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**“You spend an awful amount of time
fighting it and they aren’t really
listening...” -**

**political economy of pig farming
intensification and environmental justice
in Northern Ireland**

E Gladkova

PhD

**“You spend an awful amount of time
fighting it and they aren’t really
listening...” -**

**political economy of pig farming
intensification and environmental justice
in Northern Ireland**

Ekaterina Gladkova

A thesis submitted in partial fulfilment of the
requirements of the University of
Northumbria at Newcastle for the degree of
Doctor of Philosophy

Research undertaken in the Faculty of Arts,
Design & Social Sciences

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ABSTRACT

It is indisputable that theoretical and empirical research on food in criminology needs to be developed further. My qualitative green criminological study advances this endeavour by understanding how the process of pig farming intensification in Northern Ireland leads to environmental injustice. The study establishes how power relations that are driving the process of intensification (in the context of the Going for Growth agri-food strategy and beyond) may affect the context of environmental decision-making and ultimately influence both the distribution of environmental harms from farming intensification and the realm of capabilities. To achieve this aim, legislation and policy documents related to farming, planning, environmental regulation have been reviewed, twenty-nine semi-structured interviews with four different participant categories (local residents, government, farming industry, NGO participants and public-spirited citizens) have been conducted, and official statistics related to farming and agriculture and media data have been analysed.

The study reveals the workings of the political economy of neoliberal capitalism in meat production on the international, national, and local levels. It demonstrates how power relations between the corporate farming industry actors and the state operate to secure and perpetuate a growth- and efficiency-driven model of meat production, thus reinforcing the hegemony of the neoliberal capitalist order. Power relations between the farming industry actors and the state also affect the processes of environmental decision-making. My study demonstrates that such processes are marked by recognitional and procedural injustices, rooted in an imbalance of power between those reinforcing the hegemony of the neoliberal capitalist order and those seeking to challenge it. Discussions around power and injustice are closely intertwined with the discussion around harm. I conclude that recognitional and procedural injustices will result in an uneven distribution of environmental harm from new intensive farms, negatively affect the meta-capability of sustainable ecological capacity and compromise other capabilities such as bodily health, play, affiliation, and other species.

The findings reveal the role of power in legitimisation, normalisation, and regulation of harm. My study expands the knowledge of complex relationships between political and economic actors from a green criminological perspective and demonstrates how, within those relationships, power is exercised, maintained, and ultimately directed to preserve the status quo of neoliberal capitalism. The findings also advance the idea that non-minority populations that do not face discrimination can nevertheless face environmental injustice on the grounds of their disenfranchisement in the processes of environmental decision-making. Finally, the findings in my study allow to expand on the insufficiently discussed concept of capabilities in environmental justice and highlight the importance of capabilities-related research in green criminology.

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LIST OF ABBREVIATIONS

- AD – Anaerobic Digestion
- AFSB – Agri-Food Strategy Board
- BAT – Best Available Techniques
- CAFRE – College of Agriculture, Food and Rural Enterprise
- CAP – Common Agricultural Policy
- CJEU – Court of Justice of the European Union
- DAERA – Department of Agriculture, Environment and Rural Affairs
- DARD – Department of Agriculture and Rural Development
- DEFRA – Department of the Environment, Food and Rural Affairs
- DETI – Department of Trade and Investment
- DfC – Department for Communities
- DfI – Department for Infrastructure
- DUP – Democratic Unionist Party
- GAEC – Good Agricultural and Environmental Condition
- GfG – Going for Growth agri-food strategy
- GFA – Good Friday Agreement
- IEPA – Independent Environmental Protection Agency
- IPPC – Integrated Pollution Prevention and Control
- IRA – Irish Republican Army
- NAP – Nitrates Action Programme
- NGO – Non-Governmental Organisation
- NI – Northern Ireland
- NIEA – Northern Ireland Environment Agency
- NIFDA – Northern Ireland Food and Drink Association
- ROCs – Renewable Obligation Certificates
- RoI – Republic of Ireland
- SMRs – Statutory Management Requirements
- UFU – Ulster Farmers' Union
- UNECE – United Nations Economic Commission for Europe

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DECLARATION

I declare that the work contained in this thesis has not been submitted for any other award and that it is all my own work. I also confirm that this work fully acknowledges opinions, ideas, and contributions from the work of others.

Any ethical clearance for the research presented in this thesis has been approved. Approval has been sought and granted by the Faculty Ethics Committee on 25/09/2018.

I declare that the Word Count of this Thesis is 84,522 words.

Name: Ekaterina Gladkova

Signature:

Date: 29/01/2021

Chapter 1 – Introduction

Meat production in the twenty-first century is nearly five times higher than in the early 1960s; it has increased from 70 million tonnes to more than 330 million tonnes in 2017 (Ritchie, 2019) and resulted in dramatic changes to both the society and the natural environment. Thus, meat, rather than being simply food for humans, provides a lens for examining political economic processes in society today.

1.1 Food, criminology, and intensive farming

Since the processes of food production and consumption illuminate the relationship between society and the natural environment as well as the inner workings of the global political economy, food has been increasingly used by scholars to explore the world. Food-focused research has also been developing in criminology. In recognition of the changes in food industry practices, the concept of food crime has been introduced, referring to the ‘many crimes that are involved in the production, distribution and selling of basic foodstuffs’ (Croall, 2007, p. 206). Since then, food crime-related research has intersected with white-collar and particularly corporate criminological perspectives (Fitzgerald, 2010; Croall, 2012; Cheng, 2011; Gray and Hinch, 2015). Some of the avenues for research have included food fraud (Flores Elizondo et al, 2018; Lord et al, 2017; Ruth et al, 2018), food poisoning (Tombs and Whyte, 2010), food mislabelling (Croall, 2012), trade practices and environmental law (Walters, 2006), exploitation in food production (Tombs and Whyte, 2007; Davies, 2018), and crimes in the rural context (Donnermeyer and DeKeseredy, 2014), to name a few. However, some authors note that these accounts are only ‘the tip of the iceberg’ (Gray and Hinch, 2019, p. 19), urging advancement of empirical and theoretical research on the topic (Walters, 2007; Cheng, 2011; Croall, 2012). This thesis thus advances both empirical and theoretical research on food in criminology. Positioned at the nexus of harm, power, and justice, it presents a qualitative green criminological study of the political economy of pig farming intensification in Northern Ireland. The overall aim is to understand how power relations that create and reinforce intensive pig farming lead to environmental injustice.

The emergence of food crime research inevitably revived the persistent debate on what crime is (Tappan 1947; Sutherland 1939; Quinney 1970; Schwendinger and Schwendinger, 1970). Focusing solely on food crime creates boundaries preventing one from venturing beyond the rigid framework of criminal-lawful behaviour. Food production may involve serious harms that lie beyond traditional definitions of crime and are not statutorily proscribed. It is indisputable that the concerns about environmental degradation and pollution in relation to the current modes of food production and consumption have been on the rise. Environmental and social harms associated with food production have been brought to light by green criminologists (White, 2008, 2011; Walters, 2006, 2011; Beirne and South, 2007; Sollund, 2015; Brisman and South, 2018). A green criminological perspective acknowledges that certain food production practices, despite their legality, ubiquity, and social acceptance, cause widespread and long-lasting harms. This critical

perspective within criminology sees the need to analyse such harms, the socio-political forces behind them and their consequences (Lynch et al, 2015; Gray and Hinch, 2015; Gray and Hinch, 2019). In my research, I address the above-described knowledge lacunae and focus on a problematic yet under-researched food production practice – intensive farming¹. The subject of intensive farming warrants further criminological attention as disciplinary engagement with this subject is limited. Green criminologists have predominantly focused on harm towards animals (Sollund, 2012; Beirne, 2014; Wyatt, 2014; Fitzgerald, 2019), while other criminologists acknowledged a broader set of harms associated with industrialisation, corporatisation and neoliberalisation of the food industry (Boekhout van Solinge, 2010; White, 2013; Gray and Hinch, 2015; Gray, 2019; Del Prado-Lu, 2019; James, 2019; White and Yeates, 2019).

In this chapter, I first elaborate on the harms from intensive farming and justify their connections to the notions of power and justice in my research. I introduce the context of Northern Ireland and formulate the questions that will be answered in my research. The chapter concludes by discussing the chapter structure in my thesis.

1.2 Effects and implications of intensive farming

Intensive farming affects not only non-human animals, environment, and society – something that Winders and Nibert (2004) label as an ‘entanglement of oppression’ – but also the workings of the political economy. Below, I address each of these aspects.

1.2.1 Effects on non-human animals

Animal harm is an integral part of factory farming. Both Agnew (1998) and Nurse (2013) single out factory farming as one of the causes of animal abuse. Animal abuse has become a normalised practice that keeps the wheels of the meat production industry turning. Over 56 billion farmed animals are killed yearly for human consumption (Fitzgerald, 2019). The advent of factory farming overturned the values of animal husbandry where farmers were considerate of the needs of non-human animals. Instead, non-human animals are used to meet the needs of the meat production industry (Fiber-Ostrow and Lovell, 2016), one of which is profit-making achieved through production increases and lowering of production costs. The latter results in farm animals being maimed, confined in crammed spaces, raised in artificial settings, fed unnatural diets, and fattened with growth hormones (Fiber-Ostrow and Lovell, 2016).

Lives of industrially farmed animals are significantly shorter than of those animals living in the wild. For instance, in the UK farmed male pigs only live for 20-24 weeks (Wyatt, 2014), whereas pigs that are well-cared for can live for up to twenty years. Living conditions on the majority of industrial farms contribute to shorter life spans. In the US, pregnant pigs are kept in small sow

¹ I use the terms intensive, industrial and factory farming interchangeably and refer to the farms housing at least 40,000 poultry birds, 2000 pigs raised for meat, or 750 breeding pigs.

stalls (gestation crates), pigs with piglets are transferred to slightly larger but still confined farrowing crates, while growing pigs live in barren, overcrowded pens (Farms Not Factories, 2018). Gestation crates have been banned in the UK since 1999, yet most UK sows farrow in crates (RSPCA, 2020). Such conditions contribute to the proliferation of infectious diseases, threatening animal health and welfare. The recent case of swine fever is illustrative – the disease has already killed sixty percent of domestic pigs in China alone and a quarter of all domestic pigs in the world (Neubauer, 2020).

Moreover, industrial farming is sustained by inflicting unnecessary violence against non-human animals. Wyatt (2014) and Fitzgerald (2019) describe how pigs' tails are docked or clipped to prevent the animals from biting each other's tails when they come into contact. Another common practice is clipping piglets' teeth. Since the majority of the above described practices aim to reduce harm and prevent injury, the question of why harm is so prevalent among animals on industrial farms arises (Wyatt, 2014). In the pigs' case, the stress related to confinement and the inability to express their natural behaviours induce them to bite each other's tails and other limbs. Pigs also bite at the bars of their enclosures, leaving the front of their crates to be covered with blood (Farms Not Factories, 2018). Finally, being the end-goal of the industry, killing of an animal reflects the ethos of brutality that defines intensive farming. In the UK, pigs are first made unconscious electronically or gaseously and then have the blood vessels in their chests slit. The first part of the killing often leaves the pigs still conscious while their blood vessels are cut, thus causing severe pain (Wyatt, 2014).

1.2.2 Effects on the environment

Ruhl (2000, p. 266) provides an exhaustive summary of the environmental implications of intensive farming: 'farms pollute ground water, surface water, air, and soils; they destroy open space and wildlife habitat; they erode soils and contribute to sedimentation of lakes and rivers; they deplete water resources; and they often simply smell bad'. The process of farm construction implies that either a new area needs to be converted into a farm or an existing farm needs to be expanded. As a result, farming does not just shape the countryside, it becomes the countryside, as landscapes start resembling industrial sites set in rural areas (Harvey, 1997). Furthermore, intensive farming results in increases of animal waste. Whereas in non-intensive farms animal waste is an essential element of a natural recycling process, animal waste disposal becomes a problem in intensive farms (Goodman and Redclift, 1991; Blanchette, 2020). Mismanagement of both waste itself and wastewater result in air, soil, and water pollution.

Air pollution occurs when nitrogen compounds from animal waste are drawn into the air. The combination of nitrogen and hydrogen makes ammonia, which is seen as the predominate form of air pollution from intensive farming (Ruhl, 2000). The source of soil pollution are the ponds or lagoons where animal waste is kept. When these facilities are not well insulated, animal excrement can enter the soil resulting in zinc and nitrate contamination. The toxicity of both make the soil unsuitable for other agriculture. Moreover, soil can also be contaminated through pathogens when

slurry (a mixture of animal manure and water) is spread across the fields as fertiliser (Ruhl, 2000). Water pollution stems from the fact that ‘generally accepted livestock waste management practices do not adequately or effectively protect water resources from contamination’ (Burkholder et al., 2007, p. 308). Analyses of animal manure find potentially dangerous substances, such as bacteria, ammonia, methane, hydrogen sulphide, carbon monoxide, disinfectants, cyanide, phosphorous, nitrates, heavy metals, drugs administered to animals and other pathogens (Stathopoulos, 2010; Tietz, 2010). Some of these substances present in the waste may enter ground water from manure storage facilities or from the fields on which high doses of manure have been applied (Gerber et al, 2005). Such occurrences pose a threat for drinking water quality. Even when manure is not contaminated, it is still high in nitrogen and phosphorous, and when these elements are added to water, it can cause eutrophication, killing fish and the animals that consume it (Fitzgerald, 2019).

Animal agriculture also takes up a lot of land – when the land used to produce animal feed is taken into consideration, animal agriculture is reported to use more than two-thirds of agricultural land globally (Fitzgerald, 2019). As a result, it imperils biodiversity, as soil and water pollution can spread over to other areas in close vicinity to farms. This can affect the wellbeing of both plants and non-human animals. According to Wyatt (2014), intensive farming foments deforestation and loss of vegetation and has adverse effects on wildlife. Deforestation is a particularly acute problem in some regions, such as Latin America. Yet, even locally, 150,000 miles of hedgerow have been lost in England since the introduction of agricultural subsidies (Harvey, 1997), and the declining trend continues (Countryside Survey, 2007). Moreover, habitats such as wetlands and mangrove swamps are directly impacted by water pollution, which may lead to biodiversity loss (Gerber et al., 2005). Biodiversity loss also occurs as a result of changing climate, and intensive farming exacerbates the challenge of climate change. The Food and Agriculture Organization of the United Nations (FAO) has estimated that animal farming is responsible for eighteen percent of the total greenhouse gas emissions that contribute to climate change (Steinfeld et al, 2006). It occurs primarily through production of methane, nitrous oxide, and carbon dioxide.

Lastly, a large water footprint is another negative characteristic of intensive farming (Ponette-Gonzalez and Fry, 2010; Ruhl, 2000). One quarter of the global freshwater resources relates to meat and dairy production. Water is essential at all stages of industrial farming: it is needed to produce animal feed, provide animals with drinking water, and meet other farming needs. Large amounts of fresh water are also used to dilute animal waste before it can be spread on fields as fertiliser. Cattle and pig farming are considered particularly water-intensive (Compassion in World Farming, 2012) as they account for thirty-three and nineteen percent of water used by farm animals, respectively (Fitzgerald, 2019).

1.2.3 Effects on society

Intensive farming also results in major transformations for society as local residents become concerned about environmental degradation in their area (Ladd and Edwards, 2002). Public health concerns have been voiced as animal farming has been identified as ‘the single biggest cause of worst air pollution in Europe’ (Harvey, 2016). As nitrogen compounds from animal waste mix with air, they form solid particles that can stick in the lung tissue. Communities in the vicinity of intensive farms are at greater risk of developing health complications (Fitzgerald, 2019). First, such communities are more likely to be disturbed by the odour emitted from intensive farms (pig ones in particular) (Ponette-Gonzalez and Fry, 2010). Second, it has been demonstrated that residents less than two kilometres from intensive pig farms could be exposed to ammonia levels up to 40 times greater than average ammonia concentrations (Ponette-Gonzalez and Fry, 2010). This results in increased occurrences of headaches, runny nose, sore throat, excessive coughing, diarrhea, and burning eyes (Wing and Wolf, 2000) compared to communities with no intensive farms in their vicinity. Worsening air quality has been associated with respiratory diseases (Mirabelli et al, 2006) and other health consequences may include mood and sleep disorders (Donham et al, 2007). Moreover, if animal manure is stored in lagoons, the latter have high concentrations of zinc, which inhibits copper and iron absorption in humans and non-human animals. This can lead to anaemia, liver, and kidney damage (Wyatt, 2014).

Furthermore, a brief look beyond the local reveals that intensive farming is not proving to be beneficial for the society overall. Intensive farming ruptures the social fabric of rural communities, making the link between production and consumption thinner. It undermines small-scale and organic farms, which provide thirty percent more jobs in the UK (Compassion in world farming, 2012). Not only does industrialised meat production fail to provide safe, healthy food, but it also fails to provide decent employment as the increase in mechanisation results in fewer jobs (Tudge, 2003). Along with it, the exploitation of the remaining manual laborers in industrialised meat production intensifies (Blanchette, 2020). Finally, the ongoing COVID-19 pandemic has brought into focus the harmful nature of the global food production and consumption practices for society. Intensive farming in particular has been identified as the principal driver of zoonotic diseases (Jones et al, 2013), such as SARS-CoV-2, the strain of coronavirus that caused COVID-19.

1.2.4 Political economic implications

Intensive farming both constructs and is constructed by the global capitalist economy. It is one of the forces that makes up the global food economy, along with trade liberalisation, the growing power of corporate actors and processes of financialisation. These forces have been described as the third food regime (McMichael, 2005; Burch and Lawrence, 2009)². McMichael (2005) argues that the third

² The concept of ‘food regime’ refers to the manner of structuring the world food order (Carolan, 2012). The first food regime orbited around British imperialism, and the second was driven by the USA in its disposal of agricultural surplus.

food regime is the corporate food regime. Its goals are emblematic of the broader ‘globalisation project’, which refers to ‘an emerging vision of the world and its resources as a globally organised and managed free trade/free enterprise economy pursued by a largely unaccountable political and economic elite’ (McMichael, 1996, p.300). The third food regime is characterised by asymmetries and volatility (Clapp, 2012). The volatility lies in rapid price changes and the economy’s predilection for crisis. The asymmetry manifests itself in the growing discrepancy between the world’s poorest and richest countries, where poor countries have to rely on food imports and rich countries experience food surpluses. This growing divide creates a culture of dependency and is to the benefit of the rich industrialised countries responsible for the global promotion of agrifood industrialisation in the first place (Clapp, 2012). The emergence of food surpluses in rich countries stems from the prioritisation of production growth. Production growth has transformed the ethos and the economy of farming. Farming is framed as a business and good farming becomes equated with cost reduction, high turnover, and profit maximisation (Tudge, 2003). In the case of meat, its increased production guarantees constant turnover and profit, thus solving one of the most pressing problems of agriculture (Tudge, 2003).

Once the industrial mode was set as a benchmark for production, agribusinesses developed an interest in further profit maximisation and intended to block any political incentives that impeded that (Ruhl, 2000). The agribusiness industry started consolidating more decision-making power (Tudge, 2003). It organised into focused lobby groups that governments were reluctant to challenge (Tanentzap et al, 2015). Additionally, the lobby groups rewarded governments for policies that did not hinder their activities (Tanentzap et al, 2015). Such trends can be described as neo-corporatism (Schmitter, 1974), meaning that interest groups not only help to formulate, but are also involved in the implementation of public policies. In parallel with that, a number of consumer, environmental, human rights, and animal welfare groups emerged in the late 1960s to draw public attention to the negative externalities associated with intensive farming and galvanise the public into action (Daugbjerg and Swinbank, 2012). They demanded stricter environmental regulations and challenged the control of the agribusiness lobby groups over policymaking. However, some authors describe environmental movements as diffuse (Tanentzap et al, 2015) and stress the fact that agribusiness lobbies have managed to compromise the efforts of environmental movements by highlighting the positive cultural and environmental impacts of farming (Daugbjerg and Swinbank, 2012).

1.3 Power relations and environmental justice

It is clear that certain food production practices, despite their legality, ubiquity, and social acceptance, can cause widespread and long-lasting harms. Intensive farming is an example of this. The scale of farm practices and the manner in which farming is done have been radically altered in the last century (White and Yeates, 2019). Having outlined the harms associated with intensive farming and positioned this practice in an analysis of the structures and processes of the late-capitalist

political economy, it is evident that intensive farming can be seen as ‘lawful but awful’ (Passas, 2005; Wyatt and Brisman, 2017). Yet, the harms underlying it are often unaddressed, regarded as an inevitability or dismissed. Passas and Goodwin (2004) demonstrate how the current food system is defended as necessary to feed the world, inevitable as an outcome of ‘progress’ and innovation-driven, whereby any problem can be addressed through technological advances. Such claims necessitate a deeper understanding of the processes that underlie intensive farming because, as Pearce (1976, p. 80) identified decades ago, it is ‘only by understanding why certain actions are not prohibited by law... that we can make sense of the social relationships inside the capitalist world system’.

Power structures and relations within the capitalist political economy are pertinent in the context of intensive farming because the practice is emblematic of capitalist relations of production and consumption. Critical criminologists frequently subject the capitalist political economy to critique and draw their attention to the power structures and relations within it (Lynch and Stretesky, 2003; Westra, 2004; Friedrichs, 2009; Lynch et al, 2013; Lynch and Stretesky, 2014; Sollund, 2015; Lynch et al, 2017). Power imbalances in capitalism result in a skewed understanding of harm (Stretesky et al, 2013); powerful actors controlling the means of production ensure that not all environmental harms can be punished through law. The process of attaching criminal labels depends on who has the power to label and is related to ‘the political economy of marginalisation’ (Hauck, 2008, p. 639). Law, therefore, becomes a form of legitimisation that produces harm (Henry and Milovanovic, 1996). For instance, state and corporate power are mobilised in different ways in the regulatory context (Walters, 2011) to ensure that possibilities of control are reduced (Kramer et al, 2002). Power relations also work to reproduce the capitalist political economic order as power is often used to reinforce and justify a market model of capitalism (Ruggiero and South, 2010; Walters and Martin, 2013). Those in positions of power protect their vested interests through institutional practice (Kluin, 2013) or use their influence to manipulate events for desired outcomes (Walters, 2011). Power can also be used to legitimise harmful practices through so-called soft power, therefore making avoidable harm appear as necessary (Tombs and Whyte, 2010; Michalowski, 2018). Mol (2013) states that green criminology plays a crucial role in deepening the central focus on power relations within critical criminology by performing the analysis in the socio-ecological realm. Considering the role of power in legitimisation, normalisation, and regulation of harm, it is evident that green criminological scholarship will benefit from a more nuanced understanding of the workings of power in the context of intensive farming and the relations that underlie this legal yet harmful practice.

