low-income food-deficit country—one of the region's least developed. Its long civil war in the south and in Darfur and a range of other persistent conflicts have had long-lasting consequences for and impacts on family farming and pastoralism. In July 2011 the south of the country separated, resulting in the loss of at least 75 per cent of Sudan's oil revenue. In 2012 Sudan's economy contracted by 4.4 per cent, and there does not seem to be any strategic intervention to protect farmers. According to the World Food Programme (WFP), there were examples of a good harvest in 2012, but "food security remains fragile and is threatened by a combination of conflict, insecurity and high food prices". The WFP planned in 2013 to provide assistance to 4 million people in Darfur and 1 million elsewhere (WFP 2013). Persistent conflict in Darfur, which has been ongoing for more than 10 years, affected more than 2.9 million people, of which half have been displaced, removing them from farming and herding, and who need food assistance. Displacements have also disrupted farming and agro-pastoralism in Blue Nile and South Kordofan, where more than 500,000 people are food insecure because of conflict.

Following the first Gulf War in 1990 Iraq lost two thirds of its GDP, and the ensuing sanctions campaign took the lives of 1.5 million people, including 500,000 children (Ali 2014, 118). Sanctions and war dramatically affected family farming—already significantly undermined by Iraq's dependence on oil, which accounts for up to 60 per cent of the country's GDP. Before oil, Iraq had been a 'bread basket', but by 1990 the country imported 70 per cent of its cereals, legumes, oils and sugar (Woertz 2013, 135). During the international sanctions regime that began in 1990 after Saddam Hussein invaded Kuwait, and during the 'oil for food' programme, disease and malnutrition rose dramatically. Infrastructure was destroyed by the bombing, and despite attempts by the State to control cereals and oil seed production, yields fell as cultivation expanded into marginal soil. Family farming was dramatically impacted as infrastructure was destroyed; bombing destroyed land and crops, markets and communications.

The US occupation in 2003 additionally crippled Iraq's family farming sector, as chaos and terror restricted agricultural production and marketing. The removal of Saddam Hussein and his regime took the lives of at least 193,000 people (Iraq Body Count 2014), and reconstruction has focused on the oil sector and regional spoils, rather than investment in promoting agricultural development for food security. Pressures on family farmers were partly recognised in 2010 when the government tried to limit regional competition from neighbouring agricultural producers by restricting imports from Iran, Turkey and Syria. The increased demand for local produce undermined urban incomes (Woertz 2013, 138).

In Syria the devastating civil war and impact of proxies linked to Al-Qaida and Islamic State, intensified after foreign intervention since September 2014, has reduced the majority of people to hunger and starvation. Syria was previously self-sufficient in food, but violent conflict up to mid-August 2014 had caused 160,000 deaths in three years of civil conflict. These included at least 8,000 children and 5,500 women. These figures that seem precise can only be proximate, as they are for casualties in this war-torn region. At least 6.4 million people have been dislocated from their homes and from employment as farmers and workers, and 2.7 million people have left the country as refugees. In addition, the earlier Lebanese civil war between 1975 and 1990 took 150,000 lives.

Conflict has been central to the history of Yemen, where almost half of the population of 20 million people is food insecure. The Republic of Yemen, formed in 1990, was the outcome of union between The People's Republic of Yemen, established in 1967, and the northern Yemen Arab Republic that was established in 1962. Civil war between 1962 and 1971 affected farming resources and agricultural 'policy' at a time when the northern economy was opened to the world market for grain. Conflict continues, not only since unification but also after the 2011 uprisings for greater political liberalisation and democratisation. Conflict in the north had cost the lives of 3,000 soldiers by December 2010. It is unclear (unrecorded) how many farmers had been killed as fighting between Shia Houthi persisted. This has been aggravated by Saudi border conflict, with Al Qaeda in the Arabian Peninsula militants targeted by US drones, which have had a disastrous impact on civilians and southern separatists in Shabwa province. The use of cluster bombs and drones has devastated rural communities and added to local conflict and struggle over scarce resources (Craig 2014). A failure to promote increased and sustainable political representation for farmers in a country where 85 per cent may continue to live in small villages has led to persistent disruption to farming, as had policies of economic reform—see below.

The Occupied Palestinian Territories (OPT) have been the centre of conflict, disruption and dislocation, violent dispossession of farmers and herders and agro-pastoralists. Israel's bombing of Gaza in July–August 2014, operation Protective Edge, killed more than 2,000 people. The bombing destroyed 10,000 homes, ruining the livelihoods of 300,000 people and displacing 500,000—a third of Gaza's population. But this was only the latest in a series of attacks on Gaza in particular and in the OPT more generally.

Small farmer agriculture in the OPT is the most undermined in the region, including that of other war-torn areas such as Syria and Iraq. It is also in many ways, despite the Israeli occupation, a microcosm of themes linked to the constraints on family farming: dispossession, access to water, and social and physical (im)mobility. Palestinians are also a microcosm of the region's predominantly young population: almost 65 per cent of Palestinians are less than 24 years old. This is similar to the NENA region more generally, where more than 100 million people are between the ages of 15 and 29. With a falling overall regional population growth rate, the young people in the region offer a potentially strong and important 'demographic dividend' (Marcus et al. 2013). A predominantly young population also puts immense pressure on political leadership for high expectations of development to be met.

