4. Food Security and the Multifunctionality of Agriculture: Paradoxes in European Land Questions

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Introduction

Agricultural policies in Europe may be described as multifunctional, although the content and emphasis of the functions of agriculture have shifted. Increasing production and productivity to ensure food sufficiency and security in the aftermath of the hunger and starvation suffered during the Second World War, rural employment, and settlement, as well as balanced monetary policies, have been important elements of the European Union's (EU) Common Agricultural Policy (CAP), as well of non-EU members such as Norway and Switzerland (Potter and Tilzey 2005; Schweizerischer Bundesrat 1984; Blekesaune 1999). Modernization and reform of agriculture and rural areas was to take place within structured mechanisms, thereby avoiding the collapse of rural social structures. Balancing different power interests has been important, including those of the often-strong farmers lobby while simultaneously securing a liveable income level for farmers and reasonable prices for consumers (Rønningen 1999; Almås 2004).

The food security dimension of these policies may be claimed to have been successful as agriculture, especially in the EU, has moved into what seems to be permanent surplus, which necessitates the export, but also the dumping, of that excess production. Support-driven agricultural intensification also led to serious environmental degradation, and the response was the "greening of agricultural subsidies" through agri-environmental payments and even the set-aside of land to reduce over-production during the late 1980s and 1990s. Through a revised emphasis on agricultural and rural diversification, and also attempts to strengthen the role of agriculture as a provider of ecosystem services, multifunctionality has turned into "a new paradigm for European" development in those areas (Durand and van der Guydenbroeck 2003). Critically, this has been followed by a return to a renewed focus on food security (Almås and Campbell 2012). The recent deregulation and repeal of quotas have again led to surplus production, and farmers' indebtedness and often their bankruptcy are making headlines (e.g., Bondebladet 2016; Dutch News.nl. 2015). These developments relate to land ownership structures and control, and land investments play an increasing role in Europe, yet the land question is in general poorly articulated in the rich literature on agricultural policies and multifunctionality studies.

This chapter addresses several paradoxes contained within, and recent developments of, agricultural policies and land-use development and control in Europe. It is influenced by and reflects the wider international context. It draws on the research literature, public documents, and "grey literature" reports from international organizations.

Food and Double Movements

Food and agriculture have been treated as "exceptional" policy fields (Clapp 2015) as a result of their crucial importance in securing food security, as states need to cater to the

basic needs of their people. There are historical examples of grain storage and measures to keep small farmers on the land, as in the Chinese Qing dynasty from the seventeenth century. Even earlier, food protests in 51 CE in the Roman Empire led to state support for securing grain and its transport to disadvantaged areas (McKeon 2018). “Peace! Land! Bread!” was the essence of the Russian October Revolution of 1917 and, as referenced elsewhere in this book, the Arab spring of 2010 and the beginning of the civil war in Syria were triggered by drought and food shortages.

The significance of these developments is often forgotten in the seemingly never-ending debate on agricultural liberalization versus protectionism. Similarly, governments that are wedded to the notion that the corporate sector in agriculture can do it more cheaply and efficiently, largely support the sector on that basis. Food prices are at least partial determinants of personal well-being in that the cheaper they are, the smaller the proportion of household budgets they consume. While it is unlikely that local food brands and urban farming can feed the new billions expected in the decades ahead, it is also unclear that trade liberalization, with its results dominated by corporations, will achieve the benefits so often claimed for it in reducing costs and lowering food prices. For example, four companies have oligopolistic control of more than 70 per cent of the world’s grain trade, which hardly seems like a recipe for more robust competition (Murphy, Burch, and Clapp 2012).

Food regimes are characterized by contradictory forces (McMichael 2009) and paradoxical developments – what Polyani (1944/1957) has termed “double movements”: “Building on Polanyi’s analysis of liberalism, several scholars writing from a political economy perspective have argued that neoliberalism, like nineteenth-century liberal forms of capitalism, is characterized by a ‘double movement’ in which accelerating social and environmental degradation produces social resistance to market liberalization” (Dibden, Cocklin, and Potter 2009, 54). This social resistance provides the basis for calls for regulation and restraint, and “apparently oppositional projects such as organics, value-based labels and fair-trade initiatives [which] are seen by some scholars as part of a Polanyian double movement – a means of protecting producers and the environment from the intensification and exploitation resulting from exposure to the global market.… Polanyi’s notion of a countermovement is, however, not just about the protection of vulnerable groups or environments but may also be about defending the market itself” (54).