Furthermore, the dynamics related to power raise issues around injustice (Walters et al, 2013). The previously described array of harms resulting from intensive farming is extensive; as the process of intensification of farming takes place, the question of how the harms are distributed emerges. In the context of intensive farming, environmental harms are inseparable from social harms (Dybing, 2012; White, 2013) as the negative effects on the environment will also have profound impacts on the people living in that environment. Once the question

of the distribution of environmental harm emerges, the debate around it shifts into the realm of environmental justice. While the environmental justice literature will be reviewed in more detail in the next chapter, it is sufficient to say that environmental justice has its roots in the 1980s United States, with the activists drawing attention to the disproportionate location of environmentally and socially hazardous facilities in ethnic minority and low-income areas (Bullard and Wright, 2009). In green criminology, environmental justice constitutes one of the perspectives, helping to recognise individuals and communities as victims of harm (White, 2008). Therefore, in addition to the relations of power, my research also draws its attention towards environmental (in)justice in the context of intensive farming.

Environmental (in)justice in the context of intensive farming fills several research lacunas. First, as the next chapter will demonstrate, there is a need to advance environmental justice research in green criminology (Zilney, 2006; Brisman, 2007; Lynch et al, 2015). Second, the research bridging intensive farming and environmental justice is not abundant. It focuses on the rural injustices associated with the industrialisation of food production (Ashwood and Mactavish, 2016; Kelly-Reif and Wing, 2016) and environmental and social impacts of large livestock operations in marginalised areas (Wing et al., 2000; Wilson et al., 2002; Bullers, 2005; Wing et al., 2008; Imhoff, 2010; Lenhardt and Ogneva-Himmelberger, 2015; Guidry et al., 2018). The impacts of corporate pig meat production on farm loss among minority communities have been analysed (Edwards and Ladd, 2000). The environmental justice paradigm has been applied to grassroots protests against corporate agriculture (Ladd and Edwards, 2002) and has demonstrated how community voices confront corporate influence on scientific knowledge production and environmental management (Rhodes et al, 2020). Green criminology has not developed such research, with some rare exceptions. For example, Wyatt (2014) considered the discriminatory nature of intensive farm locations, stating that farms tend to be isolated in more rural, poorer areas with no social capital or political power.

Third, the majority of environmental justice-focused research (including in green criminology) problematises the issues of discrimination and marginalisation, regarding them as the essential components of harm maldistribution. Such research orientation poses the question of whether non-discriminated and non-marginalised communities can be victims of environmental injustice. The latter is an example of a less visible environmental injustice (Mah, 2017) and deserves to be theorised further. Its closer examination addresses another gap in green criminological research on environmental justice – a limited engagement with the concept of recognitional and procedural environmental justice (Heydon 2018, 2019) and the notion of capabilities. The capabilities approach (Sen, 1985; Nussbaum, 1997) encompasses both the environmental circumstances and control over one's environment, thus bringing the distributional and procedural aspects of environmental justice together. In relation to recognitional and procedural justice, researchers have highlighted the phenomenon of marginalisation of individuals and communities in the processes of environmental decision-making (Arnstein, 1969; Young, 1990; Fraser, 1990; Gill, 2018). A significant proportion of such marginalisation is attributed to power inequalities where

political and economic elites prevail over those challenging them (Forester, 1982; Young, 1990, 2000; Pellow and Brulle, 2005). The interlinkage between harm and power is germane in the context of intensive farming. Relations of power play a particularly important role in the context of environmental decision-making, affecting recognition, the procedure, and the subsequent unequal distribution of harm (Culley and Hughey, 2007; Deacon and Baxter, 2013). A closer analysis of the processes of environmental decision-making in the context of intensive farming also considers the broader engagement between the capitalist economy and democratic politics. Environmental decision-making is a political process. Yet, a number of scholars have been documenting the process of ‘elimination of the political’ under neoliberal capitalism (Mouffe, 2005; Swyngedouw, 2007; Wilson and Swyngedouw, 2014). This claim deserves to be explored further in the context of environmental justice.

My thesis advances empirical research on food in criminology by developing an original green criminological study of a legal yet harmful intensive meat production practice. A consideration of power relations that underlie it contributes to the existing problematisation of power relations in green criminology and advances environmental justice research within it. In doing so, the research contributes new knowledge to the field by bridging intensive farming and environmental justice, analysing a less visible environmental injustice that non-marginalised communities experience in the procedural realm and understanding how the latter affects the distribution of harm from intensive farms as well as the realm of capabilities. The focus on intensive farming, thus, fills several criminological knowledge gaps through a closer scrutiny of harm and justice in relation to the structures of political and economic power. Finally, Neo and Emel (2017) assert that the academic focus should be placed on the process of proliferation of intensive farming. My thesis does this by using an under-researched case study of Northern Ireland.

1.4 Northern Ireland - a brief overview of the research context

Northern Ireland has a rich farming heritage – the land has been farmed for centuries, and the mild weather is a contributing factor to the Northern Irish farming success. The geographic position of the country ensures natural protection for food production – winds guarantee protection from wind borne diseases and the sea acts as a shield for land borne diseases (AFSB, 2013). The island has been labelled a ‘food fortress’ as a result (AFSB, 2013). Agriculture has shaped the landscape of Northern Ireland – seventy-five percent of the land area is engaged in food production (Friends of the Earth NI, 2020). The country’s agri-food and food processing sectors remain of high value for the Northern Irish economy; agri-food is a crucial export sector for Northern Ireland. Northern Ireland also has a greater reliance on its agricultural sector than the rest of the UK; the total share of the country’s Gross Value Added (nearly two percent in 2017) from agriculture is higher in Northern Ireland than in the rest of the UK (half a percent) (Playfair, 2018). The agri-food industry accounts for two and a half percent of total employment in Northern Ireland, more than double the UK-wide level of just over one percent (House of Commons, 2018).

Farming has been long characterised by small, usually family-owned, farms: their average size is 41 ha compared to 81 ha in the UK (DAERA, 2019). Yet, the status quo is changing with the policy drive to encourage growth and intensify production. In 2017, it was reported that Northern Ireland experienced a sharp increase in the number of intensive pig and poultry farms. The number of farms went up by sixty-eight percent from 154 in 2011 to 259 (The Bureau of Investigative Journalism, 2017). Environmental NGOs and campaigners attributed this trend to a broader shift in farming intensification, in addition to the Northern Irish government's adoption of the Going for Growth (GfG) strategy in 2012. GfG was an industry-led strategy that endeavoured to expand the agri-food sector and set out a vision of 'growing a sustainable, profitable and integrated Agri-Food supply chain, focused on delivering the needs of the market' (AFSB, 2013, p. 11); it will be described in more detail in Chapter 3. GfG placed an emphasis on growth within specific sectors, notably the pig and poultry. The pig sector has been recognised as having the potential to be successful since it does not rely on government subsidies as a source of income and is able to meet market demand for pork. Comparing the Agricultural Census in Northern Ireland conducted by the Department of Agriculture, Environment and Rural Affairs (DAERA) in 2000 and 2017 shows the evolution of the pig sector in terms of concentration and intensification. In 2000, 808 pig farms in Northern Ireland had a total of 413,480 pigs (DAERA, 2000); in 2017, the number of farms fell to 322, but the number of animals increased to 649,120 (DAERA, 2018). The 2017 census emphasised that 'a small number of large, highly productive businesses drive most of the change in the sector' (DAERA, 2018, p. 17). The above-described GfG strategy further encouraged the sector's expansion. Since the commencement of the strategy in 2012, the total number of pigs rose from 480,317 in 2013 to the above-mentioned 649,120 in 2017 (DAERA, 2018). Despite GfG coming to an end in 2017, it is reported that it embodies the desired direction for the industry (Attorp and McAreavey, 2020). The number of planning applications for new pig farms or pig farm extensions currently appears to be on the rise; according to Friends of the Earth Northern Ireland (2018), these applications would add more than 150,000 new pigs each year to the already existing pig population.

A detailed study of pig farming intensification in Northern Ireland allows an insight into an environmentally and socially harmful practice, which may exacerbate the harms described in the previous section. Northern Ireland also presents a favourable context for analysing power relations that underlie the process of intensification. As it was stated above, agriculture and farming are of paramount importance for the economy (O'Kane, 2011), which allows the sector to assume a central role in policy-making (Greer, 1996; Source Material, 2018; Attorp and McAreavey, 2020). GfG strategy is a prime example of it and illustrates concerns about a clientelist relationship between agri-food industry and the government (McAreavey and Foord, 2016). Furthermore, my research will demonstrate that regulation of the farming sector is reported to be compromised (Purdy and Hjerp, 2016) both within GfG and beyond; there are multiple environmental governance failures (Purdy and Hjerp, 2016; Brennan et al, 2017; Gravey et al, 2018; Brennan et al, 2019), which make the harms from ongoing intensification in Northern Ireland even more concerning.

Finally, Northern Ireland is fitting for the development of environmental justice research (Turner, 2007). It allows consideration of how the harms from intensification will be distributed and affect the realm of capabilities. It also provides an interesting context for recognitional and procedural environmental justice research. Researchers into community participation in Northern Ireland note a strange dichotomy. While members of the public are encouraged to actively engage in decision-making on the matters that affect them (Cave, 2013; Knox and Carmichael, 2015), there are accounts of public disengagement (Turner, 2007), difficulty in influencing decisions due to power imbalance, and difficulty in understanding the basis on which decisions are made (Turner, 2007; Mcalister, 2010). Considering this, it becomes crucial to analyse how decisions in relation to the emerging intensive pig farms are made and how the outcomes of these decisions influence the distribution of harms. The context of pig farming intensification in Northern Ireland, thus, provides a solid ground for research intersecting harm, power, and justice. I now proceed to formulate the questions that will be answered in my thesis.

1.5 Research questions

The main question in my research is:

How does the process of pig farming intensification in Northern Ireland lead to environmental injustice?

To answer the main question, three sub-questions have been formulated:

- 1. How does the process of pig farming intensification take place in Northern Ireland and how do power relations that support and reinforce it operate on the three levels of inquiry: macro (international), meso (national) and micro (local)?*

Having considered the political economic effects of intensive farming above, it is clear that the process of intensification cannot be analysed solely at the level of the nation state. It invites a consideration of global trends in meat production, their interaction with the national context of Northern Ireland and the subsequent impact on local farmers. The analysis of farming intensification through the interaction of the macro, meso and micro levels also allows the relational aspect of power to be brought to the surface, thus demonstrating how power is diffused within the three levels.

- 2. What is the current distribution of harms from farming in the studied area and what effect does it have on the realm of capabilities?*

As I will show later in my thesis, the studied community is already exposed to environmental harms from farming in the area. The second research question allows for a more nuanced understanding of

these harms and their effect on the realm of capabilities, in particular sustainable ecological capacity as a meta-capability and the capabilities dependent on it – bodily health, play, affiliation, other species.

3. How does the process of environmental decision-making regarding the new farms in the studied area take place and what are the dynamics of power within it? What are its effects on the distribution of future harms associated with farming intensification?

The third question looks in detail at the micro level process of environmental decision-making and dissects power relations connecting the studied community to the institutional structures of decision-making. The third question analyses recognition of the views of the studied community on farming intensification, environmental decision-making procedure and the political dimension of the capability to control one's environment. The second part of this question links the matters of procedure and distribution, considering how harms will be distributed as the process of farming intensification persists.

My research, therefore, brings together an exploration of power relations underlying a legal, ubiquitous, socially acceptable, yet harmful practice of intensive farming, the effects of power relations on the micro level processes of environmental decision-making, the realm of capabilities, and the present and future distribution of environmental harms in the context of intensive farms. The remainder of this chapter addresses the organisation of my thesis.

1.6 Thesis chapter structure

Following this introductory chapter, Chapter 2 develops an integrative theoretical framework for my research. It further elaborates on the suitability of the green criminological perspective and considers how 'lawful but awful' acts have been theorised in green criminology. The literature on crimes of the powerful is reviewed with an intention to theorise the process of pig farming intensification in Northern Ireland and analyse the relations of power that support and reinforce it on the international, national, and local levels. This part of the theoretical framework considers the concept of state-corporate crime to understand the catalysts for farming intensification harm – motivation, opportunity structures and operability of control. This part of the integrative framework is not only fitting for the consideration of the interrelationship between the levels of inquiry, but also combines the diverse theoretical perspectives. Finally, considering the links between harm, power and justice in my research, the integrative theoretical framework includes an environmental justice perspective. I review the different components of this perspective, such as distribution, recognition, procedure, and capabilities, and outline their relevance for my research.

Chapter 3 introduces a more nuanced idea of the context of my research. While this chapter outlined a broader trend for pig farming intensification in Northern Ireland and justified its suitability for my research, it is important to further dissect the context in which intensification takes

place. Green criminologists maintain that context is crucial (White, 2016). The historical context of Northern Ireland is unique – the legacy of the sectarian conflict affects all spheres of life. This statement resonates with state-corporate crime theorists (Kramer et al, 2002), maintaining that an analysis of a historical context should be a starting point in any scholarly investigation of crime. Chapter 3 examines how the legacy of the sectarian conflict influences the present political economic and social development realms. Yet, Chapter 3 also emphasises that Northern Ireland is embedded in the political economy of globalised neoliberal capitalism, which influences the country's development. It is in these circumstances that the GfG strategy was adopted and farming intensification is taking place. Chapter 3 discusses farming and agriculture in Northern Ireland, dissects the dynamics of pig farming intensification and analyses the environmental impacts of farming. The latter is linked to the discussion of environmental governance, which demonstrates the origins of current environmental challenges in Northern Ireland by initiating the discussion of the relations of power and the hegemony of neoliberal capitalism in the environmental governance context.

Chapter 4 outlines the methodology in my research. I use a case study approach, which in social sciences is employed to understand a phenomenon in question with a particular attention to the actors within it and relationships between them. Ultimately, it is a foundation for data collection and analysis, and the case study method is used frequently both in green criminology and when examining crimes of the powerful. While the relevance of the Northern Irish case is demonstrated earlier in this thesis, Chapter 4 also justifies the sampling strategy in my case study. A non-probability sampling framework with purposive sampling is used, as I select the sampling context for the macro and meso level of analysis – Belfast – and the sampling context for the micro level of analysis - Antrim and Newtownabbey district, which represents a community where pig farming intensification is presently taking place. The sampling strategy discussion also includes the sampling of participants as I outline four participant categories: local residents, government, farming industry, NGO participants and public-spirited citizens. Chapter 4 presents how the primary data – twenty-nine semi-structured interviews – as well as the secondary data – official statistics related to farming in Northern Ireland and media data – were collected in this research. Furthermore, I describe the three stages of the thematic and comparative data analysis process and outline how credibility of the themes that emerged in my research was explored through member checking. I also discuss the relationship between the chosen theoretical framework and my findings and reflect on the ethical issues and limitations in my research. To conclude, my positionality in this research is clarified.

Chapter 5 analyses the findings pertaining to the first research question - *how does the process of pig farming intensification take place in Northern Ireland and how do power relations that support and reinforce it operate on the three levels of inquiry: macro (international), meso (national) and micro (local)?* I demonstrate that the political economy of meat production on the international level is premised on profit-driven competitive market rule ideology, which necessitates efficient organisation of production. Efficiency implies production intensification, and these trends

shape the motivation for growth consolidated by the GfG strategy in Northern Ireland. Consequently, I demonstrate how catalysts for farming intensification harm – motivation, opportunity structures and operability of control – operate on the national level. The national goals for meat production in Northern Ireland are to drive efficiency of farming as well as professionalise it. I show how opportunity structures were developed by the state and corporate farming industry actors to meet these goals: in the case of the efficiency goal, opportunity structures include promulgation of the discourse against small-scale farms, providing material support for technological innovation and research into efficient production. In the case of farmer professionalism goal, they include education of farmers and organisation of business development groups. Chapter 5 analyses the effectiveness of controls – regulatory frameworks – in dealing with farming intensification. International and national political economic contexts also influence the happenings on the local level, where I evidence a gradual marginalisation of small-scale farmers and analyse a trend for intensification. Power relations are crucial for understanding the above-described processes, as Chapter 5 analyses their influence in the realms of goal formation, opportunity structures development and regulatory controls. It concludes that a state-corporate symbiosis supports and reinforces a market-oriented, profit-driven model of farming that prioritises efficiency and ultimately leads to ‘lawful but awful’ intensification. The pursuit of the intensification agenda also safeguards the hegemony of the dominant capitalist order, as power relations work to exclude the alternatives to it.

Chapter 6 analyses the findings pertaining to the second and third research questions - *what is the current distribution of harms from farming in the studied area and what effect does it have on the realm of capabilities? And how does the process of environmental decision-making regarding the new farms in the studied area take place and what are the dynamics of power within it? What are its effects on the distribution of future harms associated with farming intensification?* In terms of the second question, I describe an already disproportionate exposure of the studied community to environmental harms from farming, which affects the community’s capabilities. In terms of the third question, the chapter shows how power relations supporting and reinforcing a market-oriented, profit-driven model of farming affect the process of environmental decision-making, resulting in recognitional and procedural injustices. These injustices indicate that the ability of planning frameworks to act as a mechanism of regulatory control for farming intensification is compromised, which catalyses harm. The latter paves the way to the uneven distribution of environmental harms from farming intensification and negatively affects sustainable ecological capacity as a meta-capability, capabilities dependent on it, and the capability to control one’s environment.

Finally, Chapter 7 provides a summary of the research and deepens the discussion developed in my findings chapters to ultimately answer the main question posed in this research - *how does the process of pig farming intensification in Northern Ireland lead to environmental injustice?* It also questions whether the dominant capitalist order is compatible with environmental justice principles and suggests ideas for reforming the harmful status quo on macro, meso and micro levels. The chapter concludes with directions for future research.

Chapter 2 – Integrative theoretical framework development

2.1 Introduction

This chapter aims to develop and discuss the integrative theoretical framework that will guide data collection and analysis. Ultimately, the theoretical framework will be instrumental for answering the main research question: *how does the process of pig farming intensification in Northern Ireland lead to environmental injustice?* First, the field of green criminology will be discussed, and the relevance of the socio-legal approach and the concept of ‘ordinary harm’ for this research will be detailed. Research on intensive farming in green criminology is not extensive and a detailed analysis of the political economy of intensification has not been conducted thus far. The green criminological perspective can further develop an understanding of environmental and social harm that originates in the commonplace meat production practices and consider the contribution of the powerful to it. The integrative theoretical framework also includes the literature on crimes of the powerful, emphasising the importance of ‘studying up’ in criminology and the possibilities that such research opens up. As part of it, I discuss the integrated model of state-corporate crime. The inclusion of the latter in the integrative framework helps to analyse the political economy of farming intensification on the three levels of inquiry – international, national, and local – by understanding their interconnectedness. Finally, the environmental justice perspective is included in the integrative theoretical framework of my research to examine the convergence of harm and power emanating from the state and corporate farming industry actors. This chapter presents the theorisation of environmental justice that I will be using in my research; it encompasses the notions of distribution, recognition, procedure, and capabilities.

2.2 Green criminology

Green criminology provides an academic space for criminologists to explore issues related to the environment. The term appeared in the 1990s in an attempt to systematise the study of environmental crime (Lynch, 1990; South, 1998). Green criminology endeavoured to shift the criminological focus to natural environments, re-examine the definition of crime to include acts that are environmentally harmful but legally permitted and expand the concept of justice in relation to environmental frames (Lynch and Stretesky, 2014). As a result, much of the green criminological research focused on exposing various social and ecological injustices (Lynch and Stretesky, 2001; White, 2003, 2008; Brisman, 2007; Carrabine et al., 2009).

2.2.1 Approaches in green criminology

One conceptual lens for analysing environmental crime in green criminology is a legal-procedural approach. The legal-procedural approach is premised on the superiority of the criminal law and subsequently defines harms by drawing on the practices proscribed by the law (Brisman, 2007). Violations of the laws protecting the environment and health of the people, therefore, are seen as

environmental crimes. However, it has also been suggested that the lens of crime may not always be suitable for discussing certain harmful behaviours, especially those perpetrated by the state or corporate actors (Bradshaw, 2014; Zaitch and Gutierrez Gomez, 2015). As a result of this recognition, green criminology also features a socio-legal approach. The socio-legal approach in green criminology embraces studies of harm that do not fall under the umbrella of existing criminal law (Sollund, 2015) and regards harm as a practice that is firmly rooted in the dominant social paradigm, but is nonetheless environmentally damaging (Brisman, 2007). The socio-legal approach in green criminology supports the idea that the discipline of criminology should not be ‘undermined by having its subject matter defined by political and legal elites deciding what is labelled as crime and what is not’ (Zaitch and Gutierrez Gomez, 2015, p. 389). The development of the socio-legal approach brought about a reconsideration of the definition of environmental crime. Walters (2010, p. 180) suggests the term ‘eco-crime’ that encompasses both legal definitions of environmental crime and the harms beyond the legal apparatus, such as those ‘lawful acts of ecological degradation committed by states and corporations’. Some of the definitions of eco-crime focus on the existing political economic system. Systems of exploitation such as capitalism generate widespread social harm, yet do not face a proportionate amount of judgement and scrutiny (Michałowski and Kramer, 2006b). For instance, Lynch et al’s (2017, p. 13) vision of environmental crimes centres on the role of globalised capitalism in ecological destruction. They define them as acts ‘that regardless of their legality cause significant identifiable harm to ecological systems – what we call ecological destruction and disorganisation – for the purposes of promoting capital accumulation’. Similarly, for Halsey (1997) criminal conduct is tantamount to the acts and interests of the powerful in control of the forces of production infringing upon human rights and natural environments. Considering the harmful yet legal nature of intensive farming and its embeddedness in the political economy of capitalism, the socio-legal approach appears to be suitable for its analysis.