Of the just over 4 million Palestinians in the OPT, 707,500 live in rural areas, of which 410,000 were classified as poor by the International Fund for Agricultural Development (IFAD 2010). The GDP of the OPT in 2010 was just over USD6 billion, of which agriculture accounted for USD296,000, employing about 354,000 people. Agriculture accounted for between 20 and 36 per cent of all formal employment for women and 90 per cent of all informal employment in the OPT between 2000 and 2009. The IFAD and FAO see immense potential for economic growth if value chains in

livestock, grains and fruits, as well as other key OPT agricultural activity such as food processing and expansion of herb and spices and medicinal plants could be developed (IFAD 2010).

TABLE 2

Farmers in the Occupied Palestinian Territories (OPT)

	Small	Medium	Large	Total
Land farmers	30,624	47,174	7,495	85,295
Productive assets (<i>dunums</i>)	0.7	4.1	32	
Livestock owners	25,908	2,995	1,226	30,129
Productive assets	2 heads	25 heads	145 heads	
Land and livestock owners	10,219	10,568	9,468	30,273
Land assets (<i>dunums</i>)	0.8	2.8	23	
Animal assets	7.33 heads	12 heads	31 heads	

Source: FAO (2012, 2).

The difficulty for the expansion of family farming, however, is obvious and well documented. While the impact of Israel's operation Protective Edge is still being calculated, the 22-day operation Cast Lead in 2008–2009 was seen as "one of the most violent episodes in the recent history of the occupied Palestinian territory" (UNDP, quoted in Zurayk et al. 2012). The FAO (2009) believed that "almost all of Gaza's 10,000 smallholder farms suffered damage and many [were] completely destroyed, having a severe impact on livelihoods". And in 2012, losses to the agricultural sector following Israel's Operation Pillar of Cloud were estimated at USD20.6 million (PARC 2012, 7).

Destruction of physical farming assets in the OPT more broadly is a direct consequence of Israeli occupation. According to the FAO (2013, 4), in 2012 there was a "twofold increase in the destruction of agricultural assets, such as olive and fruit trees and cisterns—and with it lost income". Much of this happened in Area C in the West Bank, an area that was demarcated after Oslo II as in full Israeli control, and it is the area of occupation where there is really the only space for expansion of family or Palestinian 'state' farming. It includes the Jordan Valley and northern Dead Sea, an area of 1.6 million *dunums*⁴—28.8 per cent of the West Bank. It is home to 65,000 Palestinians in 29 communities, and a further 15,000 Palestinians live in Bedouin communities. But about 10,000 Israeli settlers live in 37 settlements and outposts, intensely exploiting the area's rich natural resources, denying Palestinian herders grazing access, and mining waterways (B'Tselem 2011).

Violence and conflict in the OPT intensified following the Palestinian National Authority's bid for statehood to the United Nations in 2013. This extends the initial Israeli sanctions regime on Gaza of 2006–2007 that was imposed after the 2006 election in Gaza of Hamas. In 2007 Israel's occupation imposed a blockade restricting all but the bare minimum of goods and services to the strip. Gaza was put on a 'diet' by the Israeli State of the bare minimum 2,279 calories a day, and the State would limit the amount of food that entered Gaza accordingly (Cole 2012). There were Israeli restrictions on the Palestinian fishing fleet. Limited to a six-mile fishing space, it suffered the double liability of constant daily harassment by Israel's navy and a lack of fuel. The blockade on Gaza and the West Bank has blocked the exchange of products between the two separated locations and limited all hope and prospects for boosting family farming exports

4. A *dunum* is 1,000 square metres or 1 decare (0.1 hectares).

overseas. Palestinian markets have also been dumped with Israeli agricultural products and State-subsidised settlers' products, some of which have been inedible, and all of which adversely impact the competitiveness of Palestinian family farmers.

The 2014 invasion and constant violent disruption to life that is the everyday experience of Palestinian family farmers undermines and aggravates large numbers of fragmented small-scale family farming units that are labour intensive and which, although under immense pressure, provide insurance against continued occupation. But only 5 per cent of all cultivated land is irrigated, located mostly in the lower elevated areas of the West Bank. As Israeli settlers occupy Palestinian land, less than 1 per cent of upland districts of Nablus and Ramallah is irrigated.

"Rural poverty is also a consequence of the difficult conditions faced by farmers in the territories. In some areas landholdings are very fragmented. The Israelis have destroyed agricultural infrastructure, confiscated and reduced access to land and water resources and restricted the movement of agricultural goods and trade. The 670 km separation wall dividing the West Bank from Israel was begun in 2002 during one of the most violent phases of the intifada. The barrier restricts the access of tens of thousands of Palestinian people to work, schools, hospitals and family. Almost one fifth of the West Bank's agricultural land has remained on the Israeli side of the separation barrier, cutting farmers off from their land and causing a further decline in agricultural production" (IFAD 2003).

The World Bank (2014) continues to stress the importance of growth led by the private sector but recognises that "Palestinian enterprises have remained hostage to political instability, unresolved conflict, and continued restrictions on movement, access, and trade."

4.2 ECONOMIC REFORM AND ADJUSTMENT

The second major factor impacting family farming in NENA has been the 35-year period of economic reform and structural adjustment. Structural Adjustment Programmes (SAPs) have transformed the region's farmers, dispossessing many from smallholdings, raising prices for inputs to unaffordable levels and promoting export-led growth of largely cash crops for export, rather than of staple food crops for consumption locally. Growth led by the private sector has empowered large (and some small) entrepreneurs who have charged increased prices for essential farming inputs, accelerating rural social differentiation as smallholders and near landless people have been displaced. Yet private-sector growth has been the mantra of the IFIs, especially the World Bank (2008; 2012) and USAID, the leading bilateral donor which for many years occupied, for example, several floors in Egypt's Ministry of Agriculture and Land Reclamation (USAID 1999). A central plank in the policy of promoting private-sector growth was to change land tenure and, wherever possible, to convert state land (and farms) into private property that was appropriated by either local elites or foreign investors.