This line of reasoning follows on from Lockie and Higgins (2007), who argue that resistance to the neoliberal political project often results in measures that actually make neoliberalism “workable.” Social regulation increasingly takes place by individualization and “responsibilization” through ethical or intentional consumption, such as fair trade, organic food, and local food. In line with Michel Foucalt, consumer choice rather than politics and regulatory responsibility are pushed, while the various forms of resistance in the agri-food systems are self-limiting (Bonnano and Wolf 2017).

Troublesome but Needed Multifunctional Agricultural Policies

Guaranteed prices, import levies, and export subsidies have been the basis for the CAP system since its establishment (Muirhead and Almås 2012). By 1985 the CAP absorbed 73 per cent of the EU budget when it comprised ten member states. The high cost level could not be maintained, and with the many new entrants it has decreased to 40 per cent, covering twenty-seven member states. The CAP's success in increasing production and productivity had devastating environmental and landscape effects, along with massive surplus production, resulting in "butter mountains" and "lakes of wine," exported and dumped on the world market. With the WTO negotiations on the liberalization of agricultural trade in the mid-1990s, change was prescribed, and the concept of multifunctionality became strengthened in the Uruguay trade negotiations when the EU, Japan, South Korea, Norway, and Switzerland advocated changing several previously direct production-oriented subsidies (the "blue box") and into indirect, agri-environmental payments (the "green box") (see Campbell and Reynolds, this book). Further, restrictions were placed on the "amber box" that entailed budget support and were thought to distort trade. Those opposed to this move generally constituted the so-called Cairns group, established in 1986, initially comprising fourteen countries, most of them less developed but also including Australia, Canada, and New Zealand (Turpin et al. 2010).

Multifunctionality then came to be associated with the provision of environmental services and rural development. The OECD definition of the term is that beyond its primary function of producing food and fibre, agricultural activity can also shape the landscape, provide environmental benefits such as land conservation, the sustainable management of renewable natural resources and the preservation of biodiversity, and contribute to the socio-economic viability of many rural areas. Agriculture is multifunctional when it has one or several functions in addition to its primary role of producing food and fibre (OECD 2001).

The need to diversify rural incomes, as articulated by the 1996 Cork Declaration of the EU on Rural Development, recognized "the declining economic role of conventional agriculture in marginal rural areas and the need to find other rationales for public subvention" (Potter and Tilzey 2005, 581). These rationales, it later came to be realized, could also be based on capitalizing on agriculture's "ancillary functions," such as the preservation of biodiversity and cultural heritage.

This post-productivist turn did not spell an end to intensification and increasing productivity. What did emerge was a differentiation of agricultural policies into market- and environmentally oriented policies, Since the 1990s, agri-environment schemes have been an integral part of the CAP, currently costing approximately €1.7 billion annually, and are the major source of nature conservation funding within the European Union (Batáry et al. 2015). At the same time, large-scale, industrialized agriculture is often seen as undermining the foundation for continued food production through eradicating ecosystems and insect pollinators (IPBES 2018; and see Lunde 2015).

European agri-environmental schemes and payments have been described as "protection in disguise" (Potter and Tilzey 2005) or a "European euphemism for protection" (Swinbank 2001). However, subsidies and protection can take many forms. For example, Fonterra, the largest New Zealand dairy cooperative, which dominates the national market, pays a premium to its dairy farmers that parallels the effects of production subsidies. Within a deregulated agricultural policy sphere with few environmental regulations, this has had huge negative environmental consequences, particularly in polluted waterways (Muirhead and Campbell 2012; Burton and Wilson 2012). Similarly, former president Barack Obama famously described the U.S. Farm Bill (2014–18) as "a Swiss Army knife," because of its many functions, relating to conservation, safety net, infrastructure, health, nutrition, and much more. The Farm Bill was budgeted over ten years at US$1 trillion, with 80 per cent targeted to keep demand up for American agricultural products through the Supplemental Nutrition Assistance Program, commonly known as food stamps (Hillestad 2016). U.S. agricultural policies are more widely known for subsidizing the corn and sugar industries, one negative externality of which may have been the obesity epidemic, especially among lower income groups (Ng et al. 2014).