Moreover, the socio-legal approach also draws the link between environmental and social harm, which is crucial for my research; as I showed earlier, intensive farming affects not only the environment, but also the communities inhabiting this environment. The major aspiration of any society is to maximise its wellbeing, and harm prevents the achievement of such potential (White, 2013). Consequently, Dybing (2012) concludes that environmental harm is a social harm. Environmental and social harms are connected in terms of their effects (Hauck, 2008; Walters, 2010; Lasslett, 2010). There is also a link between the causes of environmental and social harms and solutions to them; several authors discuss the inevitable connection between factors contributing to the degradation of humans and degradation of natural environments (Halsey, 1997; Green et al, 2007), thus dissolving the division between social and natural worlds in their attempts to address environmental harms. Environmental and social harms are also connected in terms of justice, which is particularly relevant for my research. Both humans and natural environments exist in ‘circumstances of justice’ (Baxter, 2005, p. 81) where they influence each other’s welfare and interests. The harms suffered by the ecosystem mirror the harms of marginalisation and disenfranchisement (Hauck, 2008; Pellow, 2018).

2.2.2 The concept of ‘ordinary harm’ – theorising intensive farming

As stated above, certain systemic environmental and social harms are normalised social practices (Halsey and White, 1998; White, 2008) and are 'the often catastrophic consequences of the smooth functioning of our economic and political systems' (Zizek, 2009, p. 1). The discussion around the normalisation of harm has been further developed by Robert Agnew (2013). He contends that certain ordinary acts (such as consuming meat on a regular basis; choosing gasoline-powered automobiles for transportation; purchasing consumer products) contribute to environmental degradation. Their ordinary nature ensures their regular repetition, and, as they are deemed acceptable and even desirable, their cumulative effect aggravates environmental problems. While Agnew focuses on the individual-level environmental harms, Copson (2018) cautions that individual harms can only be identified once structural harms have been addressed. Therefore, an assumption can be made that acceptable and desirable routine activities that create environmental problems can also be performed in the form of structural harm.

Agnew (2013) focuses on individual meat consumption, but leaves the interrogation of meat production intact. Yet, intensive meat production is an example of a trivialised harmful practice that has structural origins. It is an 'ordinary act' characterised by conformity with existing norms of meat production, rather than an act of deviance (Brisman and South, 2018). Ritchie (2004, p. 179) suggests that the legal practice of industrial farming that 'impoverishes rural communities, pollutes our rivers, depletes our soils, destroys our wilderness, extinguishes wildlife species, mistreats animals, and sickens and kills people' should be interrogated rather than taken for granted. Passas (2005) also stresses that factory farming results in social and environmental grievances. Sollund (2015) concludes that industrial farming should be open for green criminological exploration as it opens multiple avenues for studies of harm construction, denial and neutralisation. Larsen (2012, p. 44) concurs with this statement, suggesting that agricultural production can also be viewed as 'structural violence or structural damage' and its damage-breaking consequences should be considered criminal in either a judicial or a moral sense.

As mentioned in Chapter 1, existing criminological research on intensive farming draws attention to human-animal relationships in food production. Beirne (2014, p. 55) coined the term 'theriocide' to summarise the diverse ways human actions cause the deaths of animals. The spectrum of the term covers, among others, intensive rearing regimes. Moreover, speciesism has surfaced as a topic encompassing the magnitude of animal abuse (South, 2007; Sollund, 2012), referring to 'a set of widely shared beliefs that result from, and support, oppressive social arrangements' (Sollund, 2012, p. 94). In regard to intensive farming, Sollund documents how prejudice against animals was transformed into a harmful, exploitative practice because of ideological legitimisation expressed by the meat industry and state authorities. She also applies Sykes and Matza's (1957) neutralisation techniques to shed light on meat eating from the consumers' point of view. Wyatt (2014) further expands the research on the human-animal relationship in food production by investigating animal abuse that takes place on English and Welsh pig farms. She applies the environmental justice

perspective to recognise harm and suffering of non-human animals in addition to exploring environmental degradation and human health concerns resulting from industrialisation of pig farming. Concluding that industrialisation should not be the way forward, she suggests boosting financial incentives for high welfare farms and helping larger farms transition to a smaller scale. One of the most recent criminological forays into industrial farming through the socio-legal lens is Schally's (2017) investigation of the discursive construction of harm and business as usual by US agribusiness. She chooses the case study of Tyson Foods to investigate the techniques of legitimisation of harm-doing, urging researchers to focus their future endeavours on discourses of resistance to harm. Other criminologists draw on the subject of industrialised meat production less directly. Boekhout van Solinge (2010) investigates deforestation in Brazil linked to agricultural production, developing a discussion of global consumption patterns and their hidden harms, and debating the conundrum of responsibility for harm in the context of globalisation. Gray and Hinch (2015), while considering transformations of food industry by corporatisation, touch upon agribusinesses' negative effects on traditional farming. White and Yeates (2019) demonstrate the intersections between the dominant food production practices and climate change. Finally, existing research demonstrates that monolithic power of agribusinesses is highly resistant to regulation (Croall, 2012) and that laws around food production have been manipulated to preserve the interests of agribusinesses (Boekhout van Solinge, 2010), echoing Michalowski's (2012) concerns that legal apparatus designed by the powerful cannot respond to harms committed by the powerful.

It is clear that the socio-legal approach in green criminology can be employed to analyse the harms associated with farming intensification in Northern Ireland and it reveals the relevance of the concept of 'ordinary harm' for my research. I apply the latter to the realm of meat production, rather than consumption. Moreover, current green criminological engagements with the topic of intensive farming demonstrate the importance of its further research in green criminology. It is evident that the political economy of farming intensification has not been studied in detail, and a study of a legal yet harmful intensive pig meat production practice in Northern Ireland will advance both theoretical and empirical criminological research. Lynch (2020) suggests that green criminological research overlaps with crimes of the powerful research, which I also emphasised in the previous chapter. The next section, therefore, continues the development of the integrative theoretical framework in my research by discussing the literature on the crimes of the powerful and zooming into the integrated model of state-corporate crime.

2.3 Crimes of the powerful

In this section, I first introduce the history of crimes of the powerful research to further criticise the legal-procedural approach in criminology and justify adopting a socio-legal approach in my thesis. Second, I unpack the integrated model of state-corporate crime; I demonstrate how its inclusion in the integrative theoretical framework serves to analyse the political economy of the 'ordinary harm' of intensive farming and theorise power dynamics within it.

2.3.1 Crimes of the powerful research in criminology

Criminology is a biased discipline. In mainstream criminology, traditional offences such as homicide, robbery, assault or, in Barak's (1991) words, 'crimes of the powerless' are well-researched. On the contrary, crimes of the powerful, despite their widely acknowledged injurious nature (Pearce, 1976; Barak, 1991; Ward, 2004; Tombs and Whyte, 2009; Rothe, 2020) receive less scrutiny. The focus on the powerless stems from a constellation of several factors. As I mentioned in Chapter 1, the powerful dominate the process of crime labelling by shaping the law. Some practices remain under the umbrella of legality due to the ability of the powerful to 'mobilise financial and other resources in order to avoid stricter regulation' (Passas and Goodwin, 2004; Passas, 2005, p. 772). Moreover, criminal law focuses on the harms 'committed by individuals and suffered by individuals rather than harms produced collectively and experienced collectively' (Barton et al., 2007, p. 202). Hence, allocation of responsibility in criminal law vindicates the structural forces. Criminal responsibility is an individual responsibility and implies that the responsible body is the only one rendered accountable for the problem, thus decontextualising social, political, and economic factors behind it. Crimes of the powerful are also marked by a greater distance between the perpetrator and the effects of their crime, and lack of integration of elite criminality into the channels of mass communication further diverts public and scholarly attention away from the elites (Michalowski and Kramer, 2006b). Yet, not only does the focus on the powerful provide a vital insight into the workings of crime, but it helps to understand power itself (Whyte, 2009) through the consideration of 'economics-politics-culture nexus' (Michalowski, 2010, p. 26). The focus on the powerful also addresses formation, distribution and maintenance of power (Tombs and Whyte, 2003), and, more importantly, possibilities for the alteration of the status quo (Ruggiero, 2015).

The dearth of research on crimes of the powerful was interrupted in 1939, when Edwin Sutherland first introduced the concept of the crimes of respectable people (or white-collar crimes). His definition of crime implied that individuals of high social status violate the law, breaching trust that was delegated or implied to them (Sutherland, 1939). In the 1960s and 1970s, a new radical criminological paradigm shift paved the way for the research that included illegalities perpetrated by private business organisations, corporations, and state institutions. Frank Pearce introduced the concept 'crimes of the powerful' in his seminal 1976 book, focusing predominantly on the state and its agents as crime perpetrators. 'State-organised crimes' emerged as an area of study – the term was coined by William Chambliss – referring to 'acts defined by law as criminal and committed by state officials in pursuit of their jobs as representatives of the state' (Chambliss, 1989, p. 184). Most research on state criminality focused on atrocities such as state terrorism, torture, murder, arms trafficking and drug smuggling, and violations of internationally established human rights (Barak, 1991). Echoing white-collar crimes, it was also argued that all corporate activities are inherently criminogenic (Punch, 1996; Leon and Ken, 2017) and Lasslett (2010a) suggested that corporate-initiated and corporate-facilitated crimes should also be scrutinised.

The research on crimes of the powerful is still far from becoming mainstream in criminology. The umbrella term ‘crimes of the powerful’ has been featured in several academic works encompassing both state and corporate deviance: Tombs and Whyte’s (2003) ‘Unmasking the Crimes of the Powerful’, Barak’s (2015) ‘Routledge International Handbook of the Crimes of the Powerful’, ‘Crimes of the Powerful: An Introduction’ by Rothe and Kauzlarich (2016) and Bittle et al’s (2018) ‘Revisiting crimes of the powerful: Marxism, crime and deviance’. Yet, more ‘deviant knowledge’ production, ‘unfavourable to, and / or critical of, agents of power’ (Walters, 2003, p. 2) is yet to be developed. The intersection of power, harm, and justice in the context of pig farming intensification in Northern Ireland appears suitable for this purpose.

The environmental toll of the deviant acts committed by the powerful has been gaining some recognition. Some of the examples include: Kauzlarich and Kramer (1998) considering environmental contamination from the nuclear weapons industry; Katz (2010) investigating environmental pollution in the chemical industry; Standing (2015) exploring ecological and social impacts of industrial fishing in Senegal, where collusions between political and business elites are powered by the neo-colonial ethos. Green criminologists in particular have been zooming into the intersection of power and environmental harm, considering the links between organised crime and mass production of waste (Ruggiero and South, 2010), and environmental crimes of the powerful in the oil, chemical and asbestos industries (Ruggiero and South, 2013). Some green criminologists applied the concept of state-corporate crime to analyse environmental harms (Lynch et al, 2010; Smandych and Kueneman, 2010; Kramer and Michalowski, 2012; Bradshaw, 2014; White and Heckenberg, 2014; White, 2018). Yet, Bradshaw (2014) posits that environmental harm and state-corporate crime research have taken two separate trajectories, without much overlap between the two. It is, therefore, crucial for a ‘greening’ of state-corporate crime to take place (Bradshaw, 2014, p. 166). Consequently, including state-corporate crime scholarship into my integrative theoretical framework allows examining power relations that support and reinforce the process of legal yet harmful pig farming intensification in Northern Ireland on the three levels of inquiry: macro (international), meso (national) and micro (local). Below, I discuss the state-corporate crime framework.

2.3.2 State-corporate crime framework

The inspiration behind state-corporate crime comes from Richard Quinney’s (1970) radical criminology and his writings on the construction of political power in capitalist states. The term ‘state-corporate crime’ was coined in 1989 by Ray Michalowski after his discussion with Ron Kramer about a case study of the space shuttle Challenger disaster (Kramer et al, 2002). Its subsequent development centred around the fact that the existing literature, while covering both corporate and state crime, did not link the two together, despite the claims that ‘there is neither economics nor politics; there is only political economy’ (Michalowski and Kramer, 2006, p. 3). State-

corporate crime scholarship, thus, aimed to scrutinise the deviance at the nexus of economic and political spheres.

Invoking such contentious terms as ‘state’ and ‘corporate’ inevitably instigates definitional debates. While the term ‘state’ can encompass all citizens and the term ‘corporate’ can encompass all corporate employees, state-corporate crime refers to the acts most beneficial to the state and corporate leadership class and disproportionately harmful to other state and corporate actors (Friedrichs and Rothe, 2014). Henry (1991) argues that the framework turns to the government rather than the state: the state is not the government in itself but a structure for governmental action. What produces harm is government policies that have been created and enacted in the name of the state (Henry, 1991). Moreover, Friedrichs and Rothe (2014) suggest that it might be useful to distinguish between deviant acts initiated by the public sector actors and those initiated by the private sector actors (i.e. state-corporate crime and corporate-state crime). Therefore, state-corporate crimes occur as a result of collusion between the forces wielding political power and the forces wielding the power of economic production and distribution (Chambliss et al., 2010). Such crimes can either be state-initiated or state-facilitated, but inevitably result in injurious actions. Moreover, ‘pathologies of power’ created by the welding of the state and corporate realms amplify the possibilities for harm while decreasing the likelihood of rigorous control (Kramer et al, 2002), thus laying the foundations for illegal avoidances and omissions (Barak, 2015).

Aulette and Michalowski (1993, p. 175) defined state-corporate crimes as ‘illegal or socially injurious actions that result from a mutually reinforcing interaction between (1) policies and/or practices in pursuit of the goals of one or more institutions of political governance and (2) policies and/or practices in pursuit of the goals of one or more institutions of economic production and distribution’. Later, Michalowski and Kramer (2006, p. 15) truncated this definition into ‘illegal or socially injurious actions that occur when one or more institutions of political governance pursue a goal in direct cooperation with one or more institutions of economic production and distribution’. The integrated framework has been applied to the issues as diverse as crimes related to nuclear weapons (Kauzlarich and Kramer, 1998), safety crimes of chemical companies (Katz, 2010), the crash of ValuJet Flight 592 (Matthews and Kauzlarich, 2000), and violations of treaty rights (Robyn, 2006).

Some authors also urge to use a more critical definition that considers various forms of harm occurring at intersections of governance and capital accumulation that remains legally beyond incrimination (Michalowski, 2010; Barak, 2015). As a result, the framework has been used to analyse crimes of American corporations conducting business with Nazi Germany (Matthews, 2006), and the invasion of Iraq (Kramer and Michalowski, 2005). The plea to consider the cases that exemplify harmful, yet legal wrongdoings particularly resonates with my research and the socio-legal approach in green criminology. Furthermore, my research addresses another shortcoming of the state-corporate crime framework: its immediate focus is on specific incidents, institutional flaws, and ‘moments of rupture’ (Bernat and Whyte, 2017, p. 71). Both Tombs (2012) and Lasslett (2010) suggest that this focus may obscure more entrenched practices that are part of a broader system of production as well

as enduring and ongoing relationships that are more similar to a process rather than a single event. By focusing on the ‘ordinary harm’ of intensive farming and analysing it as a process, I bring such practices and relationships to the surface. The figure below summarises the state-corporate crime framework:

| Level of Analysis | Catalysts for Action | | |
|--|---|---|--|
| | Motivation | Opportunity Structure | Operationality of Control |
| Institutional environment (history, political economy, culture) | Culture of competition Economic pressure Organizational goals Performance emphasis | Availability of legal means Obstacles & constraints Blocked goals/strain Availability of illegal means Access to resources | International reactions Political pressure Legal sanctions Media scrutiny Public opinion Social movements |
| Organizational (structure and process) | Corporate culture Operative goals Subunit goals Managerial pressure | Instrumental rationality Internal constraints Defective SOPs Creation of illegal means Role specialization Task segregation Computer, telecommunication, and networking technologies Normalization of deviance | Culture of compliance Subcultures of resistance Codes of conduct Reward structure Safety & quality control procedures Communication processes |
| Interaction (face-to-face interaction, individual action) | Socialization Social meaning Individual goals Competitive individualism Material success emphasis | Definitions of situation Perceptions of availability & attractiveness of illegal means | Personal morality Rationalizations & techniques of neutralization Separation from consequences Obedience to authority Group think Diffusion of responsibility |

Figure 2.1. Integrated framework. Source: Kauzlarich and Kramer (1998).

Rather than looking at deviant acts in isolation, the integrated framework proposed by Kramer and Michalowski allows analysis through the lens of vertical and horizontal relations between social institutions and actors (Kramer et al, 2002). The integrated framework blends together the aspects of core criminological theories (political-economic, organisational, and differential association) to consider state-corporate crime from the perspective of the three levels of analysis: political-economic (macro), institutional (meso), and individual (micro). Thus, the framework addresses Rothe and Friedrichs’ (2015) concern that criminological theories tend to focus on one level of analysis and overlook the interdependent nature of social reality. Yet, the relationship between the levels of inquiry should be carefully unpacked to enhance the explanatory power of the integrated framework (Zaitch and Gutierrez Gomez, 2015). It is suggested that an international level of analysis can be embedded in the political-economic level (Rothe and Friedrichs, 2015). Other authors suggest that international and political-economic levels of analysis be studied as distinct ones (Mullins and Rothe, 2007; Zaitch and Gutierrez Gomez, 2015) as they exist in dialogue but are also influenced by forces within them. Moreover, the analysis of the political economic level should not be reduced to the analysis of capitalism or globalisation but rather be focused on ‘a series of specific happenings that fuel these contemporary dynamics’ (Zaitch and Gutierrez Gomez, 2015, p. 389).

The state-corporate crime scholars locate the origins of crime in the structures of capitalism, particularly in its drive for accumulation (Bernat and Whyte, 2017). Kramer and Michalowski (2006) suggest that the structure and cultural meanings of the broader political economic arrangements shape the goals and means of economic and political organisation. Political economic theories, thus, connect the goals and means of institutions of political governance and institutions of economic production and distribution with the overarching political economic arrangements. The structure of political economy creates the conditions that shape the relationship between political and economic actors (Kramer et al, 2002; Kramer and Michalowski, 2006). Moreover, Kramer et al (2002) assert that the goals defined by political economic arrangements are embedded in the tapestry of historical contexts. Historical context also influences the cultural definitions integral to a political economic system, which can influence the development of criminal behaviour. Other levels of analysis within the integrated model include institutional and individual. The goals and means of economic and political organisation are linked to the workings of specific economic and political institutions. Finally, the role of social relations that define an individual symbolic reality also needs to be considered.

Furthermore, the integrated framework includes so-called catalysts for crime and harm – they include motivation (goals), opportunity structure (means) and operability of control. The analysis is rooted in the assumption that deviance produced by interactions between political and economic actors stems from pressure for goal attainment, availability and attractiveness of illegitimate means, and the weakness of social control (Kauzlarich and Kramer, 1998) under the conditions of the political economy of capitalism.

State-corporate crime theorists maintain that the greater emphasis on goal attainment results in criminal and harmful behaviour (Kauzlarich and Kramer, 1998; Tombs and Whyte, 2010; Tombs and Whyte, 2020). A goal-oriented individual positioned within an organisation that adheres to goal attainment as a measure of success in a society whose political economic frameworks advocate for ambitious goal pursuit ‘will be more susceptible to pursuing deviant organisational strategies than if one or more of these conditions is absent’ (Kramer et al, 2002, p. 279). The goals can also be artificially constructed (Merton, 1957) and individuals are often governed by a ‘bounded rationality’ that stems from incomplete or inaccurate information that shapes their goal articulation (Rothe and Friedrichs, 2015). In line with differential association theory, the goals and behaviour of an individual are moulded by social relations in the context of ‘the symbolic reality derived from social interaction within bounded organisational niches’ (Kramer et al, 2002, p. 279).

Opportunity structure of the means used to meet the established goals constitutes another building block of the integrated framework for state-corporate crime. The discrepancy between goals and means to achieve those goals is rooted in Merton’s (1957) strain theory and his claims that deviance is inevitable when social expectations do not match the opportunities to achieve the goals, which is particularly relevant for the political economy of capitalism. According to him (1957, p. 132), ‘culturally defined goals, purposes and interests’ are comprised of ‘a frame of aspirational reference’ and are the things ‘worth striving for’. Scarcity of legitimate means of goal achievement

fuels deviance. Misallocation of means might create an impression that individuals are barred from access to legitimate means, thus resulting in them seeking alternative harmful routes. Moreover, the choice of illegitimate means may stem from their higher efficiency in achieving the established goals (Kauzlarich and Kramer, 1998).

Finally, state-corporate crime theorists maintain that researchers' attention should be directed towards establishing how opportunities for deviance are expanded while the possibility of constraint disintegrates in regulatory structures (Ruggiero, 2015). Social control determines compliance on the political-economic, institutional, and individual interaction levels of the integrated model. Assessments of potency of social control mechanisms are, therefore, crucial for unravelling the factors behind state-corporate crimes. Michalowski and Kramer (2006) suggest that societies with high level of social control produce economic actors that favour compliance with laws and regulations. Regulatory agencies play an important part in social control regulation. Yet, their critical scrutiny demands inspecting 'the balances of forces between and within states, capital and populations' (Tombs and Whyte, 2009, p. 110). Mullins and Rothe (2007, p. 138) also observe an inconvenient overlap between the concepts of opportunity and control, 'where controls that are assumed to be non-existent or non-functional are conceptualised under the rubric of opportunity'. They conceptualise control as a complete barrier to a criminal or harmful act whereas a constraint restrains the activity thus forcing the criminal to change the course of their action.

The state-corporate crime framework highlights that illegal and socially injurious actions positioned at the state-corporate nexus are produced both as part of the broader system of economic production and as part of social relationships (Bernat and Whyte, 2017). In regard to the former, they can be seen as what Ruggiero (2013) labels 'crimes of the economy' as they are rooted in the global economic forces of supply and demand. In regard to the latter, the state-corporate crime framework sheds light on the relations of power between economic and political actors, and their symbiotic production of socially and environmentally disadvantageous scenarios. It illuminates the constitutive nature of state-corporate relationships, a hypothesis discussed by several authors (Kramer, 1992; Aulette and Michalowski, 1993; Kramer et al, 2002; Tombs, 2012; Whyte, 2014; Bernat and Whyte, 2017). Indeed, there is often no conflict of interest between state and economic actors as they pursue shared or mutual goals. State actors act to enable capital accumulation, while economic actors are crucial for realising capital accumulation (Bernat and Whyte, 2017). Whyte (2014, p. 244) labels this phenomenon a 'regime of permission'. Such regimes are not only enabled by particular institutional relationships but originate from power architectures that lie beyond the observable empirical manifestations of power. Such power architectures are embedded in global political economic systems of production and consumption and are needed to uphold capital accumulation.