The context in which the reforms and the undermining of small family farmers took place was the failure of States in the region to invest oil revenues in agriculture. High oil prices in the 1970s did not benefit small farmers except to provide wage income for those who travelled to the Gulf, Libya and Iraq to work in the oil sector. Income to migrant labour helped ameliorate government preoccupation with extractives, but investment in agriculture across the Arab world fell in the 1970s and 1980s. Regimes flush with oil wealth imported food and consumer goods, instead of producing them locally. This was encouraged by the IFIs. Agricultural productivity per worker fell across the region, as did gross investment in agriculture between 1980 and 1992. In Algeria it fell from 37 per cent to 28 per cent, from 31 per cent to 23 per cent

in Egypt, and in Morocco from 23 per cent to 22 per cent. It also fell by 2 percentage points in Sudan and Tunisia (El-Ghonemy 1999, 12). The celebrated years of oil-led economic growth and the economic opening or *infitah* created years of agricultural neglect (Lynn Karl 1997).

Governments in the NENA region resisted SAPs longer than any other part of the world. The history of social contracts throughout the NENA and protests and riots against reform in Egypt, Algeria, Sudan and Tunisia added to the State's reluctance to implement the IFI-led reform agenda. Yet governments did not hold out forever, and the march towards privatisation and state withdrawal was extensive. Morocco privatised state, collective and religious endowed land. Thus, land that had previously been farmed collectively was split into plots of a minimum of 5 hectares, favouring wealthy people who were able to purchase land and accelerating the concentration of land ownership among political elites (Hanieh 2013, 79). Tunisia also privatised collectively managed tribal land, and state farms were sold off. Algeria sold its state farms that were declared 'inefficient', and privatisation was declared to benefit family farmers.

The pressure for privatisation of land, changes in land tenure and removal of state allocation of agricultural resources, including credit, is dramatically highlighted in Egypt. USAID invested USD775 million in its Agricultural Production and Credit Project 1986–1996, which focused on market-led reforms and liberalisation. After 1996 USAID increased its Agricultural Policy and Reform Programme, increasing its influence on the Government of Egypt, linking with five ministries and emphasising export-led growth, the US farm model and reductions in subsidies. The policy outcomes were praised as increasing agricultural productivity and incomes and deregulating cropping patterns to boost agricultural exports.

Critics have noted that this was an agricultural policy without farmers, investment and government support was directed to new investors, rather than to family farmers in the old lands of the Delta, and that there was a gap between declared policy and actual outcomes. First, productivity data were unreliable, and improvements in agricultural productivity may have been the result of previous underreporting (Mitchell 1998). The rate of growth in agriculture after 1990 was in fact less than for the pre-reform period of 1980–1987, and the strategy to boost revenue from export-led growth failed to resolve the understanding that while Egypt's agricultural imports—wheat, sugar and edible oils—had a low elasticity of demand, most of the country's exports have high elasticity. More than two decades of economic reform has failed to deliver export-led growth (Bush 2002; 2009).

The harsh impact of economic reform on small farmers was most felt with the implementation of changes in land tenancy. Law 96 of 1992 revoked Nasser's legislation that had given small farmer rights to lease land in perpetuity. When it was fully implemented in 1997, more than 1 million tenants were displaced and had rents increased by more than 400 per cent. Many of the dispossessed were female-headed households, and landlords refused to renew contracts with people considered unable to pay.

Law 96 had not been part of the economic reform package implemented in 1991. The law, however, led to considerable levels of rural violence and disruption to productivity, as tenants were reluctant to invest in land over which there was so much insecurity about future cultivation (LCHR 2002). The changes in tenancy together with economic liberalisation contributed to an increase in land concentration. In Egypt between 1990 and 2000 the number of farms of less than 1 *feddan* increased from 36.7 per cent of

total holdings to 48.5 per cent. Ninety-three per cent of Egyptian farmers work less than 5 *feddans*, while just 3 per cent of landowners control almost 35 per cent of agricultural land, with an average holding of more than 10 *feddans* each (Ayebe 2012a).

Another illustration of a detrimental impact on small farmers resulting from economic liberalisation has been the case of Morocco. For one commentator the pattern of decline for the agricultural sector in general and small farmers in particular can be traced to the last 50 years of government policy—a policy that has failed to promote either food security or export-led growth that could have generated revenue for development more generally. The promotion of what has been called ‘reckless free trade’ has failed to raise rural living standards because “headline structural problems remain: deficits in production and productivity; trade deficits; insufficient and inadequate funding; infrastructure deficiencies; omnipotence of weather hazards; limited natural resources in constant degradation; archaic and counterproductive land tenure structures; weak farming systems poorly coordinated with the rest of the economy; poverty and widespread illiteracy; and an even more onerous food import dependency” (Akesbi 2014, 169).

Moroccan agricultural policy changed in the mid-1980s. Up until then the government supported infrastructural growth, provided production subsidies and intervened in the market with cropping and distribution interventions. The policy from the 1960s was called the *politique des barrages* or ‘politics of the dams’, with an objective of irrigating 1 million hectares before 2000. That strategy favoured large project development and absorbed 60 per cent of the agricultural sector’s resources and 30 per cent of public investments (Akesbi et al. 2008, 43). The strategy favoured large farmers with export-oriented capability and resources, and some benefits from dam development emerged in the 1970s, but they were uneven in terms of revenue creation, working conditions and rural livelihoods.