The Canadian system of supply management has been described as a success, securing stable prices and avoiding overproduction, given that it is based on production quotas, but not subsidies (Muirhead and Campbell 2012). However, supply management is under pressure by the renewal of the North American Free Trade Agreement (NAFTA). Indeed, as the negotiations continued, the Trump administration threatened to seek its abolition, which would lead to the loss of a large numbers of jobs and serious economic and social impacts for many Canadian regions in the long term (Cision 2018). When the dust cleared and the U.S.-Mexico-Canada Agreement was declared, however, U.S. milk producers were granted an additional 3.6 per cent of market share in Canada, which is not fatal to supply management. It is, however, an irritant.

Multifunctionality of European Agricultural and Rural Areas

Multifunctionality, diversification, and pluri-activity are key strategies through which a large share of small and medium-sized farm holdings in Europe plan their survival and perhaps even future prosperity. In many places pluri-activity has been crucial for farm livelihoods, while it has often been seen as an obstacle to agricultural modernization. Agricultural policies and subsidies have had ambiguous effects on small and medium-sized farms. On the one hand they have driven structural changes and scale enlargement. Yet, at the same time, they have also enabled small and medium farms, and to some extent the landscapes that they farm, to survive through payments for agri-environmental schemes and less-favoured areas (LFAs).

Norway, being outside the EU, has maintained an agricultural model that builds upon a social contract between the state and the two farmers' organizations with annual negotiations that settle price and production levels. Restrictions and levies on imports and regulations to prevent the concentration of agricultural land and farm properties into a few hands have been central to these policies (Almås 2004). Regionally

differentiated payments have sustained relatively small and medium-scale farms and are perceived as the main guarantor of farming vitality and as a contribution to a certain level of agricultural self-sufficiency while maintaining cultural landscapes across the country. With only 3 per cent of the country comprising arable land, food security and defence aspects of food production were also part of the post-war legitimacy of agricultural policies (Almås 2004; Rønningen, Burton, and Renwick 2012). At the same time, they have been heavily criticized for being expensive and with the concomitant effect of increasing domestic food prices. Further, by the twenty-first century these policies are now thought by some to be unnecessary, since as a very wealthy country Norway could easily import all the food it needs.

Counterarguments are compelling, however, and these include such considerations as the societal benefits of the value of healthy, Norwegian-grown food, the maintenance of low-antibiotic farming systems, and landscapes with a high environmental value that may attract tourism (see, for example, Olsson et al. 2011). As well, dispersed food production may be seen as food security insurance. Almås (2018) makes this point, referring to the Chernobyl nuclear reactor disaster in 1986 and its effect on grazing resources, and the Krakatoa volcano eruption of 1883, which caused global temperatures to fall with an effect on agricultural productivity. Interestingly for Norway, Edvard Munch's The Scream, painted in 1893, with its red sky in the background may reflect the continuing after-effects of that eruption.

These Norwegian initiatives were seen, in the decades following the Second World War, as important consumer protection measures against high and unstable prices. When expensive international prices prevail, the system would ensure stable and reasonable prices for consumers below world market cost (see Almås 2004). However, that period may now be coming to an end as the liberalization of the country's production levels, along with the import of cheap soya feed, have recently led to overproduction, lower prices, and income loss for farmers (see Trønderavisa 2018).

Agri-Environmental Payments for Cultural Landscapes Near Collapse?