Thus, the question of power becomes yet more important. While it is clear that a state-corporate symbiosis (Tombs, 2012) relies on the economic (organisation of production and distribution) and political (organisation of rulemaking) powers, Michalowski (2018) also urges to consider cultural power. He defines it as 'the organisation of consciousness, including the creation of subjectivity, causal narratives of the past and predictive narratives of the future' (2018, p. 109) in

accordance with the ideology of neoliberal capitalism. Other authors also pay attention to how deviant outcomes are produced by the culture that normalises and trivialises deviance (Vaughan, 2007): ‘a ‘crime’ is not a crime so long as its commission is controlled and directed by those in authority towards goals which they define as socially constructive’ (Bensman and Gerver, 1963, p. 598). Although occasionally state and corporate actors obscure their harmful actions to avoid accountability, some harmful actions are pushed beyond that realm and are ‘culturally approved and therefore rewarded’ (Vaughan, 2007, p. 12). As a result of trivialisation, actors might not be aware of the adverse effects of their practices or portray them as inevitable or necessary risks pertaining to processes of production, thus using some of the techniques to neutralise the effect of their activities (Sykes and Matza, 1957). This discussion resonates with the main subject of my research – farming intensification in Northern Ireland – which, as I described earlier, also presents an example of a culturally approved, normalised, ‘ordinary’ harm. Some state-corporate crime scholars argue that an analysis of the relationship between power and harm should pay closer attention to the production of consciousness regarding state-corporate harms and the processes that make ‘avoidable harm appear as necessary harm’ (Michałowski, 2018, p. 107). Therefore, an analysis of the production of consciousness regarding normalisation of harm becomes significant for my understanding of the political economy of pig farming intensification.

Pearce (1976) states that the process of normalisation of harm is an important component of societal reproduction, which also helps to reinforce the hegemony of capitalism. The discussions around the production of consciousness and normalisation of harm inevitably invoke the discussion around hegemony. For Gramsci (1971), ideological hegemony is the process of permeation of a particular ideology throughout society (including institutions and social relations), whereby the dominant order is justified and maintained through consent of those dominated and subsequently appears unquestionable or as a common sense. Yet, its common sense framing also obscures the harm that the system is built on and the powerful actors that perpetuate it. While pursuing their goals, state and economic actors also reproduce and maintain the political economy of capitalism (Hall, 2012; Rothe, 2020), which ultimately results in environmental and social harm. Such harm becomes banal, disavowed, depoliticised, and normalised through cultural hegemony and hegemonic discourse (Rothe and Collins, 2015). Pearce (1976) frames the same condition through the lens of the imaginary and the real social orders. Capitalism projects an imaginary social order – a portrayal of reality that is different from the actual conditions under capitalism (or the real order). The imaginary social order is conceptualised as ‘[the] ‘ideological’ portrayal of American society as being a democratic free enterprise system, wherein the majority rationally control the legislature and the government’ (Pearce, 1976, p. 104). The imaginary order is reproduced through the relations between political and economic actors, which create a hegemonic discourse and justify the status quo, thus masking the harms perpetrated by the powerful. For instance, ‘capital accumulation is more generally reproduced through regulatory structures’ (Bernat and Whyte, 2017, p. 77). Mahon (1979) develops an idea of regulatory bodies becoming captive agents of capitalist forces. As they simultaneously represent the cause and strive to control it, they function as an ‘instrument of hegemony’ (Mahon,

1979, p. 192). As a result, the existing order becomes ‘predominant to the extent that [it] seeps into popular consciousness, ruling out alternatives’ (Pearce and Tombs, 1998, p. 52). The absence of alternatives is an integral part of the ideological hegemony as, according to Ruggiero (2018), perpetuation of the dominant ideology relies on the silent consensus around it. Gramsci (1971) also suggests a close relation between consensus and hegemony.

The integrated framework of state-corporate crime allows considering the horizontal and vertical power relations underpinning the dominant political economy. As a result, the integrated framework of state-corporate crime is well-positioned to analyse how the process of pig farming intensification came into being in Northern Ireland and power relations that support and reinforce it. Additionally, an advancement of the hegemonic aspect of power in my integrative theoretical framework allows analysing the role of power relations in securing the ideological hegemony, ruling out the alternative ways of social, political, and economic organisation, and normalising environmental and social harm. The levels of analysis in my research need to be clarified: on the macro level, I scrutinise broader political economic arrangements such as international dynamics of meat production; on the meso level, rather than considering an institution, I look at the interactions between the farming industry and the government on the national level in Northern Ireland; on the micro level, I consider the experience of individual farmers in Northern Ireland. The micro level is also important for analysing the experience of environmental decision-making in the studied community, underpinned by the planning framework as another mechanism of control of farming intensification. The effectiveness of the planning framework as mechanism of control determines the distribution of harms from farming intensification and has a direct impact on the realm of capabilities. The next section includes environmental justice paradigm into my integrative theoretical framework to theorise the experience of environmental decision-making around farming intensification in the studied community and link it to the distribution of harms and the realm of capabilities.

2.4 Environmental justice paradigm

This section will first consider convergence of green criminology and environmental justice and proceed to discuss the theoretical foundations of environmental justice, its distributional, recognitional and procedural dimensions, and the notion of capabilities in environmental justice.

2.4.1 Environmental justice and green criminology

A green criminological perspective posits that addressing environmental harm entails focusing on justice (White, 2008). White (2008) proclaims environmental justice as one of the approaches of green criminology, along with ecological and species justice. The three approaches are helpful in distinguishing between who or what is recognised as a victim of harm – human beings, the natural environment, and/or non-human species, respectively. White (2008, p. 15) defines environmental justice as ‘the distribution of environments among peoples in terms of access to and use of specific natural resources in defined geographical areas, and the impacts of particular social practices and

environmental hazards on specific populations'. Lynch and Barrett (2017) observe that the worlds of green criminology and environmental justice converge when injustices against the environment or non-human animals fuel injustices against humans. Westra (2004, p. 97) states that 'the defence of human rights, particularly the right to one's biological integrity and unimpaired normal function, goes hand in hand with the defence of life's habitat'. Ultimately, concerns within green criminology echo environmental justice concerns: the blend of environmental issues and destructive tendencies of global capitalism in their relation to class, gender, and race inequalities.

However, both Zilney (2006) and Lynch et al (2015) conclude that criminologists have not paid sufficient attention to environmental justice and the concept demands a more thorough integration into criminological literature. Zilney outlines the themes appearing in environmental justice research from both academics and scholars from 1970 until 2003, concluding that criminology is woefully underrepresented in the environmental justice literature. Orthodox criminology created a narrow conception of justice based on criminal law alone, gradually incorporating social justice and, finally in the 1990s, environmental justice issues (Lynch et al, 2015), but the latter remains niche. Yet, green criminology as a subdiscipline can benefit from focusing on environmental justice issues, which is further reflected in the theoretical work. Brisman (2007) argues in favour of forming multidisciplinary collaborations to expand the boundaries of environmental justice research. Lynch et al (2015) come to the same conclusion, advising to direct further criminological attention to the topics of capitalism and strategies to remedy environmental injustice. Considering the need to advance environmental justice research in green criminology, the next subsection reflects on the theoretical foundations of environmental justice.

2.4.2 Theoretical foundations

The notion of justice arises when people want more than they can have (Wenz, 1988). It is in a direct relationship with the notion of scarcity (real or perceived) and is categorised by the power over the distribution of what is scarce. Liu (2000) outlines three major perspectives of justice. Libertarianism pronounces the market to be the arbiter of justice and seeks to champion liberty and individual rights. Utilitarianism (or a teleological perspective) is built around the consequences of action; the objective is to maximise beneficial outcomes for society as a whole. Utilitarians suggest that victims of environmental risks might benefit from environmental injustices (through employment and/or lower housing costs). Moreover, they claim that 'the mere correlation of hazardous sites and the presence of poor or minority communities does not prove that racism or injustice actually caused the siting there' (Shrader-Frechette, 2002, p. 15). Contractarianism (or a deontological perspective) focuses on the rightness of an action itself; justice is seen as beneficial to the poor and the vulnerable, with suffering minimisation being its ultimate goal.

The contractarian theory of justice was developed by one of the most influential liberal political philosophers of the twentieth century John Rawls. In his work *A Theory of Justice* Rawls offers a philosophical basis for liberal egalitarianism. Rawls refers to justice as 'a standard whereby

the distributive aspects of the basic structure of society are to be assessed' (Rawls, 1971, p. 9). He sees fairness as a fundamental idea for justice. Rawls also emphasises that, to achieve justice, individual choices should be made 'behind the veil of ignorance'. An individual decision-maker would not be aware of their position in society, which gives an incentive to create a just order; the decision-maker would not want to make decisions benefitting a certain group, because the decision-maker could hypothetically be part of that group. Rawls formulates two principles of justice based on that. The first principle dictates that 'each person is to have an equal right to the most extensive basic liberty compatible with a similar liberty for others' (Rawls, 1971, p. 302). The second is the difference principle:

'social and economic inequalities [of primary goods such as liberty and opportunity, income and wealth] are to be arranged so that they are both (a) to the greatest benefit of the least advantaged... (b) attached to offices and positions open to all under conditions of fair equality of opportunity' (Rawls, 1971, p. 302).

However, it is suggested that some of the assumptions within Rawls's theory made it amenable to the transformations of the neoliberal era (Forrester, 2019). Additionally, Rawls' work has been criticised for its narrow focus on justice exclusively in distributional terms, i.e. the terms concerning the distribution of benefits and burdens in society (Fraser, 2012). These concerns also resonate with environmental justice scholarship.

As I stated in Chapter 1, the concept of environmental justice originated in the 1980s in the United States, intersecting anti-toxics³ and civil rights movements (Temper and Del Bene, 2016). Empirical environmental justice research has focused on the topic of unequal access to environmental quality (Pellow and Brulle, 2005; Wolford, 2008; Kelly-Reif and Wing, 2016). Environmental justice activism initially focused on the environmental hazards and pollution affecting minority groups in the US (Bullard 2005; Bullard and Wright 2009; Taylor 2014), thus echoing Young's (1990) statement that the notion of justice has its roots in domination and oppression. However, environmental justice activism grew to encompass the variety of unsustainable practices, including resource depletion, energy use, consumption patterns, food systems, and industrialisation (Pellow and Brulle, 2005; Holifield et al, 2018). Environmental justice as a movement has experienced multiple successes (Pellow and Brulle, 2005); it succeeded at policy making, prevention of environmental and social harms and grew as both a movement and institutionally. Yet, the convergence of the environment and justice in academia is fairly recent (Schlosberg, 2001).

A great portion of theoretical environmental justice work produced since the 1980s has focused on environmental ethics and environmental values. Bullard (1990, 1993) suggested in the early 1990s that environmental justice research embodies cultural values and norms, behaviours, regulations, and public policies that support sustainable communities and safe, nurturing, and

³The Anti-toxics movement sought to understand and ultimately challenge the system of toxic waste production in the US. Its origins can be traced back to Rachel Carson's work *Silent Spring* in 1962 that focused on the use of chemical pesticides.

productive environments. Building on that, Dobson (1998), Barry (1999) and Low and Gleeson (1998) have focused on the distribution of goods and bads in society and applied it to the environment. For instance, Dobson's (1998) thesis is that the position one gets in the distribution of social justice would determine their environment. In a similar vein, Low and Gleeson (1998, p. 156) do not venture beyond distributional justice but made an important contribution of formulating two key principles of environmental justice: 'every natural entity is entitled to enjoy the fullness of its own form of life' and 'all life forms are mutually dependent and dependent on non-life forms'.

In green criminology, research on environmental justice has also dedicated substantial attention to the uneven distribution of environmental harms (Lynch and Barrett 2017; Lynch and Stretesky 2012; Stretesky 2003; Stretesky and Lynch 1998, 2002; White 2003, 2008). Stretesky and Lynch (1998) conducted a pioneering investigation of corporate pollution adversely impacting minority communities and thus framed it as an instance of corporate environmental violence. Later, they discovered the proximity of schools with higher proportions of African Americans and Hispanics to environmental hazards in Florida, thus continuing to document evidence of environmental injustices in the US (Lynch and Stretesky, 2002). Stretesky (2003) researched air lead levels and disproportional exposure of African American communities to air lead pollution across the US. White (2003) analysed the intersection of environmental justice and green criminology beyond the US, turning to fresh water access in South Africa and other African countries. Another topic that narrowed the gap between green criminology and environmental justice was indigeneity; Lynch and Stretesky (2012) charted the instances of social and environmental injustices inflicted on Native American communities. Some studies also incorporated environmental justice concerns of class, race, and ethnicity in relation to exposure to pollution and punishment of environmental offenders (Lynch and Barrett, 2017), investigating how social structures influence the location of environmental crime and determine response to such crime. Therefore, discussions of environmental justice in green criminology have revolved mostly around distributional justice.

However, as I mentioned above, the focus on distributional justice has been subject to criticism. Walker and Bulkeley (2006) suggest that uneven distribution of risks could be addressed by evening out the sharing of burdens without a fundamental overhaul of the structures behind problems in question. They also question the very essence of even distribution, pointing out that the environment is uniquely distributed into particular places and cannot be experienced equally. Therefore, uneven distribution of environmental goods and bads might not be classified as unjust. It is, therefore 'the 'fairness' of the processes through which the distribution has occurred and the possibilities which individuals and communities have to avoid or ameliorate risk, or to access environmental resources, which are important' (Walker and Bulkeley, 2006, p. 656). Indeed, different aspects of justice are linked (Schlosberg 2007). Most environmental justice advocates have become concerned with social, cultural, and political processes of environmental decision-making (Chakraborty 2017; Holifield, Walker, and Chakraborty 2018), thus echoing the call of prominent environmental justice scholars (Young, 1990; Bullard, 1993; Pulido, 1996; Fraser, 1998; Hunold and Young, 1998; Hampton, 1999) to address not only distribution, but the causes of maldistribution of

environmental benefits and burdens. The focus on the latter allows examination of social, cultural, and political processes, which is reflected in Schlosberg's (2007) multifaceted conception of justice. Schlosberg (2007) theorises environmental justice as a synthesis of distribution, individual and community recognition, participation, and delivery of basic capabilities.

The concern regarding the limitations of the distributional element in environmental justice has also resonated with the green criminological scholarship and invited further engagement with the concept of procedural environmental justice. Heydon (2018) states that environmental victimisation is linked to procedural injustice in his analysis of the consultation process with indigenous people on proposed oil sands projects in Canada. He identifies marginalisation of indigenous people at key stages of the consultation process, accompanied by a systemic misrecognition of their rights. Heydon acknowledges that some green criminologists have established the links between the institutional contexts underpinning decision-making and uneven distributions of harm (Goyes and South, 2016; Goyes and South, 2017), but his analysis develops the concept of procedural environmental justice within green criminology theoretically. This endeavour continues in his later paper (Heydon, 2019, p. 14) on the opposition to the felling of Sheffield's street trees that illustrates a broader applicability of the concept of procedural environmental justice to 'situations involving citizens without legally recognised participation rights and to deliberation procedures that are not rigidly defined from the offset'. He demonstrates how citizen input was not taken into consideration and that citizens were not meaningfully integrated in the decision-making process, and highlights the role of the neoliberal context, which hinders inclusive and just process of environmental decision-making. Finally, Maxwell and Maxwell (2020) also use the lens of procedural justice on the micro level to understand citizens' responses to an environmental regulatory body in the Philippines.

As I suggested in Chapter 1, it is evident that the concept of procedural environmental justice in green criminology needs to be developed further. Links between distributional environmental injustice and discrimination pose a question of whether the groups that do not experience discrimination and are not considered minority can experience injustice. Williams (1996) suggests that environmental justice scholars may create dichotomies of powerless victims defined in terms of their group identities and powerful offenders, thus ignoring other victims of environmental injustice that fall outside the gender, class, and race group identities. I continue the line of argument developed by Bustos et al (2017) and partly by Heydon (2019), who suggest that explorations of procedural environmental justice allow analyses to go beyond discriminated minority groups. If the core of environmental injustice is disenfranchisement, then those who do not experience discrimination and are not considered minority can also face environmental injustice; injustice occurs if they have limited influence within the decision-making process over the changes in the local environment that are likely to impact their lives. Therefore, formal mechanisms of environmental decision-making need to be examined to determine whether they can be classified as just.

Having considered the theoretical foundations of environmental justice and identified the need to develop environmental justice research in green criminology, with a particular focus on the procedural dimension, I proceed to theorise environmental justice in my research, which will enable

me to analyse the processes of environmental decision-making in relation to farming intensification in Northern Ireland. The theorisation is inspired by Schlosberg's (2007) conceptualisation of environmental justice, yet with a minor difference. Rather than considering participation alone, I look at the procedure of decision-making in more detail. This part of my integrative theoretical framework rests on the pillars of recognition, procedure, and capabilities.

2.4.2.1 Recognition

Recognition can be seen as a relationship (Young 1990), which is embedded in social relations both culturally and politically (Walker 2012b). It refers to dignity accorded to all despite the differences in ways of living that might exist (Sikor and Newell 2014). For environmental justice scholarship, recognition entails the diversity of participants from affected communities and recognition of their experiences (Schlosberg 2004). Fraser (2001) suggests that, in line with human subjective freedoms, individuals and groups should be able to define what qualifies as a good life and pursue it, without impeding on others' individual liberties. Such definitions of a good life, as well as other heterogeneous positions and perspectives present in society (Hunold and Young, 1998) should be recognised in decision-making. Moreover, Fraser (1998) suggests that within the recognition paradigm differences should not only be recognised but celebrated.

Recognitional injustice might take forms of non-recognition (where individuals are rendered invisible as a result of dominant cultural norms), misrecognition (where individuals are seen as lacking value and as inferior) and disrespect (where individuals are maligned or disparaged in everyday interactions or representations) (Fraser, 1997). Recognitional injustice creates a scenario in which individuals are not treated equally (Heydon 2018). It might arise when social institutions operate according to cultural norms that do not allow for equal participation (Fraser, 2001). Fraser (1995) also suggests that cultural misrecognition is the root of injustice, and any economic injustice ultimately stems from the cultural root. However, Young (1997) disagrees, instead proposing that cultural injustices inevitably have economic sources and consequences, such as economic exploitation and deprivation. Thus, cultural injustices are interrelated with the economic ones (Fraser, 2000), with political economy being embedded in culture and culture bearing signs of the economic realities (Young, 1997).

The question of what can be done to achieve recognition also arises. The standards to aspire to in decision-making are inclusivity, respectfulness and equality (Heydon, 2018). Fraser (2000) suggests making a particular consideration for the affected groups to make sure they are not being prevented from participating as a peer in social life (Fraser, 2000) and operating in the realm of participatory parity. Participatory parity requires two conditions. The first is the distribution of material resources to ensure participants' independence and voice to avoid material inequality that forecloses parity of participation (Fraser, 2000). The second is parity of participation in the institutional realm, where respect for all participants and equal opportunity for participation are guaranteed (Fraser, 2000). Additionally, Bostrom (2012) posits that recognition is also achieved

when access during different stages of a decision-making process is granted to all individuals and well-designed communication structures to share information are set in place. However, Velicu and Kaika (2017) proclaim that mere recognition within the institutional imaginary without understanding of identity construction risks not tackling the core of the misrecognition problem, whereas mere redistribution of environmental bads reproduces the status quo without subverting it (Blechman et al, 2005). Velicu and Kaika (2017, p. 311) suggest discussing recognition practices as issues of visibility, in terms of becoming ‘equal as a political subject who can reason, pass judgement, and decide for oneself what kind of life one wants’. The issue of visibility is particularly important when it comes to recognition and inclusion of ‘non-elite’ voices in the decision-making processes (Walker, 2012b). He suggests that community-based research should be recognised as having an equal value to expert research. Gauna (1998) concurs, asserting that formal expertise excludes the knowledge that those affected by environmental harm have and consequently reinforces the power disparity between those responsible for harm and those suffering its consequences. Therefore, environmental justice as recognition also demands that non-expert voices should be given consideration and ability to affect the decisions made.

Discussions of recognition focus predominantly on the recognition of individuals or communities. However, some authors also consider that individuals’ and communities’ values, rationales, and lifestyles as well as their ideas can be unrecognised (Bustos et al, 2017), leaving individuals and communities disempowered. The authors suggest that participatory arrangements are not designed to recognise what Schlosberg (2004, p. 524) identifies as ‘diverse cultures, identities, economies, and ways of knowing’, and such lack of recognition hampers meaningful participation. Bustos et al (2017, p. 297) suggest that the reason behind this instance of misrecognition is the exclusion of the views situated outside ‘the reigning ‘consensuses’ (in economic, environmental and development terms)’ in formally participatory processes of environmental decision-making. This idea resonates with the above-discussed concept of the hegemony of capitalism. The presence of formally participatory processes may be interpreted as an example of the ‘normal’ exercise of hegemonic neoliberal capitalism (Gramsci, 1971) where the decisions affecting the environment appear to be based on the consent of the majority, while in reality favour the interests of those benefitting from these decisions. In other words, the political economy of neoliberal capitalism has reconfigured political processes and capitalism is regarded as an unquestionable foundation of social and economic order. Social actors, thus, operate within the boundaries of the consensus around a growth- and profit-driven neoliberal capitalist system and those challenging it are placed outside the consensus and dismissed (Swyngedouw, 2007). This trend has been described as post-politics (Ranciere, 1999; Zizek 1999; Mouffe, 2005; Swyngedouw, 2007, 2009) or anti-politics (Fawcett et al, 2017). These authors also point out that the hegemony of capitalism is constituted through power relations that are safeguarded through eliminating the conflict between the powerful and the powerless in political processes (Mouffe, 2005). Consensus-based decision-making is linked to the phenomenon of depoliticisation. This idea is fitting with the context of my research; as I stated in Chapter 1, the process of environmental decision-making in relation to new intensive pig farms is

inherently political. Depoliticisation can be defined as the set of processes that remove or replace the potential for choice and deliberation around a particular political issue (Hay, 2007). The space of disagreement gets narrower to include ‘different opinions on anything imaginable (as long as it does not question fundamentally the existing state of the neo-liberal political-economic configuration) in arrangements of impotent participation and consensual ‘good’ techno-managerial governance’ (Swyngedouw, 2009, p. 610). In addition to being circumscribed, political choices are also often deemed too complex to comprehend, necessitating the involvement of experts to legitimise particular decisions (Swyngedouw, 2011). The problematic nature of this involvement in light of recognitional justice has been outlined above. Additionally, depoliticisation in this case occurs as members of the public become disillusioned with political participation because of their conviction that certain issues can be only understood by experts (Young, 1990).