Moderate land redistribution of ‘reserve’ land and of former colonised land in the early 1970s served as a vehicle for political reconciliation. Coup attempts and political unrest probably helped to accelerate a limited ‘agrarian revolution’, but land distribution of just 320,000 hectares to only 24,000 beneficiaries, or just 2 per cent of farmers, did little to relieve rural poverty and the absence of basic services such as health care, education and transport (Akesbi et al. 2008, 46–47). Additional attention had also been given to trying to redress the imbalance between state support for irrigation and the relative absence of support for the rain-fed agriculture of small family farmers.

Structural adjustment led to the privatisation of veterinary services, water supply for irrigation and seed provision, and ended management of cropping patterns. The liberalisation of the internal agricultural market exposed small farmers to the vagaries of private entrepreneurs. Moreover, state regulation of export markets through the Office de commercialisation et d’exportation ceased.

The World Bank aided the Moroccan agricultural vision, which since the mid-1960s had emphasised the twin aims of modernisation and productivity (Akesbi et al. 2008). According to the last census of the mid-2000s, 13.4 million out of a total population of 29.9 million people live in rural areas. An estimated 45.8 per cent of the active working population is engaged in agriculture nationally, a figure that rises to 80.4 per cent in rural areas, but rural exodus is often noted, as is the lack of accuracy in rural unemployment figures.

Morocco’s second SAP ended in 1997, with a World Bank evaluation report noting “fatigue of adjustment”. A series of ministerial policy initiatives was considered in the 1990s, but it was not until April 2008 with the ‘Green Morocco Plan (‘Le Plan Maroc Vert’) that rural development was pushed into the policy arena. The plan was devised, it seems, by a consultancy firm, not locally and certainly

without consultation with farmers. There were two key pillars: the promotion of competitive modern agriculture through market-based private investment, and poverty reduction by boosting the incomes of the poorest farmers in the most peripheral areas (ADA 2010; Akesbi 2014, 171).

The desired outcome of the Green Morocco Plan is to boost agricultural GDP and rural household income. The mechanism for so doing is to directly address the livelihoods of family farmers. This is to be done by a process of 'aggregation'—namely, investors and agricultural managers with resources of land and income will work with smaller farmers to promote economies of scale. The plan is that over a 10-year period almost 1,000 projects at a cost of EUR6.8 billion will benefit 560,000 farmers. Second, the 'human face' of the project will focus on assisting small family farmers to move into more profitable crops. As many as 860,000 farmers may be targeted with 545 projects costing EUR1.8 billion (Akesbi 2011a; 2014).

While it is important that the Green Morocco Plan begins to reconsider the role of farmers and rural development after years of neglect, a number of critical points can be made. We will see that while these particular criticisms apply directly to the Morocco case, many are applicable to other regional country examples in the period of neoliberal reform. The approach taken in Morocco is very much driven by the concerns of productivity and a technocratic response to the perceived underperformance of small, marginalised farmers. Small farmers were not consulted about the plan, even though in Morocco 99 per cent of farms are managed by family farmers, with just under 12,000 farms covering only 3.2 per cent of agricultural area run by managers (Akesbi 2011a, 28). There is little mention of the complex and integrated pluriactivity of farming and farmers, and, despite the rhetoric, the plan does not seem to consider boosting food security or a more nuanced notion of food sovereignty. The prioritised food chains seem to be fruit and vegetables, olives and olive oil.

It is with the idea of aggregation, however, that many pitfalls are evident. Aggregation jettisons any possibility of a redistributive land reform and instead tries to incorporate family farming into 'commercialised' and largely corporate-driven forms of production. The model in Morocco may be an attempt to expand the idea of success of special productive areas: tomatoes in the south, strawberries in the north and the continued protection of companies linked to the royal family for sugar cane production at a time of rhetorical liberalisation of foreign trade. The absence of engagement with the agrarian question of land seems to lead the Moroccan plan to assume that much land is empty and unused; the plan has alienated small farmers who have perceived the schemes linked to it as mechanisms for redistributing the limited resources of family farmers to economic and political elites, and more than 40 per cent of small farmers have been characterised as inefficient (Mahdi 2014). The plan does not engage with the questions of agricultural labourers, perhaps as many as 60,000 without land, and there is little attempt to engage with rural petty trade or pastoralism.

Elsewhere in the Maghreb, economic reform and structural adjustment led to what have been called the 'politics of prices' and a deterioration of the material and social conditions of small farmers (Bessaoud 2004). In Algeria the pitfalls of liberalisation are similar to those of Morocco. Economic liberalisation in Algeria in the 1980s and 1990s was a response to, among other things, production shortfalls in fertilisers and food processing, a failure to meet increased urban demand for food and the abandonment of agrarian reform. Liberalisation took the form of reducing state control after 1976 of the cooperative sector and the end of land nationalisation. An increase in the prices of fertilisers and other agricultural inputs after liberalisation, however, reduced their usage and, consequently, agricultural output. Between 1983 and 1987 State-led land redistribution stopped, favouring instead private entrepreneurs, and the previously termed 'socialist agricultural domains' were dissolved. In 1990, and not dissimilar to Egypt's Law 96 of 1992, the beneficiaries of

Algeria's long-standing agrarian reform programme were required to return land that had been redistributed to them 15 years earlier. Informal markets emerged between family farmers who were able to access farming resources and traders. Land fragmentation accelerated. The average farm size in Algeria is 4.7 hectares, and 80 per cent of farmers own less than 10 hectares.