Agriculture covers about 40 per cent of land within the EU (SOER 2015). About half of that land is under agricultural management and in many places has been so for more than 6,000 years. Clearly, this has had an impact on the "natural" environment, and many species and important ecosystems have grown to depend on low-intensive agricultural management, and a number of these are now experiencing declines. The environmental challenges following the industrialization, specialization, and intensification of European agriculture have been immense. For example, 97 per cent of grasslands in Wales and England were lost between the 1930s and 1984 through the introduction of industrial agriculture and other intensification schemes (Fuller 1987). At the same time in other parts of the EU, many small-scale faming systems in relatively marginal areas, the LFAs, often in mountainous regions (see Soliva et al. 2008), have been able to maintain what are referred to as "high nature value farming systems," although in many places that is now in question as extensification and land

abandonment has led to increased forest, woodland, and scrub cover that subtracts from the agricultural inventory (Forest Europe, UNECE, and FAO 2011).

Industrial agriculture has also had spilled over into the environment more widely. The Intergovernmental Science Policy Platform on Biodiversity and Ecosystem Services (IPBES 2018), for example, points to the fact that about one-third of global food produced benefits from animal pollination. Pollinators face numerous threats, including changes in land use and management intensity, climate change, pesticides and genetically modified crops, pollinator management and pathogens, and invasive alien species (Potts et al. 2016). IPBES (2018) states that strengthening diversified farming systems is an important strategic response, because such systems, integrating a mix of crops and/or animals, support a higher diversity and abundance of pollinators.

These trends are not encouraging, nor are others. In spite of the large payments that are channelled through agri-environmental schemes, the results they achieve are not always encouraging. Since 1990, common farmland bird populations have declined by 30 per cent, thought to be linked to increased specialization and intensification in agriculture and habitat loss. Between 1990 and 2011, populations of grassland butterflies declined by almost 50 per cent, a dramatic loss of biodiversity and pollination activity (SOER 2015). A recent, much referenced study found a decline of more than 75 per cent over twenty-seven years in total flying insect biomass within sixty-three protected areas in Germany (Hallmann et al. 2017). These are staggering losses.

The general lesson from the European experience is that agri-environmental schemes can conserve wildlife on farmland, but they are expensive and need to be carefully designed and targeted (see Batáry et al. 2015). Others have pointed to the lack of incentives for improvement of landscape values and biodiversity (Burton, Kuczera, and Schwartz 2008; Burton and Schwartz 2013), while some recent work highlights bleak prospects in agriculture, the result of problems surrounding succession plans from one generation to the next – there often is no successor – which means that hitherto successful landscape management schemes may collapse when the owners/land users retire or die. Many ageing farmers are happy to accept landscape management payments, facilitating the success of these agri-environmental schemes, but without successors, these landscapes and biodiversity are potentially on the brink of collapse (Burton 2014; Wehn et al. 2018).

Structural changes, farmland ownership, and people and animals on the land are thus crucial factors when designing systems to maintain or enhance landscape, cultural heritage, or ecosystem services. Thus they are also crucial for further rural economic development linked to commodification, including tourism and recreation (Shucksmith and Rønningen 2011; Olsson et al. 2011). Europe's many iconic cultural landscapes such as, England's Lake District or Norwegian fjord areas are also drawing mass tourism, not only farm tourism. How to fund maintenance of these important landscapes, drawing on the collective goods produced by farmers and their animals, is an unresolved problem where both the general public and the private sector have been unwilling to support through financial means. Further, the future of the Brexit landscapes is uncertain, as

Britain will have to design – and fund – new systems for agricultural and environmental support.