Thus, environmental justice as recognition in my research implies inclusion and respect of participants in decision-making, their experiences as well as their ideas, values, rationales, and lifestyles. Moreover, environmental justice as recognition also implies that non-expert voices should be given consideration and the ability to affect the decisions made.

2.4.2.2 Procedure

The analysis of procedure of environmental decision-making in my thesis is underpinned by the Aarhus convention on Access to Information, Public Participation and Access to Justice in Environmental Matters (UNECE, 1998). The Aarhus convention is concerned with the decisions on the activities that are likely to have a ‘significant effect’ on the environment. The convention was signed in 1998 by the European Community, came into force in 2001, and rests on the three pillars of principles outlined below.

2.4.2.2.1 Access to information

The first pillar is the access to environmental information. European Commission (n.d.) defines environmental information as ‘information on the state of the environment, but also on policies or measures taken, or on the state of human health and safety where this can be affected by the state of the environment’. Such information can include ‘biological diversity and its components, including genetically modified organisms, energy, noise and radiation’ in its definition (Lee and Abbot, 2003, p. 89). According to Lee and Abbot (2003), members of the public can obtain this information within one month of the request and without giving a reason for the request - from the perspective of the public authority in discharging their obligations, it is also known as the ‘passive’ right of access to environmental information (Whittaker et al, 2019). The first pillar of the Aarhus convention also obliges public authorities to disseminate environmental information in their possession (European Commission, n.d.) – which is known as the ‘active’ right of access to environmental information (Whittaker et al, 2019). The convention also includes ‘cost-benefit analysis and other economic analyses and assumptions used in environmental decision-making’ in its definition of information to

which access should be provided to recognise the importance of economic evaluation in environmental decision-making (Lee and Abbot, 2003, p. 89).

2.4.2.2.2 Public Participation

The second pillar secures the right to participate in environmental decision-making. This right focuses on ensuring early participation of the public affected and environmental non-governmental organisations. Members of the public should be informed (either by public notice or individually) in a timely manner about a planning application in their area (Lee and Abbot, 2003). Such information can include ‘the proposed activity and the application on which a decision will be taken; the nature of possible decisions or the draft decision; the public authority responsible for making the decision; the envisaged procedure including opportunities for public participation; the fact that the activity is subject to a national or transboundary environmental impact assessment procedure’ (Lee and Abbot, 2003, p. 97). Members of the public should also be provided with all documentation relevant to the decision-making process and suitable arrangements should be made to allow them to comment on the proposed developments. Finally, the outcome of public participation should be considered, and information should be provided on the final decision (European Commission, n.d.).

Beyond the Aarhus convention, the idea of participation in environmental decision-making originates and is developed in the literature on public participation and engagement. It is often traced to Arnstein’s (1969) work that developed a typology of eight levels of participation extending from non-participation (i.e. manipulation and therapy), to tokenism (i.e. informing consultation, placation), to citizen power (i.e. partnership, delegated power, citizen control). She argued that oftentimes public participation is reduced to an empty ritual rather than a community empowerment exercise. More recent engagement with Arnstein’s work has extended her discussion of public participation to discuss a continuum from technical to participatory decision-making (Deacon and Baxter, 2013), with the latter focusing on the engagement with the populations directly affected by the changes in the local environment. Yet, Arnstein’s model of public participation has also been criticised for its focus on the outcomes, rather than processes of public engagement (Tritter and McCallum, 2006).

In the environmental justice literature, participation is seen as a crucial element of a just procedure and refers to the manner in which the different experiences of individuals and communities are validated (Schlosberg, 2004). Participation implies wider engagement boosted by democratic decision-making (White, 2014), where individuals and communities have the ability to influence the outcome of decision-making (O’Faircheallaigh, 2010). The rationale for public participation and its role in achieving environmental justice is multifaceted. Public participation allows access to local knowledge, which broadens the range of solutions (Stewart and Sinclair, 2007). Participatory decision-making is also integral to the notion of environmental democracy (Gellers and Jeffords, 2018) and is a condition for social justice (Young, 1990). In theory, it should contribute to individual and community empowerment (Stewart and Sinclair, 2007). Empowered participation for Reed

(2008) takes two forms: ensuring that participants have the power to really influence the decision and ensuring that participants have the technical capability to engage effectively with the decision. Therefore, scrutinising the idea of public participation oftentimes means engaging with the question of power. Uneven environmental outcomes result from political economic relations of capitalism, within which inequalities of power in environmental decision-making persist (Walker, 2012; Brisman, 2013; Holifield et al, 2018), as I stated in Chapter 1. Some authors suggest that public participation tends to reflect the distribution of social power rather than change the status quo (Devlin and Yap, 2008). For instance, Brisman (2013) suggests that restrictions of participation contribute to cultures of silence that extinguish willingness and compromise the ability to contest environmental harm and environmental injustice, while Heydon (2019) concludes that unequal distribution of environmental harms may result from unequal participation in decision-making processes, which in turn might stem from the lack of recognition. Others are more optimistic, claiming that public participation challenges the inequitable distribution of social goods and burdens, as well as the culture of misrecognition (Schlosberg, 2004). Yet, in the context of environmental justice, process goals (i.e. ensuring that the process of participation is conducted appropriately) are as important as outcome goals (i.e. re-distribution of environmental burdens and benefits and improved environmental quality) (Gellers and Jeffords, 2018). Therefore, discussions on the nature of participation need to be considered to respond to the need identified by O'Faircheallaigh (2010) to examine how public participation is practised and what impact it has.

Such an examination invites a more thorough discussion of the dynamics of power in decision-making. To continue the theorisation of power developed in the previous section and apply it to the context of public participation in environmental decision-making, Lukes' (1974) three-dimensional conceptualisation of power deserves further attention. Using this conceptualisation, Forester (1982) considers how power is exercised in decision-making. He states that one's superior bargaining resources allow them to shape the flows of information available to the public in decision-making. Moreover, those in power can also control participation through the setting of agendas: 'the influence over which citizens find out what and when, about which projects, which options, and about what they might be able to do as a result' (Forester, 1982). In a similar vein, Tauxe (1995) suggests that institutional practices of planning will always present a structural obstacle for individual and community empowerment, even when the impediments for democratic participation are removed, since the agendas for planning are set on the institutional level. Finally, power in decision-making is also exercised through shaping of the interests of those participating through the above described ideological hegemony, which is the most insidious and intangible exercise of power (Gramsci, 1971; Lukes, 1974; Bourdieu, 1984).

Later academic engagement with power and participation also deepens one's understanding of the relationship between the public and decision-making structures. O'Faircheallaigh (2010) develops a classification of how the public can participate: public input can be used for decisions taken separately from the public, the public can participate in decision-making directly, and the public can attempt to change the distribution of power to restructure decision-making. Similarly,

Bishop and Davis (2002) identify six different forms of public participation, similar to Arnstein's ladder of public participation, ranging from 'Participation as Consultation' to 'Participation as Control'. Their category 'Participation as Standing' assumes that members of the public can use administrative law to assert their role in decision-making and, in some cases, can overturn government decisions. Similarly, Walker et al (2006, p. 194) also consider the notion of standing, but formulate it rather differently: it refers to 'demonstration of and assurance that stakeholder contributions are valued, respected, and honoured'. Standing is conceptualised along with access (having access to a process that offers an opportunity to be heard) and influence (meaningful participation that can affect outcomes), all of which, being interdependent, constitute 'the trinity of voice'. They argue that 'the trinity of voice' can be provided through collaboration, which is different from the conventional methods of public participation (such as public hearing and commenting on applications). Instead, collaboration is

'less competitive, (2) it features mutual learning and fact-finding; (3) it allows underlying value differences to be explored, (4) it resembles principled negotiation, focusing on interests rather than positions, (5) it allocates the responsibility for implementation across many parties, (6) its conclusions are generated by participants through an interactive, iterative, and reflexive process, (7) it is often an ongoing process, and (8) it has the potential to build individual and community capacity in such areas as conflict management, leadership, decision-making, and communication' (Walker et al 2006, p. 200).

The above invites the discussion around the conditions for enhanced public participation. Seneca (2004) stresses the importance of preserving and enhancing trust in achievement of better environmental decisions, and asserts that the practices of access, standing and influence build and maintain such trust. Other authors expand on this, outlining the conditions such as empowerment, equity, and learning (Reed, 2008), and compromise, fairness, and effective communication (Hartley and Wood, 2005). Stewart and Sinclair (2007, p. 166) provide a comprehensive summary of the components for meaningful public participation:



Figure 2.2. Essential elements of meaningful public participation. Source: Stewart and Sinclair (2007)

It is evident that that idea of public participation is of significant importance for a just procedure. Yet, the idea of public participation has also been critiqued. Mansbridge (2003) questions the effectiveness of participatory democracy, outlining its paradox – while participation can increase one's capacity to create successful democracy, those without the experience of participation may not have the capacity to do so. As Mansbridge (2003) puts it, what they need is what, because of their need, they cannot get. Echoing these concerns, some authors question whether public participation within current institutional constraints is effective at all. While many of the regulatory programmes have institutionalised mechanisms for public participation, Weinberg and Gould (1993) suggest that few individuals actively participate because such mechanisms are not adequate, and the majority of the public remains unmotivated; this statement invokes the idea of depoliticisation explored in the previous section. Previously discussed prioritisation of expert rather than public opinion also informs another public participation critique. Some authors (Rowe and Frewer, 2000; Lee and Abbot, 2003) suggest that environmental decisions should be made by experts rather than members of the public. This argument evokes the ages-old tension between technocracy and democracy; in simple terms, the former refers to regulation by experts (driven by logic, rationality, and evidence-based reasoning)

and the latter to democratic control (driven by political equality and public control) (Gilley, 2016). Admittedly, there exists a danger in creating a dichotomy between the two (Kinsella, 2004; Machin and Smith, 2014). While the complexity, risks, and uncertainties of policy-making have increased calling for technocratic policy criteria, promotion of participatory governance practices have also strengthened arguments for ‘deep democratisation’ (Gilley, 2016). Gilley (2016, p. 19) suggests that ‘healthy democracy requires a healthy technocracy and vice versa’. Yet, a number of authors suggest that the appeal to ‘the experts’ may be prevailing over that to ‘the people’ and evidence the existence of ‘democratic forms but technocratic norms’ (Sam and Scherer, 2006; Edelenbos et al, 2010; Gaus et al, 2020). Consequently, democratic institutions still exist but political decision-making is moved to the realm of unaccountable corporate power, thus strengthening the inevitability of neoliberal capitalism (Bluhdorn, 2014). Moreover, with rationality being at its core, technocratic rule considers experts as bearers of reason and places the latter in opposition to emotion (Shammas, 2015). Being an antipode of reason, emotion is seen as something to be managed or suppressed, a source of instability (Mouffe, 2005). Yet, a number of authors suggest that emotion cannot be eradicated from politics; instead, it should be integrated into politics to challenge hegemonic power relations and promote debate about the alternatives to the consensus around neoliberal capitalism (Laclau and Mouffe, 2001; Mouffe, 2005).

2.4.2.2.3 Access to justice

Finally, the third pillar of the Aarhus convention that underpins the examination of the environmental decision-making procedure in my thesis is access to justice. It safeguards ‘the right <...> to challenge public decisions that have been made without respecting the two aforementioned rights or environmental law in general’ (European Commission, n.d.). Access to justice can be provided in three contexts: to review procedures related to information requests; to review procedures related to specific decisions that are subject to public participation requirements; and to challenge violations of environmental law (UNECE, 1998). The third pillar is most connected to the judicial domain and, aside from the Aarhus convention, is represented by the Human Rights Act 1998, which can be interpreted as affording rights to individuals against the developments that can impact one’s health (Ellis, 2000). Lee and Abbot (2003) define the limitations pertaining to the UK architecture of access to justice. While a ‘first party’ (i.e. applicant or developer) right of appeal exists, a ‘third-party’ (i.e. objector) rights of appeal are not permitted, leaving objectors with the only option of judicial review, where action is limited. The absence of the third-party right of appeal will be further discussed in the next chapter in the Northern Irish context and its effect will be explored in Chapter 6.

To sum up, the analysis of procedure of environmental decision-making in my thesis will be conducted through the consideration of access to information, public participation, and access to justice. It is also important to acknowledge that the three pillars that underpin the examination of the environmental decision-making procedure in my thesis exist in a broader context. Ellis (2002) posits that having rights in the process of environmental decision-making does not automatically result in

delivering justice, both in social and environmental terms. Instead, the exercise of such rights needs to be accompanied by a strategy that takes broader social, economic, and political issues into account.

2.4.2.3 Capabilities

As illustrated above, Schlosberg (2007) considers the notion of capabilities in his theorisation of environmental justice, which is also developed in my thesis. The capabilities approach is reported to be linked to the criticism of neoliberalism (Schlosberg and Carruthers, 2010), which supports the radical inclinations of environmental justice as a movement. The capabilities approach has been developed by Sen (1985, 1999) and Nussbaum (1997, 2001, 2006). The broader notion of capabilities suggests that ‘each thing should be able to flourish as the thing it is’ (White 2014, p. 90) and refers to a range of conditions that allow to translate basic goods into the functioning of human life. Sen (1985) refers to functionings as doings (such as eating or reading) and beings (such as being well-nourished or free from disease), while capabilities for him are the qualities that enable to have a fully functioning life. For example, if reading is a functioning, being educated is the capability necessary for that functioning, and a lack of education is unjust (Sen, 1985). Sen (1999) outlines such capabilities as political freedoms, economic facilities, transparency guarantees, etc. Therefore, the focus is not merely on the distribution of benefits and burdens but on how such distributions are converted into the flourishing of individuals and communities. The measure of justice, thus, depends on whether the existing capabilities and the ability to exercise them allow for a fully functioning life (Nussbaum 1997; Sen 1999; Schlosberg 2007).

Nussbaum (2003, p. 35) supports Sen’s idea but claims that his formulation only gives ‘a general sense of what societies ought to be striving to achieve’, yet without formulating ‘which capabilities a society ought most centrally to pursue, <...> that guidance remains but an outline’. As a result, she formulates (2001, 2003, 2006) a basic ‘capability set’ necessary for functioning, which includes life, bodily health, bodily integrity, senses, imagination and thought, emotions, practical reason, affiliation, other species, play, and control over one’s environment. The capabilities of bodily health, play, affiliation, and other species are integral for my research. The capability of bodily health implies ‘being able to have good health, including reproductive health; to be adequately nourished; to have adequate shelter’; the capability of play implies ‘being able to laugh, to play, to enjoy recreational activities’; the capability of affiliation implies ‘being able to live with and toward others, to recognize and show concern for other human beings, to engage in various forms of social interaction, to be able to imagine the situation of another’; the capability of other species implies ‘being able to live with concern for and in relation to animals, plants, and the world of nature’ (Nussbaum, 2003, p. 41-42).

Yet, the capabilities approach as developed initially by Sen and Nussbaum is limited in its consideration of the natural environment’s value to human capabilities and does not address inequities in the distribution of environmental benefits and burdens fully (Holland, 2008). Sen (1999) only considers the relationship between capabilities and ecological sustainability through the

discussion of justice for future generations. As I showed above, Nussbaum (2001) considers animals, plants, and particular natural places as instrumentally valuable to one of the human capabilities but does not theorise further. To address this, it is suggested that ‘the capabilities approach, as a theory of justice, offers a level of breadth and specificity that is useful for identifying the environmental dimension of social justice and what justice therefore requires with respect to the distribution of environmental benefits and burdens’ (Holland, 2008, p. 320). Holland (2008) regards sustainable ecological capacity as a meta-capability necessary for all the capabilities. For instance, she suggests that Nussbaum’s (2011, p. 33) capability of emotions (‘being able to have attachments to things and people outside ourselves’) can involve the protection of particular ecosystems to create a ‘sense of place’. Overall, having sustainable ecological capacity as a meta-capability ‘involves being able to live one’s life in the context of ecological conditions that can provide environmental resources and services that enable the current generation’s range of capabilities; to have these conditions now and in the future’ (Holland, 2008, p. 324). Later, Schlosberg (2014, p. 78) also develops the idea of the environment being instrumental for one’s functioning, stating that environmental circumstances and the ability to flourish are intertwined and exposure to environmental harm negatively affects ‘a range of rights and capabilities necessary for our functioning, and so it creates injustice’. Therefore, considering that all of the central human capabilities are dependent on the natural environment, my research echoes Holland (2008) and Schlosberg (2014) in their regard of sustainable ecological capacity as a necessary meta-capability.

Additionally, as stated above, control over one’s environment is also a capability necessary for human flourishing and should be delivered by the governments through safeguarding the right of political participation that should be premised on the notion of respect (Nussbaum 1997). Nussbaum (2003) differentiates between political and material control, and it is the former that is integral to my research. Political control over one’s environment implies ‘being able to participate effectively in political choices that govern one’s life; having the right of political participation, protections of free speech and association’ (Nussbaum, 2003, p. 42). Injustice in relation to the capabilities function of procedural justice occurs when this capability is limited (Schlosberg 2007). The notion of capabilities, thus, links distributional and procedural components of environmental justice, while considering a broader set of conditions necessary for a full human functioning (Schlosberg 2007).

Consideration of capabilities supports the idea of justice pluralism (Edwards et al, 2016) as it implies the emergence of a multiplicity of voices, each striving for their own version of environmental justice. As a result, a conundrum of universality of justice (Walker and Bulkeley, 2006) appears. Debbane and Keil (2004) proclaim that universality clashes with the diversity of notions of environmental justice and environmental justice movements. Conversely, Low and Gleeson (1998) state that diversity erodes the meaning of environmental justice. Nevertheless, Schlosberg (2004), using Harvey’s (1996) theorisations, suggests that a unified movement for environmental justice can be forged by challenging the realities of the global political project from different localities in different ways. One should bear in mind that a call for unity does not imply a

call for uniformity. In Schlosberg's (2004, p. 534) words, 'an insistence on uniformity will limit the diversity of stories of injustice, the multiple forms it takes and the variety of solutions it calls for'.

2.4.3 Summary

When industrial needs are prioritised above cultural and ecological needs, environmental injustice occurs (Kilbert, 2001). This statement demonstrates the relevance of the environmental justice paradigm when applied to the process of farming intensification in Northern Ireland and enables my research to follow Williams' (2005) call to examine every aspect of the food system through the environmental justice lens. Before concluding this section, it is worth emphasising the benefits of including the environmental justice paradigm into my integrative theoretical framework. It has been argued that the environmental justice paradigm constitutes a political programme, 'a vocabulary of political opportunity' (Agyeman and Evans, 2004, p. 155), concerned with the underlying causes and dynamics of inequities at different scales. It embraces the plurality perspective, in which one should not be tempted to resort to causal oversimplifications about the source of injustice (Walker, 2012). Furthermore, Harrison (2011) suggests that the environmental justice paradigm adopts a role of an avid critic of the mainstream environmental movement. She concurs with Young's position that in order to address the existing injustices, one must study them in their unique contexts, dissect institutional oppressions that underlie them, and challenge the oppressions to restructure the existing power relations. Additionally, the environmental justice paradigm seeks to re-orient one's relationship with the natural environment (Pellow, 2016). It sees the environment 'beyond the 'place where we live, work and play' to encompass a multidimensional materiality based on a consciousness of the innate inter-connection of existence on Earth and concomitant power relations' (Temper and Del Bene, 2016, p. 42).

This section unpacked the environmental justice paradigm and explained its role in my integrative theoretical framework. I have considered distributional environmental justice, justice as recognition, procedural environmental justice, and the role of capabilities in environmental justice. The environmental justice paradigm allows exploration of the idea that the populations who do not experience discrimination and are not considered minority can face environmental injustice, thus innovating the existing green criminological research. The environmental justice paradigm enables exploring the distribution of environmental harms from the ongoing pig farming intensification and their effect on human capabilities in Northern Ireland, thus developing green criminological research that connects intensive farming and environmental justice. Environmental justice paradigm is also the foundation for understanding the effectiveness of environmental decision-making process underpinned by the planning framework as a mechanism of control of farming intensification. The environmental justice paradigm provides explanations for how harm is catalysed in planning frameworks on the micro level through examining individual and community recognition, environmental decision-making procedure, and political capabilities in relation to farming intensification. As a result, the chosen conceptual paradigm subjects the under-researched procedural

dimension of environmental justice in green criminology to scrutiny and expands on the insufficiently discussed concept of capabilities in it.

2.5 Conclusion

The integrative theoretical framework discussed in this chapter provides a direction for data collection to answer the main question posed in my research: *how does the process of pig farming intensification in Northern Ireland lead to environmental injustice?* Each individual dimension of the proposed integrative theoretical framework contributes to answering the main research question.

Green criminology provides an overarching frame for this research. Adherence to the socio-legal approach enables scrutiny of the ordinary environmental and social harm embedded in intensive farming from a critical perspective. Furthermore, crimes of the powerful are of growing importance for twenty-first century criminologists and more understanding of such crimes is needed (Friedrichs and Rothe, 2014). The inclusion of the state-corporate scholarship into the integrative theoretical framework encourages the return to the political economic roots of green criminology (Lynch and Stretesky, 2014). My study endeavours to advance state-corporate crime research through the ‘greening’ of criminology and consequently re-examine the integrated model of state-corporate crime through considerations of environmental harm. The framework enables a close examination of the motivation, opportunity structures and controls that underpin the process of farming intensification on the three levels of inquiry – international, national, and local. It also allows to integrate the concept of strain to demonstrate how the disjuncture between culturally, politically, and economically appropriate goals and means to achieve them may lead to harm. The state-corporate framework also illuminates multi-level power dynamics behind the normalised, yet harmful activity of farming intensification and reveals the complexity of symbiotic relationships between state and corporate farming industry actors that undergird this process, within the realm of the GfG strategy and beyond. The integrative theoretical framework presented here also considers cultural power – the production of consciousness – that normalises environmental and social harm. Overall, it helps explaining how the ideological hegemony of neoliberal capitalism in meat production is secured and the alternatives to it are ruled out.