After years of declared reduced public-sector agricultural involvement, in 2000 a new State-driven national programme emerged. The State did not revoke the period of neoliberal market reform. Instead, it recognised the importance of state intervention to manage 'reconversion of soils' on up to 3 million hectares of land to move away from cereal production and increase production of fruits, livestock and wine.

Since 2000 the National Programme for Agricultural Development has delivered more than DZD40 billion (Algerian Dinars) a year to the rural area (about USD40 million)—four times more than average investments between 1995 and 1998 and 10 times the amount delivered after the start of structural adjustment in agriculture in 1993. Yet, as has been stressed in critique of what on the surface seems a major and critical shift in Algerian state policy, the impact on small farmers is likely to be limited (Bessaoud 2007). This is because the idea of the small farmer and the organisation of agricultural production is unrelated to the realities on the ground. Few small farmers have formal property rights; those who do cannot access credit and have little representation over rural development policy. At least one third of the 12 million rural Algerians are categorised as poor, 42 per cent of unemployed people live in the countryside, and women's access to land and credit is especially limited. There has been a programme to introduce seasonal interest-free loans and to increase support for providing farm inputs, but its results are not available (IFAD 2011).

4.3 CLIMATE CHANGE

Water scarcity in the NENA drives the response to climate change and the regional government's hydro-politics (Allen 2001). Population growth up to 2025 may lower per capita water availability by 30–70 per cent. This assumes there will be no additional access to renewal water, which is unlikely (Sowers 2014, 1). Hydro-politics relates to the government control of access to and use of water from the Nile, Tigris and Euphrates rivers. Dam projects in Turkey limited Iraq's water supply in the 2000s, which were exacerbated by years of drought. Egypt and Turkey continue to flex their military and geostrategic clout from controlling water access to their riparian neighbours. Development in riverine States, especially Ethiopia and Sudan, will increase demands on Nile water, as will any prospective peace in Syria and Iraq for guaranteed flows out of Turkey and Iran. This has direct implication for small farmers. Restrictions on water use in the OPT limits the growth of Palestinian family farming. The regional water constraint leads to calls to target more efficient use of water: drip as opposed to flood irrigation for farmers. It has also led to a view that moves towards regional food self-sufficiency can only be flawed: there is simply not enough water and too many people for such a strategy. Instead, economic diversification, which may not include greater agricultural production but will include moves away from dependence on oil revenues, may generate income for continued food purchase. Saudi Arabia's strong fiscal balances as a result of its oil economy meant it had little problem spending \$20 billion on food imports in 2010. High oil revenues facilitated a subsidy programme for household access to food that was never in doubt for the country. And similar huge fiscal balances in Gulf States ensure continued access to imported food, although Saudi Arabia and Qatar in particular are

keen to grab land in the region and beyond as a hedge against subordination to international food chains and to develop strong national agribusiness companies.

The conundrum for the majority of oil-producing States is that environmental limits to the use of fossil fuels that may increasingly emerge in the global North—if developed countries take greater responsibility for their larger and longer history of pollution—will potentially reduce the economic growth levels in the NENA. Economic crisis for the oil States will jeopardise the stability of social contracts that form the basis of regional rentier politics. Although the region as a whole is a relatively low CO₂ emitter, many of the region's oil producers have generated highly carbon-intensive lifestyles. In fact, per capita emissions in many NENA countries are 60 per cent higher than the average among developing countries (Nakhouda et al. 2013, 1), while resource-poor Yemen and Djibouti have some of the world's highest levels of poverty, as do resource-rich Sudan and South Sudan.

The NENA is often noted as the most water-scarce region in the world, and, as we have stressed, it imports more than half its food. Yet if the global volume of water available (rains, rivers, groundwater) is viewed alongside the total population, there is actually a high level of water availability: around 1,800 cubic metres/person/year. This is usually considered a good level of water availability, as an optimum level is 1,500 m³/p/year. The problem, of course, as with the debate about all resource availability, is the geographical/spatial distribution of water resources and the effective global, local, family and individual access to it (Ayeb 2002; 2012b). The largest amount of water used is for agriculture (Sowers et al. 2011; Chenoweth et al. 2011; Droogers et al. 2012). High dependence on rain-fed agriculture makes family farmers, under existing policy constraints, vulnerable to climate change. More than half of all arable land in Algeria, Iraq, Jordan, Lebanon, Libya, Mauritania, Morocco, Sudan, Syria, Tunisia and Yemen is rain fed. In Sudan and Yemen up to 80 per cent of cereal production is rain fed. The UN Intergovernmental Panel on Climate Change (IPCC) highlights that the region will become drier and hotter, with the possibility of rainfall decreasing by 10 per cent by 2050 (FAO 2013, 60–61). Increased water scarcity will result from a reduction in groundwater resources, which together with climate warming, under existing patterns of distribution and use, will lead to crop losses, especially for small farmers. One estimate is that agricultural output may fall by 21 per cent by 2080 and that losses may be as high as 40 per cent in Morocco and Algeria (Cline 2007).

Agricultural strategy (and development policy more broadly), rather than an absolute scarcity, has accelerated an environmental and water crisis made more acute by climate change. This is because of the oil–fuel–water–agriculture nexus: cheap regional energy (the majority of which is used to drive air conditioning units rather than local development (Sowers 2014, 2)) quickened the use of new drilling techniques and capital intensification of farming to deliver increased export-led growth of mostly high-value, low-nutrition foodstuffs, rather than the production of local staples. Drilling deeper and deeper wells and accessing groundwater and aquifers while not giving these sources for irrigation time to recharge has mined the region's scarcest resource and limited its social distribution.