Changing Farming

The traditional profile of farmers is rapidly changing, whether from transnational investments in land (or land grabbing), crowd-funding between farmers and consumers in niche markets or community farming and the feminization of farming (Stroink, Nelson, and Davis 2017; Hardman and Larkham 2014; Heggem 2015). Innovative farmers and pastoralists are finding allies among citizen-consumer groups. Some efforts to diversify farm and rural incomes have been successful, notably agri-tourism and green care (Brandth and Haugen 2011, 2014; Leck, Evan, and Upton 2014). As well, with the development of short supply chains for local and regional foods, often trading on regional distinctiveness and a direct link with the producer, and organic produce experience enhanced popularity, farmers can be the beneficiaries (Kvam, Magnus, and Stræte 2014). While these are relatively small markets (see the critique above, offered by Bonanno and Wolf 2018), they are growing in both scale and scope. A 2000 survey of seven EU member states (then representing 76 per cent of farm enterprises and 84 per cent of the EU's farmland) found that 40 per cent of farm enterprises were involved in such activities, which added 20 per cent to the net value added from "traditional economic activities" (Ploeg, Long, and Banks 2002, 185). In 2015 Norway, a late adopter of local food diversification, had three times stronger growth within the local food sector than with that of staple foods and goods of supermarkets and shops (Hambro 2015). These developments also link to an increasing trend towards the "feminization of agriculture," with daughters taking over the family farm (Heggem 2014), or newcomers, often women with higher education, buying into agriculture or marrying farmers (see Brandth and Haugen 2011, 2014). Heggem (2014) finds a "significant and positive relationship between the potential recruitment of women, a higher level of education among farm property owners, and farm property owners' involvement in farm diversification associated with farm tourism and Green Care," and "this outcome is of importance for recruitment of women to rural areas and for rural viability" (439). This aligns with Rico and Fuller, who argue that such developments may signal a move towards a new rurality in Europe: "This change may be referred to as a shift from an agro-industrial to an agro-social paradigm and, together with new social and environmental relations in food systems, forms a new rurality in Europe" (Rico and Fuller 2016). In Southern Europe another "double movement" of re-peasantization is taking place, partly as a response to the region's economic crisis and high unemployment, but also for ideological reasons. In many cases, young people from cities move back to take over ancestral land, but also migrants contribute to the re-valuation of un/underutilized farmland (Ploeg 2018; Verinis 2014). Nelson and Stock (2018, 83) point to the U.S. experience, noting that "entrepreneurial farmers demonstrate peasant principle practices and therefore a process of repeasantization is occurring in the USA." Proponents of Scottish land reforms have argued that individual land ownership and cooperation between small-scale landholders as they are found in

Scandinavia and especially Norway, are important also for rural entrepreneurship and development (see Bryden, Brox, and Riccoch 2015).

Many of those returnees and newcomers will depend at least partially on diverse income sources from outside farming, and a functioning labour market allowing pluri-activity, but they may also play a crucial role in revitalizing rural areas (see Shucksmith and Rønningen 2011). However, to what extent they can counteract the stronger trends of fewer, larger, and more specialized farms in socially and environmentally deserted landscapes is a moot point.

Entering the Neo-Productivist Phase

Following the 2007/8 "food price spike" (see Bjørkhaug, McMichael, and Muirhead in this book), arguments about national food self-sufficiency and food security have once again gained some prominence. However, the role of biofuel here is crucial; Borras and Franco (2010) estimated that the growth in land dedicated to growing biofuels was responsible for 30 per cent of the 2008 food price spike. As well, Clapp (2015, 9) has observed that the turmoil on global food markets since 2007 has prompted greater use of trade-relevant policy measures, such as export bans, price controls, and public-stockholding schemes by a number of countries as a means to enhance domestic food security. Many countries in Asia, Africa, and the Gulf region [have] also announced plans to become more self-sufficient in food in order to reduce their reliance on global markets for their food supply. Trade advocates have actively argued against these types of policies, which they see as harming, rather than enhancing, food security. Instead, they argue that more trade, supported by more open trade policies, is required to enhance food security.

An interesting EU reaction to the new focus on food security and on biofuel production was the abolition of the set-aside scheme in 2008 (Jack 2016). Set-aside had been introduced in the EU in 1987 as a way to take agricultural land out of production and to reduce the agricultural surpluses that had largely been created by the subsidy regime. It obliged farmers to take between 5 and 15 per cent of their farmland out of production and provided them with some compensation to do so. Set-aside involved several different sorts of changes in management practice: the establishment of green covers (by natural regeneration, sowing, or sowing non-food crops), reductions in the use of inputs (pesticides, organic and inorganic fertilizers), or changes in cutting and cultivation regimes, that would encourage flora and fauna (Tscharntke, Batáry, and Dormann 2011). The scheme was initially extremely unpopular among farmers, as it represented the negation of everything they understood about being a good farmer – a farmer should produce food, which the world needs, in the best possible way. Farmers found getting paid for not farming (the fields were to be cut, but not used) to be deeply disturbing and wrong (Rønningen 1999). The efficiency of the program was questioned. While the intention was to remove some of the most productive land from farmer inventories, they usually took out the more marginal land – "the rubbish land," as they might have said. However, over the years, many of these areas developed into valuable habitats for plants, birds, and animals and came to be valuable refuges in otherwise