Finally, the integrative theoretical framework includes an environmental justice perspective. Its inclusion responds to the calls of advancement of the environmental justice perspective within green criminology. In my research, the environmental justice perspective engages with the analysis of the distribution of environmental harms from the ongoing pig farming intensification in Northern Ireland, individual and community recognition, decision-making procedure, and the realm of capabilities. Its application along with other components of the integrative theoretical framework allows to connect power relations that support and reinforce pig farming intensification on the three levels of inquiry to the micro level process of environmental decision-making. The analysis of the experience of environmental decision-making process underpinned by the planning framework enables understanding whether the latter serves as a mechanism of control or a catalyst for harm from

farming intensification; this understanding will inform the distribution of harm and affect the realm of capabilities. In sum, the integrative theoretical framework presented here allows analysing the links between harm, power, and justice in my research.

Chapter 3 – Context of research: Northern Ireland

3.1 Introduction

This chapter demonstrates how a combination of the workings of the global political economy of neoliberal capitalism and national factors influence the farming industry in Northern Ireland and generate the conditions for environmental and social harm. The first section explores the legacy of an ethno-nationalist conflict, also known as the Troubles, and demonstrates its influence on the political economy and social development in the country. The first section also introduces the current administrative landscape of Northern Ireland and explains the planning framework in the country. An insight into planning and community participation helps to contextualise the empirical findings related to environmental decision-making discussed in Chapter 6. The second section provides an insight into the history and the current state of the farming industry in Northern Ireland. It details the earlier discussed GfG agri-food strategy and connects it to the dynamics of pig farming intensification and the current environmental impact of farming. It is suggested that the process of intensification will exacerbate the existing environmental harms from farming. Thus, the question of environmental regulation becomes more pressing; I proceed to provide a general context of environmental governance in Northern Ireland, linking it to the hegemony of neoliberal capitalism and the national context of Northern Ireland. This discussion provides an insight into the relations of power in environmental governance, which is explored further in relation to environmental regulation and planning frameworks in the context of farming. Finally, the last section discusses Brexit implications for both farming and environmental governance in Northern Ireland.

3.2 Political economic and social development context

3.2.1 Historic past and the legacy of the Troubles

Northern Ireland is known to be divided on an ethno-national basis, with Catholic and Protestant cultures being polarised (Mcalister, 2010). Historically, protestant settlers from England and Scotland came to Northern Ireland more than 300 years ago and continue(d) to view Great Britain as their home, thus favouring Northern Ireland to be part of the United Kingdom (McEvoy, 2008). This view was (and is) in sharp contrast with the ‘native’ people of the Catholic Irish ancestry, who tended to identify with the Republic of Ireland (McEvoy, 2008).

From 1921 to 1972, Northern Ireland was ruled by its own government in Stormont⁴. Yet, this rule was interrupted by the decades of bitter conflict between the Republican Irish Catholics and the Loyalist British Protestants that clouded Northern Ireland’s political, economic, and social development. Also known as the Troubles, the conflict began with a civil rights movement in the late 1960s. The roots of the conflict are contentious – ethno-national tension, colonial ‘occupation’ by

⁴ Parliament Buildings in Northern Ireland are often referred to as ‘Stormont’ due to their location in the Stormont Estate area of Belfast.

the British, structural inequalities experienced by nationalists, and religious divisions are all mentioned as the factors that contributed to fuelling of the conflict (Tonge, 2006). Historic marginalisation of the Catholic population served as a background for the eruption of the civil rights movement (Hancock, 1998; Holloway, 2005). For instance, there were multiple revolts by the Catholics against their Protestant landlords (Hancock, 1998) after the British rule over Ireland tightened in the 16th century and land disputes remained an important issue until the 20th century. After the British Government implemented the Government of Ireland Bill in 1920, establishing Home Rule parliaments in both Southern and Northern Ireland (Holloway, 2005), marginalisation of the Catholic communities in the North continued and stemmed from the issues around freedom, historical justice, rights, and security (Knobel, 2017).

During the Troubles, Catholic and Protestant communities had divergent goals. Ending of the partition of Ireland, the removal of the British rule in Northern Ireland, and the establishment of an independent Irish Republic through ‘armed struggle’ were the goals of the Irish Republican Army (IRA). Similarly, Nationalists also advocated for a united Ireland but through peaceful means (Dixon and O’Kane, 2011, p.5). Loyalists, on the other hand, regarded themselves as politically, culturally, and religiously British and resorted to violent means to oppose Irish unity. Unionists also envisioned a pro-UK future and tended towards more moderate tactics to achieve this goal (Dixon and O’Kane, 2011, p.5). The conflict resulted in 3,665 casualties.

During the Troubles and until 2007, Northern Ireland was ruled by the UK government in Westminster. This period is commonly known as ‘Direct Rule’ (Mcalister, 2010). The Good Friday Agreement (GFA) signed and approved in 1998 aimed to accommodate Protestant and Catholic identities and addressed the ethno-national dimension of the conflict. Although the outbreak of violence ended, the ideological differences between Protestants and Catholics did not subside. Instead, the GFA guaranteed that the pursuit of different political, administrative, and cultural visions for the island of Ireland is organised in a diplomatic way, with power-sharing at its core.

The GFA, thus, returned political power to Northern Ireland. The Agreement consolidated power-sharing between the two main political parties, the Democratic Unionist Party (DUP — Unionist) and Sinn Fein (Nationalist) in the Northern Ireland Assembly (Mcalister, 2010). The Northern Ireland Assembly - the devolved legislature - also appeared as a result of the GFA in 1998. Although the UK Parliament retains absolute sovereignty, the Northern Ireland Assembly also has its own legislative powers. The Assembly has 90 members located in Belfast and has full legislative power over so-called ‘transferred matters’: education, employment, agriculture, social security, housing, economic development, local government, the environment, transport, and policing (Haase, 2018). To facilitate the representation for all political parties, the regional government has been reorganised into departments, each with a minister in the new Executive (Mcalister, 2010). The new Executive consists of the Executive Office and eight departmental ministers. The Executive Office exercises executive authority on behalf of the Assembly, taking decisions on significant issues, and consists of the First Minister, deputy First Minister and two Junior Ministers. First Minister and deputy First Minister must represent different parties.

There are criticisms regarding post-GFA political development. Tonge (2006) claims that recognition and formalisation of unionist-nationalist divisions results in institutional chaos and greater polarisation. The current institutional climate has even been described as ‘more collectivised than Stalin’s Russia, more corporatist than Mussolini’s and more quango-ised than Wilson and Heath’s United Kingdom governments’ (Tonge, 2006, p. 213). Governmental departments are administratively and politically divided from one another as a result of prolonged demands of power sharing, which impedes the decision-making process and creates barriers for policy integration. Moreover, decision-making in general has a history of being closed and bureaucratic (Foord et al, 2018).

The recent government collapse evidences the political discord that exists in Northern Ireland. The country lacked a functioning government during the period of 2017 – 2020. The Assembly collapsed in January 2017. As was discussed earlier, the GFA demanded that political power must be shared. As a result of a green energy scheme scandal and ongoing disagreements between the DUP and Sinn Fein, the Deputy First Minister resigned, while the First Minister refused to step down. The scandal around the green energy scheme (Renewable Heat Incentive) emerged in 2016 and its mismanagement had cost taxpayers £490 million (BBC News, 2016). After the elections in March 2017, the DUP and Sinn Fein received the majority of votes but failed to reach an agreement to form a new government. In the absence of an Executive, the Northern Ireland Civil Service stepped in to take the responsibility for day-to-day administration in Northern Ireland (House of Commons, 2018). However, the Civil Service could only make a limited amount of policy decisions in the absence of democratically accountable ministers (House of Commons, 2018). On January 10 2020, Sinn Fein and the DUP ministers have re-entered devolved government in Northern Ireland and supported a deal that seeks to restore Northern Irish political institutions. In the context of my research, the restoration of the Assembly is crucial for both the farming and environmental governance matters, as will be discussed later in this chapter.

3.2.2 Administrative landscape, planning framework and public participation

Northern Ireland is the smallest of the four countries that make up the UK, with a population over 1.8 million in a total area of 14,155 km². From an administrative perspective, the country is divided into eleven local government districts, which is the result of the local government reform of 2013 (Quinlivan, 2014). The reform reduced the number of local councils from 26 to 11, which needed to be achieved by 2015. The respective eleven local councils are responsible for all areas of local government such as planning, local economic development, environmental protection, food safety, heritage, etc.



Figure 3.1. Administrative geography of Northern Ireland. Source: AgendaNi (2010)

Quinlivan (2014) suggests that the rationale behind the administrative reform was economic – it was believed that the reduction in the number of councils would lead to cost savings, greater efficiencies, and economies of scale. In addition to the economic rationale, the reform also addressed the legacy of the Troubles pertaining to social development. It is suggested that on the community level, mutual distrust and sectarianism persist (Tonge, 2006) as political reconciliation did not immediately translate into social reconciliation. The GFA is seen as an elite-driven compromise that did not achieve the much-needed shift in public attitudes (Dixon and O’Kane, 2011). Nevertheless, the desire to integrate the Protestant and Catholic population around more effective and accountable local service provision has been very strong since the restoration of the devolved government (Mcalister, 2010). Planning is one of the areas that aimed to address the intersection of integration and effective service provision. Additionally, planning is reported to play a major role in delivering sustainable development. For example, planning should ensure that development (including its type, design, and location) achieves social, economic, and environmental goals (Friends of the Earth NI, 2006). The reconciliation of the three goals is particularly crucial in a society transitioning from peace to conflict (Blair et al, 2007). For my research, planning presents the context where environmental decision-making regarding the new pig farms plays out. Institutional arrangements related to planning in Northern Ireland differ from other parts of the UK.

The main legislation document for planning is the Planning (Northern Ireland) Act 2011 (2011 Planning Act) that was designed to manage development in a sustainable fashion and protect future economic and development needs. It divides the planning responsibilities between local councils and the Department for Infrastructure. Local councils are responsible for local and major

developments, while the Department is responsible for regionally significant developments, council oversight and planning legislation development. The reform intended that the local representatives would become the decision-makers on the majority of planning applications and develop their new local development plan functions (Department of the Environment, 2009). Indeed, according to the Planning Portal (n.d.), the councils are responsible for a wide range of issues, such as local development planning, development management, and planning enforcement. However, downloading responsibility to the local level also echoes the neoliberal shifting of the focus of responsibility from governments to communities (Novek, 2003), which begs the question of whether the local representatives are prepared for the responsibility given to them.

The 2011 Planning Act also placed a significant emphasis on engaging communities in the planning system. The aim of Community Planning is to ensure that people and communities are genuinely engaged in decisions made about the public services which affect them (Cave, 2013) and possess the power to hold the government accountable for the provision of these services (Knox and Carmichael, 2015). According to Mcalister (2010), active promotion of public involvement in decision making is a relatively new phenomenon in Northern Ireland. During the Troubles, Direct Rule from Westminster did not incentivise citizen participation and participation was ‘largely defined in terms of a facility to react to technical plans produced by government officials’ (Mcalister 2010, p. 535). Community engagement is encapsulated in the Statement of Community Involvement that states that ‘engaging communities is an essential part of good spatial planning and for an effective and inclusive planning system overall’ (Department of the Environment, 2016). The most recent deal to restore devolved government in Northern Ireland also highlighted the importance of ‘the principles and practice of citizen and community engagement and co-design’ (UK Government and Irish Government, 2020, p. 26). Notably, citizen empowerment was identified as crucial for securing one’s wellbeing.

Councils are expected to involve the community when preparing local development plans. Within the scope of Community Involvement, local individuals can make representations on planning applications and planning appeals, participate in the preparation of development plans and other policy documents, and report breaches of planning control (nidirect, 2018). Community members interested in a planning application and the supporting documents behind it can view them online on the Planning Portal. The Planning Portal allows anyone to comment on a planning application or object to the planning development, and the Statement of Community Involvement states that ‘all comments will be fully considered’ (Department of the Environment, 2016, p.9). Regionally significant developments and major developments are subject to consultation with the community, thus ensuring that the community is actively involved both at an early stage of development and throughout the process (Department of the Environment, 2014). For regionally significant development applications, a public local inquiry might be held (Department of the Environment, 2016). For major developments, early stage community involvement is organised through pre-application community consultation. Pre-application community consultation involves a public event advertised in the local press where local communities can learn more about the proposed

development. Applicants for major development projects are also advised to engage with local community and environmental groups, individual residents, businesses in the vicinity of the site, etc. (Department of the Environment, 2014). A community consultation process should ensure that people have access to information about a prospective development and ‘have an active role in developing proposals and options to ensure local knowledge and perspectives are taken into account’ (Department of the Environment, 2014, p. 2). The comments made by the community form the basis of the Pre-Application Community Consultation Report, where applicants for major development projects detail how they responded to the comments made by the community, including changes and mitigation measures to address community concerns. Additionally, the council engages with residents occupying buildings on land adjoining the application site boundary and residents within 90 metres of the application site (Department of the Environment, 2016) – such residents can respond to neighbour notifications within 14 days.

As shown in the previous chapter, meaningful consideration of the public views is an essential element of recognitional and procedural justice. Yet, consultation as a means towards it has been subject to critique (Lee and Abbot, 2003; Heydon, 2018). Walker et al. (2006) suggest that consultation does little for opening up decision space and addressing power inequalities. Furthermore, Morison (2017) even labels consultation anti-democratic (as it privileges one set of voices and excludes others) and anti-political (as the aggregative approach at its core does little to contribute to pluralist debate or disagreement). Bringing up Arnstein’s ladder of participation discussed in the previous chapter, Morison (2017) concludes that public consultation allows limited participation and safeguards the existing power imbalance without an assurance that any change will follow.

Furthermore, lack of third-party right of appeal that allows community members to challenge a planning decision (Friends of the Earth NI, 2006; Northern Ireland Assembly, 2016) in Northern Ireland further reinforces the imbalance of power in the realm of public participation. After the decision is made, community members cannot appeal against it as only applicants have the right to appeal against a refusal of a planning permission, or against conditions which have been imposed on a planning permission. In the case of the applicant appealing the negative decision, community members have the right to communicate their comments to the local Council. These comments must be taken into consideration by the Planning Appeals Commission (nidirect, n.d.). The only avenue of objection available to community members is a Judicial Review, which is a process of reviewing the lawfulness of a decision made or action taken by a public body in court. Judicial Reviews are reported to be very expensive in terms of costs and staff resources: while the Costs Protection (Aarhus Convention) Regulations (NI) 2013 reportedly makes it easier for individuals and communities to challenge decisions in environmental matters, protected costs orders recoverable from an applicant are nevertheless £5,000 if the applicant is an individual, and £10,000 in all other cases (Planning NI, n.d.). Judicial Reviews may take place on the grounds of unlawfulness, irrationality, and procedural impropriety/unfairness (Planning NI, n.d.). It is important to understand that a Judicial Review is not

an appeal: the court examines how a public body reached its decision rather than the merits of the actual decision itself (Public Interest Litigation Support, 2012).

Mcalister (2010) suggests that community participation can be difficult to implement, considering the novelty of the terms such as inclusive and participatory democracy in the Northern Irish context. It is also reported that commitment to community involvement often appears to be a tokenistic gesture – Mcalister (2010) demonstrates that in the case of Northern Ireland the views of the public are often disregarded by the planning authorities and the members of the public risk being perceived either as passive observers or troublemakers. Even though communities are formally involved in planning, they might still feel marginalised in this process. The scholars analysing the implementation of community planning in Scotland and England echo Mcalister's conclusions. Pemberton and Lloyd (2011) suggest that community involvement is much more complex in practice than in theory. Cowell (2004, p. 514) concurs, stating that involvement of local communities in planning ‘faces all of the long-standing challenges of participatory democracy – around representation, inclusion and empowerment – but with the added complication of a partnership governance setting’. Additionally, Sinclair (2011) echoes Morison’s (2017) concerns regarding public consultation outlined above and concludes that community engagement might not shift the balance of power, as it exists in tension with the practical demands of policymaking. The latter is particularly germane in the case of Northern Ireland where its economy, pressured by the challenges of global political economy of capitalism (Blair et al, 2007) demands that policymaking is oriented towards economic growth. These criticisms fit neatly with the above-discussed idea of sustainability in planning. Raco (2014, p. 42) suggests that inspirations for sustainability reproduce a wider set of agendas in capitalism; its promises of community empowerment masks the fact that government power ‘has been reduced and replace by hybrids of state regulators and private corporations’.

This section introduced political economic and social development contexts in Northern Ireland and demonstrated the manner in which the ethno-nationalist conflict has affected and continues to affect all spheres of life. Having described the administrative landscape in the country, this section paid particular attention to the planning arrangements to contextualise environmental decision-making around new intensive pig farms. It critically analysed the idea of formal community participation, both in the light of the legacy of the Troubles and the country’s embeddedness in the political economy of capitalism, thus invoking the previously developed discussion around the marginalisation of individuals in the processes of decision-making. The next section introduces a more detailed analysis of farming in Northern Ireland, especially in the context of the GfG strategy.

3.3 Farming in Northern Ireland

3.3.1 Historical and present context

Continuing the discussion developed in Chapter 1, I discuss the historical significance of farming in Northern Ireland, the industry’s clout in policymaking, and the historical roots of the intensification trend. The current structure of policymaking in the sector is also discussed.

Haase (2018) asserts that the agricultural industry features among the main strengths of Northern Ireland. Indeed, agriculture and farming have been central to the Northern Irish economy since the inception of the state in 1921 (O’Kane, 2011). Ulster Farmers’ Union (UFU), currently the main industry lobbying body, was formed earlier in 1917 to represent the interests of farmers. Later, in 1929, the Young Farmers’ Club of Ulster was founded to foster young people’s interest in farming. Preceding the Second World War, almost half of the population lived in the countryside and agriculture was the largest and most economically successful industry. The end of the war heralded the rapid mechanisation, standardisation, and centralisation of farming, although farms remained small in scale and less well-equipped than those of the rest of the United Kingdom (Greer, 1996). The Ministry of Agriculture actively promoted the idea of farming as a business or an applied science, suggesting that ‘in business language, the land is the farmer’s factory, it must be maintained in a state of high efficiency if farming is to continue to be prosperous’ (O’Kane, 2011, p. 109). Intensive production in most sectors was applauded and actively supported. Many farmers were reluctant to embrace new changes and the UFU did not provide the support they needed. In the post-war period, the UFU, rather than being a farmer representation body, sided closely with the Unionist Party and its membership was strongest among Protestant farmers (Greer, 1996). Consequently, its interests often clashed with those not affiliated with the association. Nevertheless, the UFU played a ‘vital intermediary role in regulating rural society’ (Greer, 1996, p.123). The United Kingdom joined the European Community in 1973, which portended the transformation of agricultural policy. Farmers’ interests were further consolidated, and policy continued to be forged by a small number of institutions that favoured farmers (Greer, 1996). Expansionist policy that focused on intensive production prevailed (Greer, 1996). However, in 1983 public attitudes towards farming shifted, as more awareness about public, environmental and animal health was raised. Policymakers heeded the shift and attempted to put an end to agricultural expansion. Nevertheless, the ethos of expansionism persisted: restrictions in production did not bring the ‘reversal from high input/ high output, technology based, intensive farming’ (Greer, 1996, p. 33).

Presently, Northern Ireland’s Department of Agriculture, Environment and Rural Affairs (DAERA) is a department in the Northern Ireland Executive primarily responsible for agriculture, food, farming, and environmental and sustainability policy. It also assumes responsibility for rural development to administer the Rural Development Programme (Creamer et al, 2017). DAERA provides business development services, veterinary services for the administration of animal welfare and education services at the College of Agriculture, Food and Rural Enterprise (CAFRE) (DAERA, 2019). DAERA is responsible to the Department of the Environment, Food and Rural Affairs (DEFRA) in Great Britain for the administration of schemes affecting the whole of the United Kingdom and oversees the application of European Union agricultural, environmental, fisheries and rural development policy in Northern Ireland (DAERA, 2019). The Northern Ireland Environment Agency (NIEA) carries out its work within the DAERA (the latter is crucial for environmental governance of farming and will be discussed later in this chapter). The next section details the GfG agri-food strategy to continue the discussion in Chapter 1.

3.3.2 Going for Growth

In 2011-2015 Programme for Government, the Northern Irish Executive committed to developing a strategy for expanding the country's agri-food sector in response to what was perceived as a growth in demand for Northern Irish food products (Attorp and McAreavey, 2020). Following that, what was formerly known as the Department of Agriculture and Rural Development (DARD), the Department of Trade and Investment (DETI), and Invest NI worked to set up an Agri-Food Strategy Board (AFSB) responsible for developing this strategy. The Board was appointed for an initial tenure of three years from 2012, which was extended for an additional two years in February 2015 (Attorp and McAreavey, 2020).

The components of the GfG strategy were described in the 2013 report '*Going for Growth: A Strategic Action Plan in Support of the Northern Ireland Agri-food Industry*' (AFSB, 2013). GfG aimed to expand supply, secure global markets and reduce costs by 'industry, Government and the wider stakeholder base, working together' (AFSB, 2013, p. 11). Its priorities included agri-food exports, with an intention to grow sales outside Northern Ireland by seventy-five percent (AFSB, 2013, p. 11), and encouragement of economies of scale at producer and processor levels executed through government-led incentives. The latter implied incentivising 'larger, more diversified farm units across Northern Ireland, with lower production costs, higher productivity and higher environmental and welfare standards, enabling the promotion of a stronger, more profitable product' (Montgomery, 2015, p. 8). GfG demanded significant government action; out of 118 recommendations, only 17 were the sole responsibility of industry and GfG authors asked for a government investment of £400 million over three years (in contrast with an industry investment of £1.3 million) (Attorp and McAreavey, 2020).

The majority of the GfG report's recommendations benefitted corporate farming industry actors; GfG is reported to have concentrated power with corporate actors as many of its benefits were directed towards large corporations (in particular, food processing companies), rather than primary producers (Attorp and McAreavey, 2020). The composition of AFSB was emblematic of this power imbalance; it was chaired by then a Director at Moy Park (one of Europe's largest poultry producers) and other members included six representatives from some of NI's biggest agri-food businesses, two former presidents of the UFU, one representative from Invest NI, three government officials, and one accountant (AFSB, 2017). GfG placed an emphasis on growth within specific sectors, notably the pig and poultry. The next section discusses the trends in pig farming in Northern Ireland, both in the context of GfG and beyond.