As we have noted, crude notions of trade-based food security have been promoted by the IFIs and agribusiness. Companies such as Citadel Capital, now known as Qalaa Holdings, Africa's largest equity capital firm, based in Egypt, have also bought land throughout NENA, further challenging the possibility for policy that might support small farmers. Small farmers are repeatedly seen as inefficient, unable to benefit from economies of scale and access to

capital for purchase of new machinery and technology (Dixon 2014). This strategy has additionally been linked to the economic reforms discussed above.

Tunisia is an important illustration of how water policy linked to pressures of climate change was exacerbated during economic reform and the period of erstwhile dictator Ben Ali. Small farmers and agro-pastoralists were undermined by the promotion of private agricultural projects that accompanied economic reform after 1982. Economic liberalisation intensified competition over agricultural land, water and rural resources between the Sahel region of Tunisia (the north-east) and the rest of the country. This led to additional conflict between small and medium-sized farmers and agricultural private investors. Competition over water resources, minerals and wealth from agricultural products such as olive oil intensified. Farmers' surplus was increasingly transferred to the northern Sahel for processing, where value added also accrued. Agriculture represents about 12 per cent of Tunisia's GDP, and most of that production is located outside the Sahel region (Ayeb 2012a).

The transformation of Sidi Bouzid is illustrative of the processes of rural dispossession and wealth transfer. Sidi Bouzid is a semi-arid area where the local population has practised semi-nomadic pastoralism and extensive rain-fed agriculture. This included sheep and camel farming together with olive, almond and cereal production. The region now captures a key contradiction, evident in other countries in NENA—namely, there is high agricultural production and a high rate of poverty, with 42.3 per cent of the population living on less than USD2 a day in 2011. This 'green mirage' (see the film of the same name by Habib Ayeb) is the result of a farming strategy that has excluded small farmers and that has instead reified an ideology of food security based on maximising local water resources and mining the soil. Tunisia's Fifth Five-Year Plan (1977–1981) confirmed the end of collectivism and asserted an export-led role for agriculture intended to boost food security. Expansion of irrigated agriculture by investors from outside the region increased irrigated farmland from 2,000 hectares in 1958 to almost 50,000 in 2011 (Ayeb and Bush 2014). The increased entry of private investors from outside the region increased conflict. Private capital funded new irrigation techniques, electrification and plantation development. Increased displacement and dispossession of small farmers as a result of this strategy led to the reintroduction of the term 'colon' previously reserved for French settlers.

The impact of global warming and rising sea levels is debated alongside constraints of water availability (World Bank 2010; Sowers et al. 2010; Shetty 2006). We have already stressed the importance of noting the extent of resource availability and how that availability and distribution of resources is shaped by the balance of political and economic forces that benefit from the status quo. Drought in Eastern Syria between 2006 and 2010 destroyed an estimated 800,000 livelihoods, killing 85 per cent of livestock and leading to the abandonment of more than 150 villages (Minio-Paluello 2014). The heatwave in Russia in 2010 led to the banning of wheat exports, which has been identified as a contributing factor to the uprisings in 2011. Unusually high temperatures in Egypt in May 2014 led to many deaths from heat exhaustion and dehydration and adversely impacted agricultural productivity. Exact data on this are unavailable. Rising sea levels might affect 43 port cities in the region: a 0.5 metre rise in Alexandria would displace more than 2 million Egyptians, with an immense financial cost of at least USD35 billion.

There is considerable variation in the projections for rising sea levels. The projections are politically charged. Sea levels in the Nile Delta may rise between 50 and 200 cm by 2100.

Climate prediction does indicate that there will be greater warming in the southern and eastern Mediterranean than the world as a whole (Sowers 2014). The regional climate change debate has focused on strategies for mitigation and adaptation. A recent report by the United Nations Development Programme (UNDP) suggests that mitigation relates to mainly energy concerns and stresses the imperative for 'collective action' (Waterbury 2013), although this mostly seems to be the global North proposing that the global South forgets or downplays its developmental needs (Green 2012). Mitigation puts an emphasis on the need for equity in the way in which climate change impacts on the NENA and the global South more generally, yet the needs of the global South and family farmers within it are clearly uneven and socially as well as geographically differentiated. Yet climate finance has been almost entirely restricted to a limited number of large projects, with little reference to the impacts on family farming. The donor support for clean technology funds is more than USD701 million, of which 80 per cent is for mitigation and not adaptation needs of water conservation and food security: Egypt and Morocco receive 80 per cent of approved climate funds in the NENA, while eleven countries receive no funds at all (Nakhouda 2013, 1).

In contrast, adaptation to climate change is used to describe issues relating to the impact that occurs in the agricultural sector. Policy decisions will be shaped by welfare implications because more than a fifth of regional total employment is in agriculture, and "Political leaders may find themselves asking the poorest in their societies to bear the costs of adaptation" (Waterbury 2013, 8). Adaptation and vulnerability have become two ideologically charged terms. Vulnerability relates to the tendency to be impacted by crises where climate changes are mediated by current vulnerability (IPCC 2012, 5, cited in Mason et al. 2014, ix). A new wide-ranging report on climate security in the Jordan River Valley has highlighted the shortcomings in the literature and the limited analytical heft of debates on vulnerability and community and household adaptive capacity (Mason et al. 2014). The scales used to analyse vulnerability are often pitched only at a macro level, with little focus on community and propensity, and there is often an absence of discussion that links national strategies to deal with climate change with trans-boundary issues. This is a shortcoming that fails to consult or engage with small farmer strategies to deal with climate change, rising sea levels and soil salination and the deliverability of alternative farming strategies.