intensively farmed areas. Their re-ploughing caused a sudden loss in habitat and biodiversity in agricultural landscapes (Tscharntke, Batáry, and Dormann 2011; Morris et al. 2011).

Almås and Campbell (2012) point out the emergence of neo-productivist arguments about agriculture that seek to re-establish productivism as the central function and policy rationale for agriculture. Midgley and Renwick (2012) analysed how the Scottish agricultural sector responded to this policy move back to a productive focus, allowing farmers to return to focusing on what they prefer doing – "proper food production." Most farmers identify more with being food producers than landscape managers, although many see cultural landscape maintenance as an additional and meaningful contribution (see Daugstad et al. 2006).

Lewidov (2015) points out two visible agricultural development trajectories being promoted within Europe. One is based on the "bio-economy," a life sciences–based approach, and the other focuses upon "sustainable intensification," which is essentially neo-productivism but can also encompass increased productivity and efficiency through improved and smarter agronomic and production systems. One important difference is that the bio-economy approach seems to marginalize multifunctional (agro-ecological) practices, while "sustainable intensification" seems to selectively incorporate such practices. Both approaches emphasize a neo-liberal productivist narrative – the need for more resource-effective methods that will increase production to meet increased market demand for food, feed, and fuel. The criticism of these approaches is that business needs and their wish for growth have been turned into an objective truth about "market needs" or demand (Lewidov 2015).

The interest in cultural landscapes, heritage, and their management is weakened in policies and rhetoric, partly replaced by a climate focus. Water and flood control and the potential for carbon storage in soil is now attracting attention. Biochar production, for example, represents a complex system that may deliver a number of services and functions, and it can additionally be used for biofuel and heat (Lehmann and Joseph 2015).

During past decades in Western Europe, agricultural policies coupled with large-scale infrastructure, transportation, and urbanization projects have reduced the amount of farmland significantly. In Europe 1,500 hectares of farmland disappear daily, and the Continent imports more food than it produces (IPBES 2018). Nevertheless, surplus production has again become a problem as European quotas and regulations are gradually being removed or loosened as part of market deregulation. The removal of milk quotas among a number of European countries has followed from deregulation of pig and chicken production. Milk quotas were abolished in EU as of 1 April 2015 as a part of more market orientation. The EU Commission (2015) stated, "Even with quotas, EU dairy exports have increased by 45 per cent in volume and 95 per cent in value in the last five years. Market projections indicate that the prospects for further growth remain strong – in particular for added-value products, such as cheese, but also for ingredients used in nutritional, sports and dietary products." The consequences have varied, but

overproduction and sharp fall in prices were immediate consequences that struck many dairy farmers hard and have continued to plague the industry.

Developments in Farm and Land Ownership in Europe

Ploeg, Franco, and Borras Jr (2015) point out a Global North land rush, and that land concentration may be as problematic as land grabbing. They also note that corporate and state interests in land interact. GRAIN (2014) offers an overview on distinct developments in land ownership development. In Western Europe, and especially in Belgium, Finland, France, Germany, and Norway, around 70 per cent of farms no longer exist since the 1970s, and this trend is accelerating in some cases. In Eastern Europe from 2003 to 2010, Bulgaria, Estonia, the Czech Republic, and Slovakia lost over 40 per cent of their farms, while in Poland alone almost one million farms out of more than two million disappeared between 2005 and 2010.