3.3.3 Trends in pig farming in Northern Ireland

Pig production became more intensive in the post-war period, and up to 1972 it was the most important branch of the Northern Irish agricultural industry (Greer, 1996). Once the country entered the European Community, the number of pigs declined as the supplies of imported cheap feed were cut off (Greer, 1996). Another factor that significantly influenced pig production in Northern Ireland

in the 1990s was a fire in the country's largest processing plant in 1998 that caused a recession in the pig market (AHDB, 2013). The recession caused a sharp decline in pig herd sizes. The chart below illustrates this:

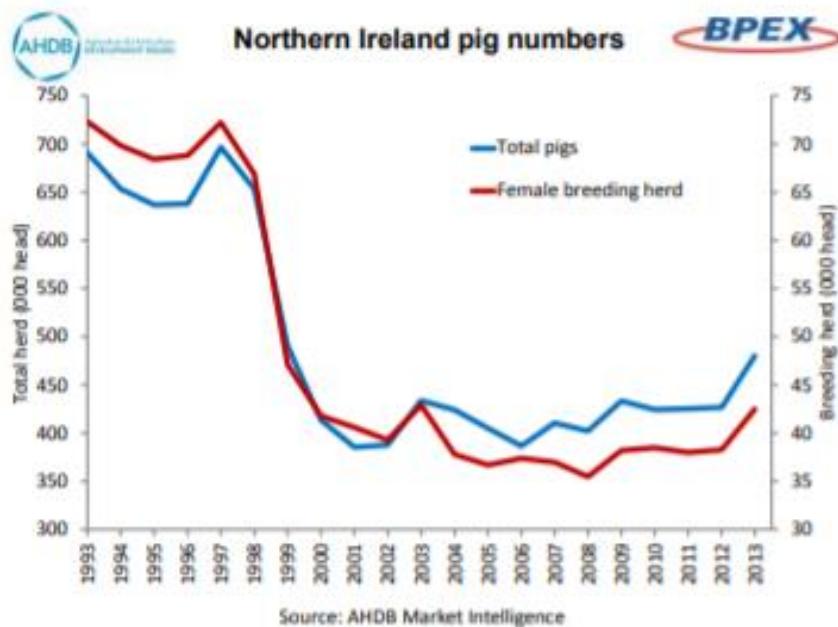


Figure 3.2. Northern Ireland pig numbers. Source: AHDB (2013)

It might be assumed that the ambition behind the above described GfG agri-food strategy contributes to the desire to revive the pork industry after the recession of 1998. However, as mentioned before, the revival of the industry is organised through farm concentration and production intensification.

To analyse farm concentration, it is essential to consider farm numbers and farm types. According to the Agricultural Census in Northern Ireland in 2019 (DAERA, 2020), the total number of farms was 24,827. The Census suggests that the overall trend is downward, with farm numbers having decreased by 10 percent over the 15-year period from 2004. A look at the earlier Census evidences the same downward trend – there used to be 40,724 farms in 1981 (DAERA, 2018). The gradual decrease in the number of farms is also demonstrated in the figure below:

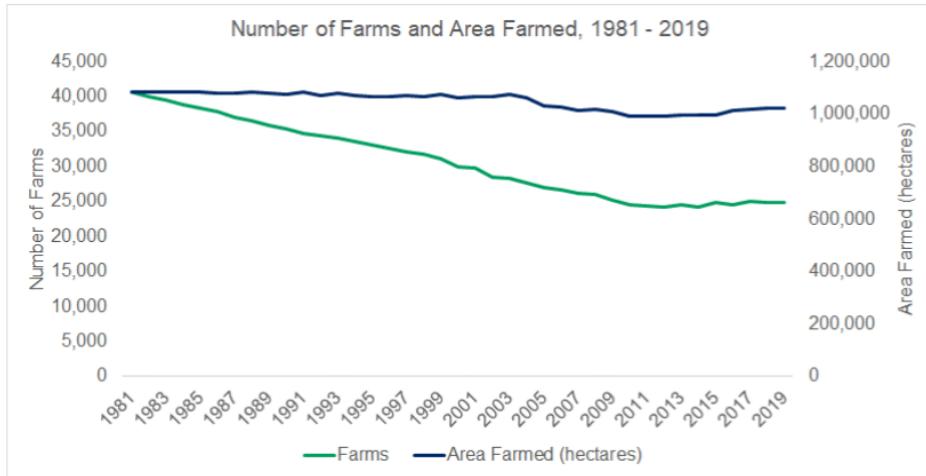


Figure 3.3. Number of farms 1981-2019. Source: DAERA (2020)

In addition to an overall farm number decrease, there is a decrease in the number of small farms. Out of the total number of farms in 2019, 19,177 were very small and small farms⁵ (DAERA, 2020). The small size of farms is often presented as a challenge for farm profitability (Allen, 2016). DAERA (2020) attributes the decrease in the number of small farms to the encouragement of larger scale production to minimise costs and maintain farm income, which was epitomised in the GfG strategy. A closer scrutiny of the farm types in pigs farming reveals the same trend:

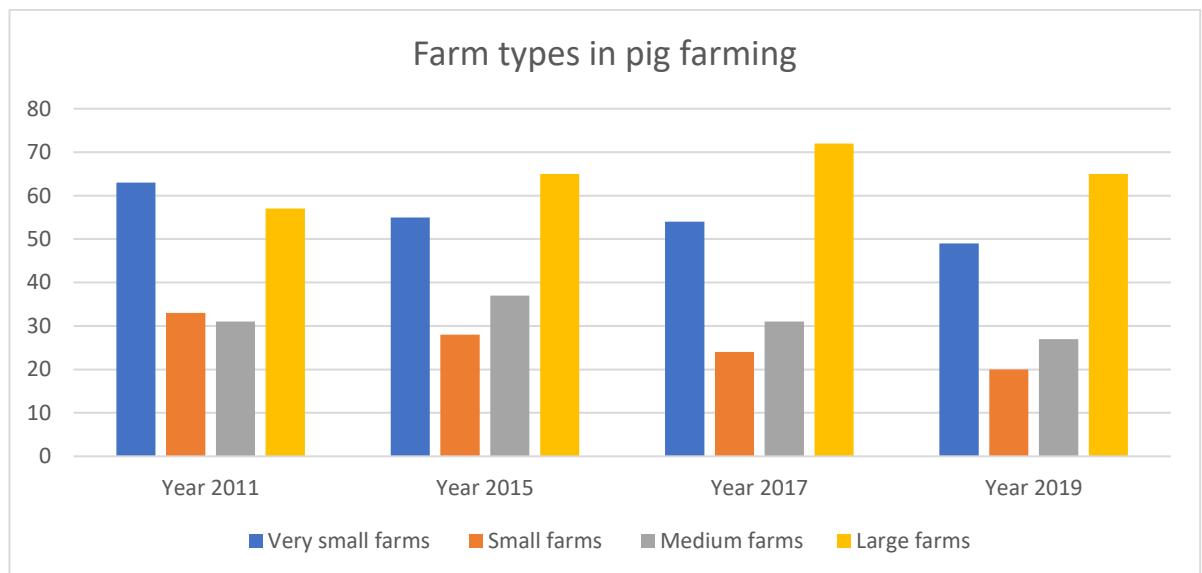


Figure 3.4. Farm types in pig farming. Source: DAERA (2012, 2016, 2018, 2020)⁶

⁵ Farms are classified into different sizes according to the number of full-time equivalent (FTE) workers. Very small farms have 0.5-1 FTE on a part-time basis, small farms have 1-2 FTE on a full-time basis, medium farms have 2-3 FTE on a full-time basis, large farms have 3-5 FTE on a full-time basis, very large farms have more than 5 FTE on a full-time basis.

⁶ It is important to emphasise that prior to 2011, the data regarding farm types combined pigs and poultry in one category; consequently, the number of very small/small/medium/large pig farms alone prior to that year cannot be established.

In 2011, there were 63 very small farms, 33 small farms, 31 medium farms and 57 large pig farms (DAERA, 2012); in 2015, there were 55 very small farms, 28 small farms, 37 medium farms and 65 large pig farms (DAERA, 2016); in 2017, there were 54 very small farms, 24 small farms, 31 medium farms and 72 large pig farms (DAERA, 2018); finally, in 2019, there were 49 very small farms, 20 small farms, 27 medium farms and 65 large pig farms (DAERA, 2020).

Therefore, the number of very small and small farms is decreasing. The most recent Census confirms this sentiment, stating that most pigs are concentrated in relatively few farms (DAERA, 2020). Moreover, it is emphasised that ‘a small number of large, highly productive businesses, drive most of the change in the [pig] sector’ (DAERA, 2018). Consequently, in addition to farm concentration, there is a trend for intensification of production. The chart below demonstrates that the average numbers of pigs on a farm have been gradually increasing:

| | 1997 | 2007 | 2015 | 2016 | 2017 |
|---|------------|------------|--------------|--------------|--------------|
| Average livestock numbers (per herd/flock) | | | | | |
| Dairy cows | 48 | 69 | 88 | 90 | 92 |
| Beef cows | 18 | 16 | 17 | 18 | 18 |
| Total cattle | 64 | 74 | 79 | 83 | 82 |
| Ewes | 120 | 113 | 101 | 100 | 100 |
| Total sheep | 246 | 234 | 209 | 206 | 206 |
| Sows | 37 | 95 | 144 | 158 | 165 |
| Total pigs | 316 | 838 | 1,628 | 1,784 | 2,016 |

Figure 3.5. Average livestock numbers. Source: Playfair (2018)

The upward trend is particularly visible since the adoption of the above-mentioned GfG strategy. The chart below demonstrates that the average size of pig farms in Northern Ireland has become much larger than that of dairy or beef farms since 2012:

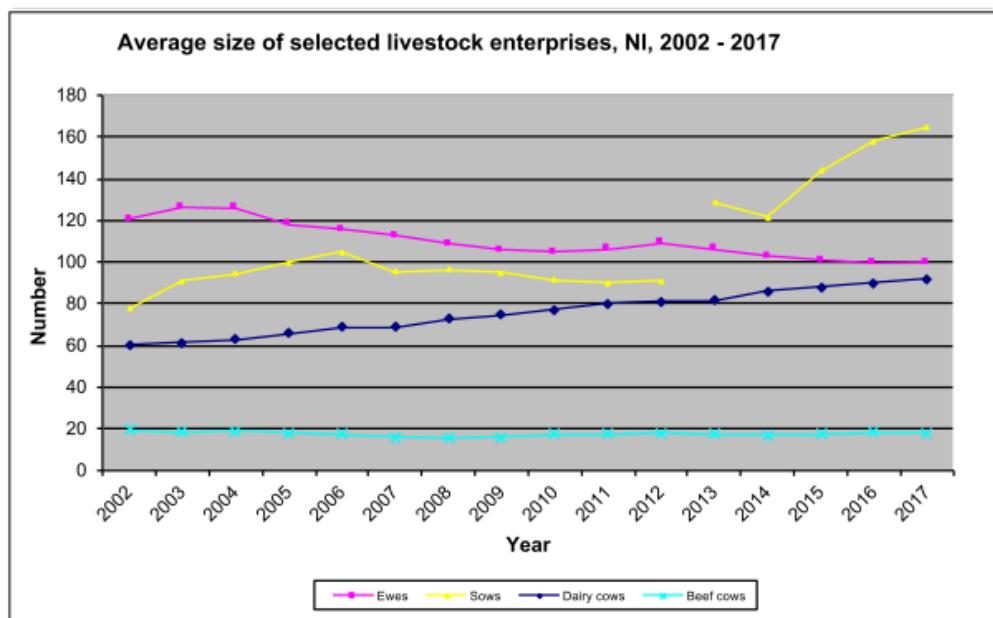


Figure 3.6. Average size of livestock enterprises. Source: Playfair (2018)

The GfG strategy aimed to grow external sales by fifty-seven percent and sow herd numbers by forty percent up to 53,000 by 2020 (AFSB, 2013). While sow herd numbers are still far from this goal, total pig numbers have increased significantly: since its adoption in 2012, the total number of pigs went up from 480,317 in 2013 to 674,428 in 2019:

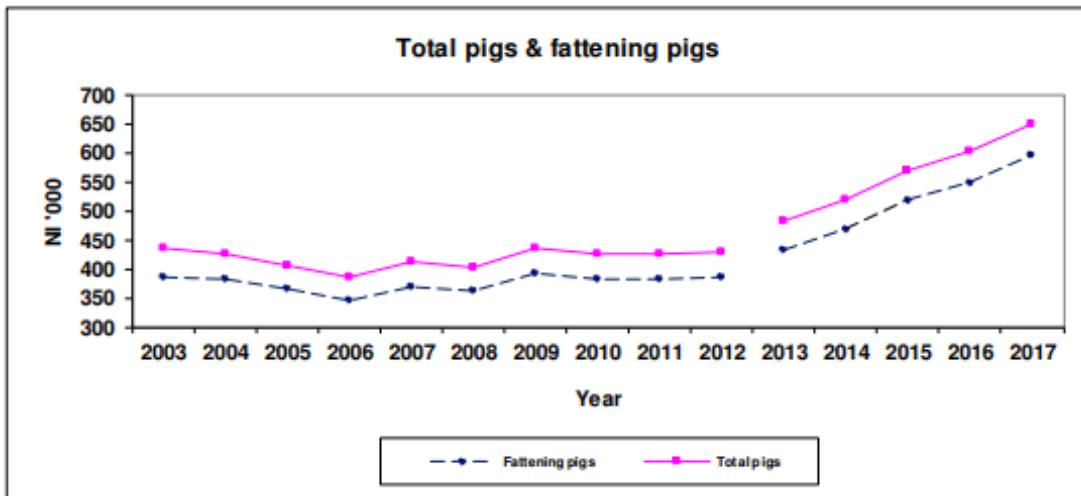


Figure 3.7. Total pigs 2003-2017. Source: DAERA (2018)

| | 2015 | 2016 | 2017 | 2018 | 2019 |
|------------------------------|----------------|----------------|----------------|----------------|----------------|
| Female breeding herd | | | | | |
| Sows in pig | 30,161 | 31,707 | 33,106 | 34,775 | 34,447 |
| Gilts in pig | 7,209 | 6,268 | 7,032 | 8,499 | 7,535 |
| Others sows for breeding | 8,241 | 8,468 | 7,767 | 6,361 | 5,547 |
| Other breeding pigs | | | | | |
| Boars being used for service | 824 | 824 | 912 | 843 | 753 |
| Maiden gilts | 5,556 | 5,463 | 5,812 | 4,909 | 6,184 |
| Total breeding pigs | 51,991 | 52,730 | 54,629 | 55,387 | 54,466 |
| Other pigs | | | | | |
| Cull sows being fattened | 560 | 491 | 462 | 603 | 534 |
| Finishers | 239,347 | 252,856 | 272,786 | 261,250 | 280,631 |
| Weaners/Growers | 180,426 | 193,822 | 211,739 | 213,770 | 233,082 |
| Suckling piglets | 97,414 | 101,177 | 109,504 | 102,634 | 105,715 |
| Total Other pigs | 517,747 | 548,346 | 594,491 | 578,257 | 619,962 |
| Total Pigs | 569,738 | 601,101 | 649,120 | 633,644 | 674,428 |

Figure 3.8. Total pigs 2015-2019. Source: DAERA (2020)

The pig farming sector has been labelled as more efficient and profitable than other farming sectors. Farm income in Northern Ireland in some sectors of production is closely linked with direct support from subsidies. The Northern Ireland Affairs Committee publication from the UK Parliament states that farmers in Northern Ireland receive, on average, higher levels of direct support through the EU's Common Agricultural Policy (CAP) than farmers in other areas of the UK. Yet, the amount of support received varies in different sectors of production, and not all sectors are reliant on direct support (DAERA, 2018, p. 16). Pig farming, unlike other farming sectors, is not characterised by high reliance on Direct Payments administered through the CAP (Allen, 2016). In 2016/17, farm business incomes without direct payments amounted to £58,673 per farm, with direct payments constituting just a fraction - £14,387 (DAERA, 2018). DAERA's figures show that, on average, Direct Payments to pig farms equate to just twenty-five percent of their Farm Business Income (DAERA, 2018, p.

16). In 2016/17, pig sector incomes were the highest among all sectors (excluding poultry) and its Farm Business Income increased by £42,617 from 2015/16, which is drastically higher than increases in other sectors (DAERA, 2018):

| | | Farm Business Income | Cash Income | Net Farm Income |
|-------------------------------|--------------|-------------------------------------|------------------------|----------------------------|
| Cereals | 15/16 | 15,532 | 43,351 | 9,066 |
| | 16/17 | 16,492 | 48,743 | 9,104 |
| General Cropping | 15/16 | 5,782 | 26,657 | -9,393 |
| | 16/17 | 27,616 | 50,393 | 13,098 |
| Pigs | 15/16 | 16,055 | 45,482 | 31,667 |
| | 16/17 | 58,673 | 75,596 | 73,862 |
| Dairy | 15/16 | 12,014 | 43,698 | 12,291 |
| | 16/17 | 23,618 | 56,026 | 23,113 |
| Cattle and Sheep (LFA) | 15/16 | 17,118 | 31,458 | 9,886 |
| | 16/17 | 21,352 | 30,724 | 13,607 |
| Cattle and Sheep (Lowland) | 15/16 | 10,409 | 24,031 | 2,572 |
| | 16/17 | 16,578 | 24,349 | 7,812 |
| Mixed | 15/16 | 14,932 | 33,680 | 8,390 |
| | 16/17 | 27,637 | 56,329 | 21,840 |
| All Types | 15/16 | 14,200 | 33,886 | 9,266 |
| | 16/17 | 21,928 | 38,741 | 16,387 |

Figure 3.9. Farm Business Income. Source: DAERA (2018)

The latter might be related to the fact that the output (the total sales) increased due to better global prices for pork, while the costs of inputs (resources used in the production process) went down during that time. Observation of input/output ratios during the last decade below uses the data from Farm Incomes in Northern Ireland 2004-2016:

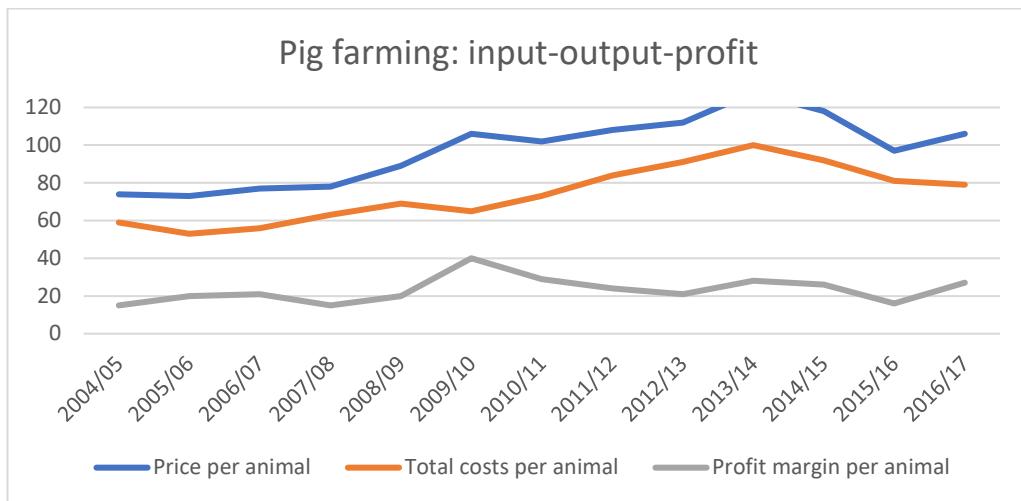


Figure 3.10. Pig farming: input-output-profit. Source: my own, using Farm Incomes in Northern Ireland 2004-2016

As a result of their larger size, pig farms also require more capital to continue to function (£27,946 per hectare in 2016/17) (DAERA, 2018), which is explained by the fact that pig farms operate an intensive enterprise on a small area of land. As a result, the level of investment in pig farms was also the highest among other sectors in 2016/17: £23,777 per farm (DAERA, 2018), which corresponds to the high levels of cash income in the sector mentioned above.

To sum up, there is evidence of farm concentration and production intensification in pig farming and the sector's economic success may be attributed to these trends. Pig farming is different to other meat production sectors in Northern Ireland: it is not dependent on the Direct Payments and is characterised by high levels of income. The trends for concentration and intensification are particularly observable since the adoption of the industry-led GfG agri-food strategy in 2012, which aimed to consolidate the ethos of economic growth in meat production and increase national pork production levels. Considering the sector's successful development and importance for the GfG, pig farming provides a suitable case for analysing power relations that support and reinforce the environmentally harmful phenomenon of intensification. The next subsection considers the existing toll farming takes on the environment in Northern Ireland, which will likely be exacerbated as pig farming continues to intensify.

3.3.4 Environmental impact of farming in Northern Ireland

The Northern Irish environment boasts exceptional biodiversity (more than 20,000 different species of flora and fauna, with half of them found in the seas) and richness (more than 1,600 lakes, including the largest freshwater lake in the UK) (Cave, 2016). However, the Northern Irish landscape has also been described as 'intensely farmed', with only one percent of the land being organically managed (Purdy and Hjerp, 2016). As a result, some environmental problems can be attributed to the agricultural development and farming. Moreover, as it was described in Chapter 1, the Northern Irish

farming industry has been expanding and the expansion is reported to have adverse environmental consequences. It is important to emphasise that the summary below does not focus solely on the impacts of pig farming but addresses the environmental impact of farming in general.