Second, the debates about vulnerability tend to be pitched at a level that assumes political neutrality, yet we have already seen how, in the NENA (and other?) contexts, debates about family farming, its limitations and opportunities are politically charged and, in the case of much of NENA, shaped by intense militarisation, violence and uncertainty linked to occupation. There is also little crossover between debates regarding vulnerability and the political economy of water scarcity (Mason et al. 2014, 7–9): scarcity here is often seen as an absolute concept, and not one that is shaped by differentiated use, renewal and transformation. It is also important to add that while the term vulnerability is much used in the debate regarding climate change, so too is the idea of resilience, the much-vaunted mantra that the dangers of everyday life need simply to be adapted to, that people can learn to live with the experiences of climate change and will benefit from so doing by developing new ways of managing (not radically transforming) their (often appalling) life chances (Evans and Reid 2014; Duffield 2007).

As in other regions of the world, there is much to applaud in the coping and survival strategies of family farmers, such as changes to cropping and seed mixes, adjusting the planting calendar as rainfall appears late or is disrupted compared to previous years, promoting access to off-farm income, travelling further to reach different markets and

moderating diet and so on. These are strategies that have different impacts on farmers of different land size and resource access and on women compared to men. Yet this 'adaptability' does little or nothing to reverse or counter the reasons why usually poorer family farmers are the first to experience crisis and why crises intensify rural poverty. Adaptability at best seems a strategy to take farmers back to pre-crisis levels of social organisation and production. Yet this is precisely the condition from which it was difficult to avoid entry into crisis.

It is now well known and documented that poor people are the first to suffer the impact of 'natural' disasters and hazards. Thus, when the term 'adaptation' is used, it is important to interrogate who in fact is being asked to adapt, and with what kind of consequences (Malm and Esmailian 2013). It is also important to consider what the historical antecedents are to the ways in which climate change affects family farmers. How has agricultural policy, or its absence, intensified the consequences of climate change? Adaptation in Egypt, for example, to rising sea levels seems to be mostly concerned with its impact on tourism and real estate development on the northern coast—and not with how family farmers need to be protected to reduce their displacement and to manage potential new patterns of cropping and employment.

Family farmers have in fact resisted the linked implications of the policies of economic reform and recent consequences of climate change. They have done this in the context of the Arab uprisings in Egypt, Tunisia and Yemen, and elsewhere too. Yet a recent UNDP report on the political economy of climate change is reluctant to engage critically with regional development strategies. Although the failures of policymakers to act decisively with regard to climate change and other issues is legendary in the NENA region, not least because of rentier politics and the frailty of social contracts between rulers and ruled, the UNDP report suggests "Radical departures are not warranted nor feasible" (Waterbury 2013, 8). This might be interpreted as a vote of confidence in the persistently authoritarian regimes in the region, rather than suggesting the need to explore new possibilities in the aftermath of the Arab uprisings.

5 FARMERS' VOICES, RECOMMENDATIONS AND A RESEARCH AGENDA?

The persistent feature of debate on family farming in the NENA is the absence of farmers' voices. Even during the heyday of decolonisation and the State-led strategies to break from the dominance of dualistic agricultural *structures*, family farmers were seldom consulted about strategy, reforms and linkage between the countryside and the town. Agricultural policy without family farmers is a theme that runs through all our cases in the same way that our cases are all impacted by systematic and often routinised violence: dispossession from land and water resources, inadequate and too costly input prices and poor access to local marketing.

In Yemen farmers have experienced the flooding of markets with cheap grain as a result of trade liberalisation and the absence of state support for rain-fed agriculture, not least with inadequate support for infrastructure, terracing and transport. And policies that have failed to reduce gender-based poverty and exclusion, illiteracy and poor health provision are the result of a failure in rural development policy more broadly. These problems in Yemen are an acute illustration of the impacts of economic reform. They are also a consequence of the failure to understand the dynamics of 'subsistence' farming. One of the region's features—not just in Yemen—is the heavily skewed levels of landholdings, where small numbers of large landowners and foreign companies own and control access to most of the land, compared

with a high number of smallholders and near landless people. Policy measures and debate, in Yemen and elsewhere, tend to focus on the need to increase the productivity of smallholding farmers and to do that, as we have seen, by market-driven mechanisms. But as has been noted in the case of Yemen, “Rain-fed agriculture is targeted by technical solutions dedicated to increase productivity” to also increase incomes. But this means “implicitly increasing production for a market wherein local rain-fed production will never be competitive without strong political support and protection” (Mundy and Pelat 2014, 17; Mundy et al. 2014).

We have traced in the many different cases how rhetorical policies to raise rural incomes in support of family farming have taken place in the context of conflict, economic liberalisation and climate change. Attempts to view the difficulties faced by family farming holistically with a view to addressing structural concerns of access to resources and the need, therefore, to address social inequality and how that inequality is reproduced have not been very extensive. NGOs, for example, may address issues of climate, access to water and gender inequality but do not have the political clout to persuade governments to address policy failures that link sectoral issues with broader concerns of social differentiation. Policy reform has taken place in the context of enhanced internationalisation of the food regime, where family farming in the regions, even the remotest areas of the NENA, are impacted by agribusiness and international trade arrangements in grain and other agricultural products.