Within the EU as a whole, over six million farms disappeared between 2003 and 2010, bringing the number of farms down to almost the same level as in 2000, before the process began of including twelve new member states, with 8.7 million new farmers. The United States has lost 30 per cent of its farms in the last fifty years. However, developments in the United States differ from those in Europe, as the number of very small farms has almost tripled, while the number of very large farms has grown more than five-fold (GRAIN 2014). While it is arguably not tragic that fewer people gain low income from hard work on often very small farms in agriculture, these changes represent an important shift in control over land as well as crucial social and landscape changes.

The shock of exposure to free markets upon the collapse of the Union of Soviet Socialist Republics was calamitous, resulting in the decline in industrial and agricultural production, and people's incomes being halved (Reinert 2017). Kalugina (2014) has described how this led to increased reliance on subsistence production and a barter economy during the past few decades. Russia apart, land concentration in Eastern Europe started in earnest after the fall of the Berlin Wall and the enlargement of the European Union. Millions of Eastern European farmers went out of business when their domestic markets were opened up to subsidized farm produce from Western Europe. Large farms now represent less than 1 per cent of all farms in the European Union as a whole, but they control 20 per cent of EU farmland. Farms of 100 hectares or more represent only 3 per cent of farms in the EU but cover 50 per cent of all farmed land (GRAIN 2014).

In Poland land prices have increased by 500 per cent since the country's entry into the EU in 2004 (Havro and Dypvik 2018). Foreign investors as well as local buyers have bought in heavily. Poland has Europe's highest share of farmers and work force in agriculture – 14.5 per cent compared to the EU average of 5.6 per cent, while in Norway the share is approximately 2 per cent. At the same time, Poland is an important supplier of farm labour to Northern European farms. While the fall of communism led to declining food production all over Eastern Europe, Poland was the exception, as many

farmers there maintained ownership and control over their land, even during the days of collectivism. While the state formally controlled 22 per cent of farmland, most was farmed by small producers. Polish farmers were against EU membership, fearing being out-competed by subsidies for Western food producers, but the opposite has happened. Poland today is Europe's largest producer of chicken, potatoes, rye, and sunflower seeds.

The International Coalition to Protect the Polish Countryside estimates that 120,000 hectares have been bought up, and that, in addition, 200,000 hectares are rented by foreign companies (Bårdsgård 2018). Polish authorities state that agricultural land ownership is fragmented and inadequate, with an average size of 10 hectares in 2014 (up from 5.8 hectares in 2002), and half of the farms are not producing for the market, partly as the result of food safety and sanitary regulations. While production and exports are increasing, farmers' incomes are declining. Most farmers prefer to rent out their land, rather than sell it, and to keep a small lot for subsistence production. Foreign investors also often prefer to lease land rather than to buy it. While some Poles are outraged at the alienation of Polish land, they are powerless to stop it, especially given that investors are largely EU residents. Warsaw has made it clear that it will follow European Union regulations on this sensitive matter, but it remains problematic.

State-owned companies as well as cooperatives are also investing in Eastern European farmland. An EU report (EU Parliament 2015) points to Romania as the favourite target, and foreigners may control 70 per cent of the land, although statistics from 2013 put the figure at 10 per cent foreign ownership, with a further 20–30 per cent leased to foreigners. It must be stressed that the farm-unit size in Romania is very small, with most properties being less than five hectares (Eurostat 2015).

Danish farmers are among the "foreign" investors who intend to buy and lease farmland in Eastern Europe. The Danish experience is interesting. During the past twenty-five years the number of Danish farms halved (to 30,000 units in 2014), while the average size doubled, to close to seventy hectares. There are no price ceilings on agricultural land, and prices increased sharply up until the financial crisis in 2008. The abolition of milk quotas in 2015 and consequent price fall led to a debt crisis, with 191 farm bankruptcies in 2015 (Bondebladet 2016), and 160 in 2016 (Undheim 2018). There was also a decline in productivity per hectare. As farm unit sizes increase, it becomes more challenging to optimally manage the farmland and make efficient use of fertilizers and equipment. Facing high levels of indebtedness and a need for capital for further investment, many Danish farmers plan to sell their farms to companies, lease them back, then work directly for the companies or develop various types of co-ownership. With the increasing size of farm units, high levels of debt, and long working hours, recruitment to farming is decreasing, however, and taking over the family farm is becoming less attractive to potential successors (Hageberg 2012).

Klimek and Hansen (2017) offer an insightful comparison between Norwegian agriculture, which is still strongly regulated and protected, and that of Denmark, which is internationally integrated with a high volume of exports and similar exposure to world

market competition on its domestic market. Norway's agriculture, by contrast, is characterized by structural barriers to national growth and is only tepidly connected to EU and world markets. Klimek and Hansen point out that Denmark has pursued a continuous path of export dependent agricultural industrialization, whereas Norway is still able to sustain food production for its (domestic) market in a relatively protected setting. Needless to say, oil-exporting Norway does not rely upon agricultural exports for its national well-being, while Denmark does, at least to some extent.

While a gradual "softening" of regulations following structural change in Norway has continued for decades, the current Norwegian Conservative / Populist Right / Liberal coalition government is eager to further liberalize regulations. In 2017 new easements on concession requirements when buying farm properties, removal of price controls for forest properties, and easements on regulations for people operating agricultural holdings to also dwell on them were introduced. One aim of these moves is to stimulate the sale of agricultural properties (Government 2017). This approach is based largely on the belief that Norwegian farms must increase size in order to become more efficient and competitive. Of course, few are convinced of this necessity, and counterarguments generally focus on the fact that Norwegian topography and geography make large-scale farms untenable. Further, climate discourages this strategy, with the result that focusing upon exports, except for a few niche products, is largely unrealistic.

Concluding Discussion

Development in European agricultural policies and the discourse that animates them can be described as having gone from productivist to post-productivist and more recently to neo-productivist. Food security has gained increased prominence and legitimacy in policy formation. Now deregulation has again led to surplus production, and the evidence suggests that the state needs to play a stronger role in imposing quotas and enforcing environmental regulations. This is necessary to secure long-term, predictable production and thus food security, as well as some socio-economic sustainability and predictability. While Norway used to be at the forefront of promoting pioneering multifunctional agricultural policies, it has recently implemented a number of easements and deregulated certain sectors.

The focus on cultural landscape management and cultural heritage as part of agricultural multifunctionality has weakened, while climate change and climate adaptation strongly influence approaches and perceptions of agricultural policies and practices. Indeed, climate measures are now included as part of the new multifunctionality of farmed areas. While large-scale, industrialized farms are perceived as poor contributors to landscape diversity, biodiversity, and cultural heritage, one may ask whether climate mitigation may be more efficient and cost-effective on larger properties. However, this possibility does contradict another imperative – the necessity to maintain diverse, low-intensively farmed landscapes (high nature value farming) are crucial in order to maintain the ecosystems services that pollinating insects give us. This follows on from the marked decline in pollinating insects and the potentially devastating effects on food production that it poses.

The EU invests heavily in rural development and innovation. It is also possible to identify new alliances between farmers, processors, and consumers, and substantial social innovation and entrepreneurship. However, the social basis for driving such developments may be weakened with the concentration of land ownership in fewer hands, often held by external capital. The dominant trends are a growing separation between the classical production factors: land, labour, and capital. It is difficult not to see farmers, and also rural communities as well as the environment, as the losers in the continuing evolution of food systems and the changing concentration of land ownership, although the effect of these changes may vary in different contexts.

It seems inevitable that biofuel and other biomass production will influence land ownership and that this will have a knock-on effect upon the use to which land is put. The processes that are driving land grabbing are based on fundamentally unstable economics. For example, fuel prices are notoriously volatile. This may be seen as a form of market environmentalism, that is, markets being used as a solution to environmental problems and at the same time being fuelled largely by green subsidies, with the social and environmental costs being externalized.

The processes described in this chapter are contradictory and paradoxical. A major argument is that agricultural multifunctionality is needed to maintain economically, environmentally, and socially sustainable rural areas, but also to sustain ecosystem services that the entire society relies upon. In order to do so, we need to strengthen the essential social structures that are linked to agricultural land. If we do not, we will have to rethink the policies and management strategies designed to maintain the key values and services that agriculture still supports.

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