Fundamentally it is important for family farmers and farming to be seen to be important, for what they do and how they do it, for them to be viewed as significant and integral to development, broadly defined. That means valorising indigenous farming knowledge and techniques (Mundy and Ayeb, pers. comm.) and penalising actions of investors and speculators who may, for example, take land and other resources out of production of food and use values. It also means thinking about agricultural extension in a different way. For family farming to be secured, and its value understood, with all the consequences that can follow from that—namely, a slowing of rural–urban migration, as rural work can become more secure—agricultural extension needs to be orchestrated by family farmers themselves.

The conclusion, therefore, is that while a ‘shopping list’ of recommendations is easy, the deliverability of reforms that will affect family farming positively and achieve the actual aims of reforms is far more difficult to ensure. A list that addresses financing and investment; land fragmentation without addressing inequality in land holding; youth and gender support; concern with climate change and so on will do little to change the status quo that has generated the crises of family farming that have been identified in this report (FAO 2014, 2–3).

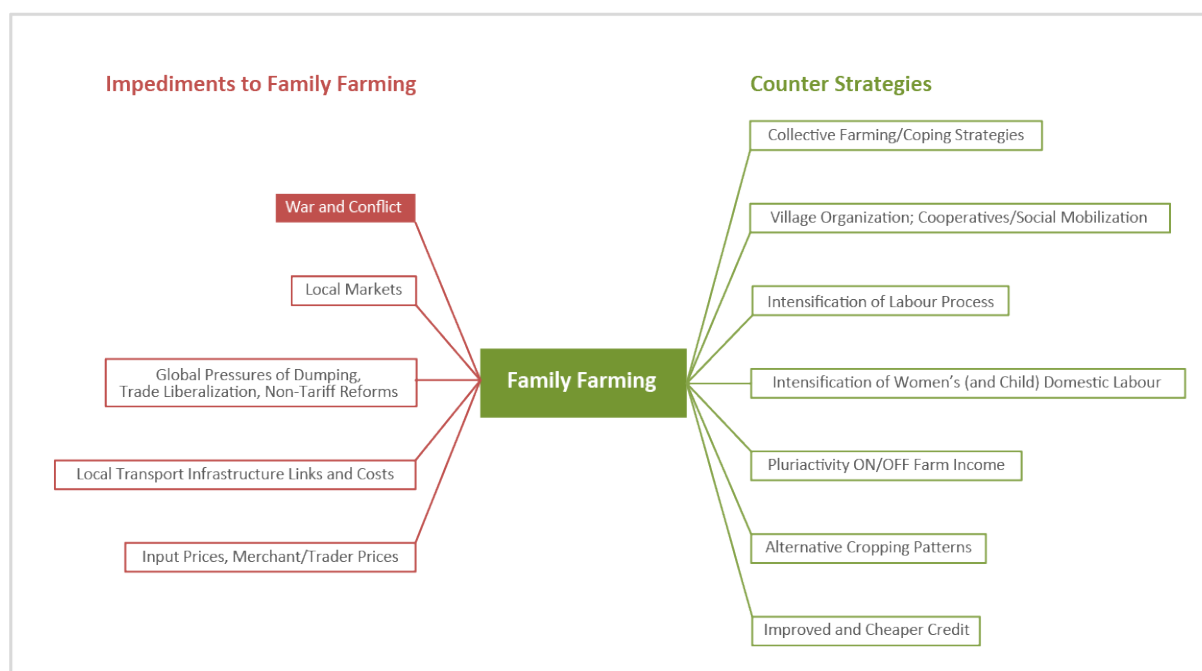
The shopping list approach to family farming reform is understandable: it does not challenge issues of power, resource distribution and access. They are reforms that governments and agencies can agree on, and usually at a glacial pace of implementation and debate. They will ensure the continued marginalisation of family farming and, among other things, the continued hegemony of global grain markets.

A research agenda that tries to think beyond the immediate dealing with host governments will need to address the structure of the reasons why family farming has been so underdeveloped. This will involve understanding the relationships of power that have emerged historically to enmesh family farming in patterns of uneven and deleterious incorporation of agrarian policy. There have been many common patterns in the NENA that have been identified, and many

country specificities particularly linked to overarching patterns of conflict, economic reform and climate change. Analysis and research that may address persistent agrarian underdevelopment will need to identify *inter alia* where the production and distribution shortfalls occur and why, and with what kinds of social consequences? In other words, research and policy intervention will need to be dynamic and differentiated, seeking to understand who is affected by shortfalls in production, for example, and how, and which groups, particular households with varied resource endowments and age and gender compositions and with different relationships with owners and so on.

This will require analysis of specific units of food production and patterns of self-provisioning. At the level of the village and the community further specification is needed of differentiation and supportive or exploitative relations between different household units. Here an analysis of mechanisms of mutual support, survival, storing and for tackling emergencies is important alongside the environmental balance and challenges, the fragility of ecology and so on. These dynamic, actual and potential fault lines need to be explored in detail and by case investigation rather than generalised policy invective. It will require a view of policy that is inclusive, based on informed ethnographic investigation rather than by urban-based agricultural extension, and there is a need to identify what might be ‘normal’ relationships and what might be sources of cyclical crisis—economic and political—drought and pests. These cyclical crises can then be set alongside long-term trends of encroachment, dispossession and water scarcity. Only by doing this will it be possible to identify which family farmers have inadequate access to means of production cyclically or permanently.

FIGURE 1

Family farming constraints and possibilities

Source: FAO

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