Per capita average ammonia emissions for the country are over four times that of the other UK nations (DAERA, 2019). Twelve percent of total UK ammonia emissions originate in Northern Ireland. This is disproportionate to both Northern Ireland's population (three percent of the UK total) and its land area (six percent of the UK total) (Friends of the Earth NI, 2018). Agriculture is the main culprit of ammonia emissions (ninety-three percent in 2016) (DAERA and NIEA, 2018). It is documented that emissions from livestock have increased by seven and four tenths percent since 2001, which compares with a two and nine tenths percent decrease for the UK as a whole over the same period (DAERA and NIEA, 2018). Ammonium in particle form is also a transboundary pollutant, meaning that it can travel between countries and have an impact beyond Northern Ireland. To comply with the Convention on Long-range Transboundary Air Pollution and the National Emissions Ceilings Directive, reductions in ammonia levels are urgently needed:

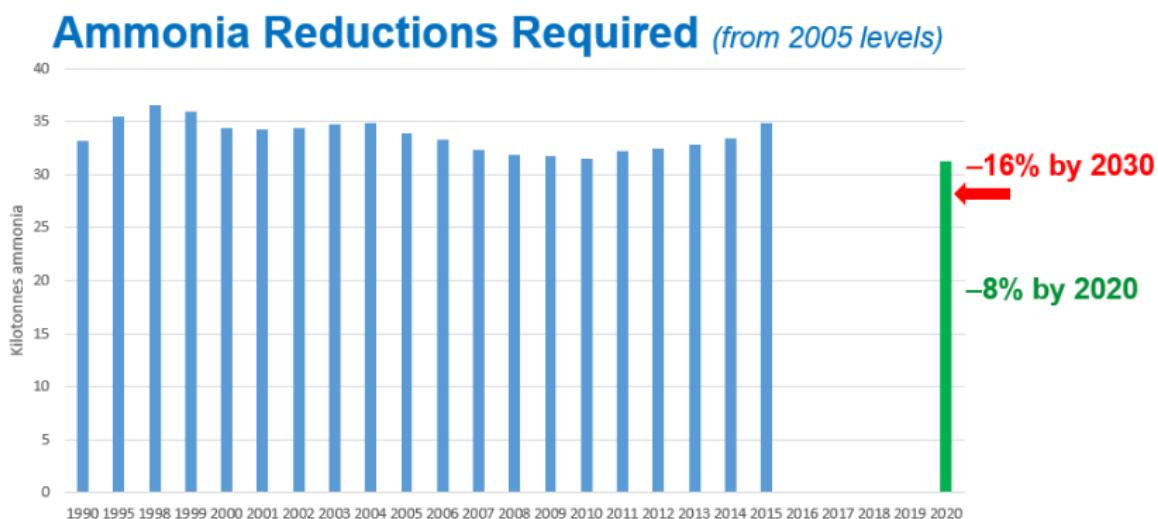


Figure 3.11. Ammonia reductions required. Source: DAERA (2018)

It is reported that in Northern Ireland ammonia emissions are geographically clustered around areas with high densities of intensive livestock farms (Friends of the Earth NI, 2018). Ammonia emitted into the air is subsequently deposited as nitrogen onto land and water. According to DAERA (2019), most of Northern Ireland, including designated sites and other priority habitats, has levels of nitrogen which are significantly above their 'critical load', i.e. the concentration at which significant ecological damage occurs. For instance, critical levels of ammonia from animal manure are exceeded at ninety percent of the protected habitats in Northern Ireland (DAERA, 2019). Excessive nitrogen can lead to significant biodiversity loss – it is estimated that forty-five percent of the plant species extinctions occurring in the UK between 1987 and 1999 were associated with increased nitrogen

availability (DAERA, 2019). Grasslands, heathlands, bogs, and dune systems are particularly sensitive to excessive nitrogen (DAERA, 2019).

Nutrient loading and subsequent water pollution present another problem associated with farming expansion. If nitrogen is deposited in large amounts, soils, streams, and lakes become acidic and aquatic biodiversity can be adversely affected (Friends of the Earth NI, 2019). According to the NIEA's 2016 Northern Ireland Nitrates Article 10 Report, agriculture is the largest source of nitrogen discharges to surface water. The latest available data concerning the state of water bodies in Northern Ireland is from 2015. According to it, just one third of monitored river waterbodies were of at least a good standard in 2015 and only five out of 21 lakes achieved a good standard in 2015 (DAERA and NIEA, 2018). In contrast, in 2005-07, seventy-five percent of river water bodies in Northern Ireland were classified as 'good' or 'very good' in terms of chemical indicators of ecological river quality and ten out of twenty-one lakes were in good condition in 2004 (this number went down to six in 2007) (Department of the Environment, 2009). The rest of the water bodies were classified as eutrophic or hypertrophic. Eutrophication is the process of enrichment of waters by inorganic nutrients that results in the increased production of algae and/or other aquatic plants, affecting the quality of the water and disturbing the ecological state of water systems (DAERA, 2019). Nutrients include substances such as phosphorous and nitrogen and can be found in farm inputs such as fertilisers and animal feed. According to Friends of the Earth NI (2018), the amount of nitrogen contained in animal feed had also increased, by ten percent from 2011. Pollution from nutrients presents a long-term concern, as many factors affect their travelling speed from the initial release into groundwater, and occasionally it can be decades before they discharge into freshwater (Northern Ireland Fresh Water Taskforce, 2018).

Manure storage and manure land application present another concern. Forty-four percent of ammonia emissions in Northern Ireland originate from manure spreading (thirty-four percent) and manure storage (ten percent). For the pig sector specifically, if the GfG strategy's target to have 53,000 sows in Northern Ireland by 2020 materialised, it would have resulted in 1,100,000 tonnes of slurry per year (Farms Not Factories, 2018). As I stated in Chapter 1, manure land application results in odour and produces microbes that can negatively affect human health and wellbeing. Additionally, ammonia emitted from the livestock manure mixes with other pollutants in the atmosphere, creating small particles known as particulate matter. Particulate matter is associated with human health impacts – it can be harmful to the lungs when inhaled (DAERA, 2019). According to the recent investigation from the Bureau of Investigative Journalism (2019), halving ammonia emissions in the UK could prevent at least 3,000 premature deaths from air pollution a year.

To summarise, the existing environmental challenges in Northern Ireland are substantial and it can be assumed that a rising number of intensive pig farms will further exacerbate these environmental harms. Therefore, the question of environmental regulation becomes yet more important; below I analyse the general context of environmental governance in Northern Ireland and examine environmental regulation of farming.

3.4 Environmental governance in Northern Ireland

3.4.1 Legacy of the Troubles

Before discussing environmental governance, it is important to highlight the impact of the Troubles for environmental regulation. The relationship between environmental degradation and violent conflicts has been receiving more criminological attention (Brisman, 2007; Lasslett, 2014; Leebaw, 2014). Transition to peace is characterised by internal divisions, widespread perceptions of illegitimacy and can also direct the majority of resources into peace-making initiatives. Moreover, regulatory and accountability mechanisms designed to protect the environment and social wellbeing may be absent or in their infancy, making transition regimes more likely to support criminogenic patterns (Loewenstein, 2017). Echoing Loewenstein's conclusion, environmental protection has been consistently de-prioritised in Northern Ireland in comparison with the issues of security and criminal justice (Barry, 2009). Yet, considering the rich natural heritage of the country, concerns about environmental governance have been ever present. In 1990, the House of Commons Environment Select Committee shone the spotlight on environmental degradation and encouraged reforms (Purdy and Hjerp, 2016). However, the termination of the Troubles did not make such reforms a priority and the belief that the violent past somehow justifies substandard environmental protection regulation became more entrenched (Birnie and Hitchens, 1998). Yet, the apathy about environmental governance is becoming rather difficult to justify twenty years after the end of the Troubles (Brennan et al, 2017).

The Northern Ireland Act of 1998 did not oblige the Northern Ireland Executive to promote sustainable development or consider all policy in relation to its impact on sustainable development. Reports demanding the urgent recalibration of environmental governance appeared (Macrory, 2004; Purdy and Hjerp, 2016). Moreover, there have been repeated calls from the government to put environmental affairs on the agenda as multiple investigations have been conducted stressing the problems with environmental governance in the country since the early 1990s (Brennan et al, 2019)⁷. Despite this, environmental governance in Northern Ireland remains problematic and is affected by deeper structural problems, which creates a favourable climate for environmental and social harm. Further elaboration is needed on the regulatory contexts of environmental regulation in Northern Ireland to discuss these structural problems.

3.4.2 Environmental regulation – general context

As a result of the Stormont House Agreement in 2014, the functions delivered by the Department of the Environment have been transferred to the Department for Communities (DfC), Department for Infrastructure (DfI) and Department of Agriculture, Environment and Rural Affairs (DAERA). As I

⁷ For instance, the former Environment Minister remarked that the Environment Agency was not fit for purpose (Northern Ireland Assembly, 2013) and later another Environment Minister advocated for a radical review of environmental governance models (Moore, 2015).

stated before, the Northern Ireland Environment Agency (NIEA) carries out the bulk of regulatory activities relating to the environment as an executive agency within a central government department, DAERA (Brennan et al, 2017; Purdy and Hjerp, 2016). NIEA aims ‘to create prosperity and well-being through effective environment and heritage management and regulation’ (Purdy and Hjerp, 2016, p. 46). Its key objectives are to deliver effective compliance with and implementation of legislation and international obligations; improve understanding and appreciation of the environment; support a sustainable economy; and deliver reformed and effective planning.

However, some authors claim that the environment is at risk in Northern Ireland (Purdy and Hjerp, 2016). Policy decisions made by the Northern Irish government are reported to have had a negative environmental impact, including issues such as ‘resistance to making political commitments relating to climate change, ineffective policy-making surrounding mineral extraction, policies that have failed to protect important natural resources, policy proposals with the potential to erode public participation in environmental decision-making and planning decisions that have resulted in damage to important natural (and cultural) heritage sites’ (Brennan et al, 2017, p. 131).

The existing environmental regulation frameworks are disjointed and outdated and there exists no overarching strategy regarding the environment (Brennan et al, 2017). The absence of the overarching strategy might be linked to the lack of political leadership with regards to environmental governance (Purdy and Hjerp, 2016; Foord et al, 2018). As it was mentioned above, the Department of the Environment was dissolved and decision-making over the environment was transferred to other departments. Claims have been made that those departments currently responsible for environmental regulation possess no specialist expertise in environmental affairs (Purdy and Hjerp, 2016). Additionally, there are concerns that as a result of the dissolution of the Department of the Environment, environmental affairs will be eclipsed by agricultural interests; Simila (2017) suggests that if an environment authority is merged with an agricultural authority, the outcome may be that the promotion of agricultural production becomes dominant and environmental interest subordinate. The dissolution paints a distorted picture of environmental affairs as a predominantly rural issue (Turner, 2007). As a result, as the next section will show, environmental enforcement is known to be notoriously weak in the regulation of agricultural activities (Purdy and Hjerp, 2016).

The challenges in the political context described in the beginning of the chapter also have an impact on environmental governance (Turner, 2007). The culture of high centralisation and unaccountability during the conflict caused a sharp drop in the public levels of trust in the government and its ability to regulate key environmental matters (Turner, 2007). Moreover, compared to other devolved governments, the Northern Ireland Assembly remains less concerned about environmental justice (Barry, 2009). Environmental justice appears to be very relevant in the Northern Irish context because of the implications of the Troubles (Turner, 2007). The legacy of the conflict explains high levels of social deprivation. The solution to it is problematic as the country’s frantic efforts to rebuild the economy and identify GDP boosts other than agriculture diminish the importance of economic development’s distribution of harms and benefits (Turner, 2007).

In addition to environmental affairs not being a policy-making priority, it has also been claimed that compliance with environmental regulations has been persistently weak in Northern Ireland (Purdy and Hjerp, 2016). As a result of the Troubles, the Northern Irish legislature has been pressured to keep up-to-speed with the EU environmental standards. Yet, Northern Ireland lacks a legislative framework for environmental protection designed specifically for the country's context, which complicates the implementation of the EU legislation and its subsequent practice (Brennan et al, 2017). While environmental protection legislation has been gradually introduced, it happened belatedly. Cumbersome decision-making processes affected the implementation of a backlog of environmental EU directives (Barry, 2009). Brennan et al (2018, p.17) suggest that the devolved government in Northern Ireland 'has seemed impervious to the background political pressure exerted via EU membership to deliver effective environmental protection'.

Moreover, concerns have been raised that Northern Ireland may be breaching four EU environmental directives - the Nitrates Directive, Safe Storage of Metallic Mercury Wastes Directive, Wild Birds Directive, and Marine Strategy Framework Directive, and also might not be complying with several of the air pollution directives (Purdy and Hjerp, 2016). The country has also struggled with the correct application of certain environment laws, which is apparent in the six ongoing cases brought by the European Commission on the grounds of breaches of EU environmental legislation: Water Framework Directive, Waste Framework Directive, Habitats Directive, Strategic Environmental Assessment Directive, Environmental Impact Assessment Directive and Urban Waste Water Treatment Directive (Purdy and Hjerp, 2016).

The current environmental enforcer, NIEA, has a catalogue of enforcement failures, compromising its reputation. Criticism revolves around its fragmented internal structure, the lack of internal legal team, and problems related to the prosecution of environmental crime (Brennan et al, 2017). Lack of an integrated approach and communications between different NIEA teams creates a scenario where grave harms slip through the cracks of regulation (Brennan et al, 2017). Additionally, NIEA does not have many strong links with other agencies and its insularity might affect the level of priority currently given to the environmental issues. Lack of in-house lawyers is also not in line with NIEA's strategic objectives and is in sharp contrast with other UK countries. NIEA's positioning within DAERA is not beneficial for that – DAERA also lacks a legal core, resulting in insufficient embedding of regulation into the departmental culture (Brennan et al, 2017). Consequently, NIEA's enforcement role is diminished.

NIEA's approach to prosecutions of environmental crime has also been called into question. Brennan (2013) demonstrates that NIEA opts for 'easy wins' and does not always prosecute when it should. However, when NIEA does decide to prosecute, sentences tend to fall far below the maximum penalties and far below the penalties imposed in other countries in the UK (Brennan, 2013). Currently the penalties imposed do not provide an adequate deterrent for environmental misconduct and the sanctions are too weak. As a result, Northern Ireland is characterised by a culture whereby it is acceptable to 'cut corners' and 'bend the rules' (Purdy and Hjerp, 2016, p. 30). Northern Ireland is well behind the rest of the UK in its ability to have an effective programme of

environmental sanctions (Purdy and Hjerp, 2016). Penalties are applied through the criminal justice framework, while other countries in the UK have experimented with a wider range of sanctions. Finally, Northern Irish courts are out of touch with environmental justice principles such as the ‘polluter pays’ principle because of the continuous focus on the civil disorder in the past (Turner, 2007).

The above may be partly explained by the fact that Northern Ireland has a general disregard towards bodies that monitor environmental performance (Brennan et al, 2017). The epitome of this disregard is the above-mentioned absence of an independent environmental protection agency (IEPA). One of the rationales behind an IEPA (which is in place in all other parts of the UK and Ireland) is to prevent political interference in regulatory decision-making and have a regulatory body whose decision-making is motivated by environmental protection rather than other factors (Brennan et al, 2017). Yet, Purdy and Hjerp (2016) point at the evidence of political interference in environmental decision-making in Northern Ireland. Northern Ireland’s largest political party - the DUP - has persistently halted debates around the issue of an IEPA. Their focus on economic development and the need to appease their electorate benefitting from lax regulation are suggested to be the reasons for their anti-IEPA stance (Brennan et al, 2017). Loewenstein (2017) and Spapens et al (2018) state that post-conflict countries often employ discourses of economic development and reconstruction. The government is more likely to support business than environmental legislation when the economy is doing poorly (Kamieniecki, 2006), therefore putting environmental integrity and wellbeing of local communities in peril. Additionally, the farming community have been strongly opposed to the creation of the independent agency because of fears of a stricter regulatory style and beliefs that such an agency will profit from fines for environmental misconduct (Purdy and Hjerp, 2016). As I will demonstrate later in my thesis, lack of state intervention in regulation results in the economic actors’ efforts to ‘own the problem’ and advocate for self-regulation (White, 2008). This instance of what is labelled as the neoliberal assault on environmental regulation (Faber, 2008; Czarnecki and Fiedler, 2016) is premised on the ability of the industry to gain control over the political actors and therefore have the authority over environmental agencies and environmental regulation.

With the recent arrival of a deal to restore devolved government in Northern Ireland, the position on the IEPA appears to be shifting. There is a proposal to establish an IEPA to oversee the work in relation to the strategic approach to climate change (UK Government and Irish Government, 2020). It is yet to be seen how these propositions will be acted upon by the newly restored Assembly. For instance, the Agriculture and Environment Minister appeared lukewarm on the idea of an IEPA, claiming that there already existed a significant degree of independence in the current NIEA (BBC News, 2020).

To conclude, it is evident that environmental governance in Northern Ireland is flawed. The environment is not a policy-making priority and policy decisions take place in the context where the environment is largely regarded as an obstacle on the way to a more productive and prosperous economy (Purdy and Hjerp, 2016), thus exacerbating tension between growth-oriented capitalist

economy and transformation towards sustainable ecology (White, 2011). Furthermore, environmental regulation is compromised due to the evidence of non-compliance and weak enforcement. Both the lack of an IEPA and political interference in environmental decision-making provide an insight into the relations of power in the environmental governance context. Resistance against the environmental regulation illustrates how the state shapes an institutional framework that economic actors advocating for market fundamentalism ultimately rely on to guarantee an uninterrupted continuation of the neoliberal project (Slobodian, 2018). The weakness of environmental legislation and marginalisation of environmental affairs create a ‘perfect landscape for neoliberalism and economic activities’ (Barak, 2015, p. 8); the adoption of GfG and the ongoing farming intensification are embedded in this landscape. The next subsection scrutinises the environmental regulation of farming in Northern Ireland.

3.4.3 Environmental regulation of farming

The regulation of the farming sector is reported to be more lax in Northern Ireland because of the industry’s substantial financial contributions to the country’s economy (Purdy and Hjerp, 2016). Moreover, environmental regulation of the farming sector has been criticised for its lack of an integrated, cross-sector approach: it is suggested that policies are formulated without consideration of their interrelationship or their unintended consequences, and that better coordination is needed (Northern Ireland Fresh Water Taskforce, 2018). A number of regulatory measures on the EU, national, and local levels, and their effectiveness in addressing the environmental impacts of farming are reviewed below.

3.4.3.1 EU level

On the farmer level, pollution regulation is closely bound to the distribution of Direct Payments. Subsidy recipients are required to meet the EU-set requirements of Cross-Compliance and subsidies can be revoked if inspections find any problems. Cross-Compliance Requirements include two aspects: compliance with the environment, climate change, public health, animal health, plant health, and animal welfare regulatory requirements (Statutory Management Requirements (SMRs)) and a requirement to maintain land in Good Agricultural and Environmental Condition (GAEC). The Northern Ireland GAEC Measures address the issues of protection and management of water, protection of soil and carbon stock and avoiding the deterioration of habitats (DAERA, 2018).

Purdy and Hjerp (2016) stress that a large amount of Cross-Compliance breaches in Northern Ireland are linked to nitrate pollution or non-compliance with good agricultural and environmental practices. Although beneficial in theory, Cross-Compliance is more arcane in practice. NIEA officers are authorised to carry out farm inspections for Cross-Compliance and a range of environmental legislation (DAERA and NIEA, 2015). Yet only a small percentage of farms in Northern Ireland are inspected each year (Purdy and Hjerp, 2016). According to DAERA (2017), only 1,471 farms out of 23,395 received a Cross-Compliance Inspection in 2017. The figures about how many farms are

annually subject to penalties in Northern Ireland are also lacking, other than data from whistleblowing, according to which penalties have been issued in 782 cases between 2011 and 2016 (Purdy and Hjerp, 2016). Moreover, recently the NIEA has been seeking permission from the EU to allow farmers who cause low-level pollution to avoid the inspection and receive a fixed penalty notice or mandatory training course instead (Brennan, 2017). While this measure can alleviate tension between the NIEA and the farming community, it ignores cumulative impacts of pollution; minor incidents can add up and cause a grave problem on the national level.

As it was shown above, eutrophication is one of the major issues for water quality in Northern Ireland, particularly in relation to freshwater (DAERA, 2018). While Cross-Compliance covers protection of water, a separate directive, the Water Framework Directive, requires Member States to prevent any further deterioration to the status of water bodies (DAERA, 2018). However, as it was also stated earlier, only a small percentage of water bodies meet the Water Framework Directive target of Good Ecological Status (Friends of the Earth NI, 2018).

The Nitrates Directive, one of the earliest pieces of EU legislation for controlling pollution, also aims to improve water quality and promote better management of animal manures, nitrogen fertilizers and other nitrogen containing materials spread onto land. The Nitrates Action Programme (NAP) Regulations were introduced to meet the requirements of the Directive, improve the use of nutrients on farms and as a result improve water quality throughout Northern Ireland. All farms in Northern Ireland are required by law to comply with The Nitrates Action Programme Regulations (Northern Ireland) 2014 as well as The Phosphorus (Use in Agriculture) Regulations (Northern Ireland) 2014. Member States must report every four years to the European Commission on the status of water quality and the impact of action programmes on water quality and agricultural practices. Protective action within the NAP can take one of two forms. The first is designation of Nitrate Vulnerable Zones and the establishment of an action programme of protective measures which applies within the zones. The second is establishment of a ‘total territory’ approach and the application of an action programme to the whole of a national territory. Given the level of nutrient enrichment in the Northern Irish waters, and the extent of the agricultural contribution to the elevated nutrient concentrations, DAERA have agreed to adopt a ‘total territory’ approach to the implementation of the Nitrates Directive, which means that the NAP applies to all farms across Northern Ireland (DAERA, 2018). The action programme requires farmers to observe the rules to reduce nitrogen and phosphorus pollution, which include measures on storing manure and periods when spreading of manure and manufactured fertilizer to land is not allowed (DAERA, 2018).

However, it is suggested that Northern Ireland offered very little support to farmers on nitrates, compared to England and Scotland and, as it was stated above, it is suggested that Northern Ireland might be breaching the Nitrates Directive (Purdy and Hjerp, 2016). According to Friends of the Earth NI (2018, p.9), ‘the Nitrates Action Programme has been ineffective in reducing nitrates emissions as it is based on ‘self-reporting’ by the potential polluter to the enforcement agency. There is no independent verification of the data submitted in Nutrient Management Plans in terms of neither the nutrient status of the soils nor the nutrient status of the organic fertiliser’. The monitoring

inspections by the NIEA, as it was shown above, also prove to be ineffective in ensuring compliance. Moreover, the new NAP for 2019-2022 increased the threshold of manure nitrogen production per year from 10,000 kg to 20,000 kg (DAERA, 2019), meaning that more manure can be spread on land, resulting in the ammonia emissions increase.

Finally, another EU measure is the Integrated Pollution Prevention and Control (IPPC) regulatory system. It employs an integrated approach to control the environmental impacts of certain industrial activities, including intensive farming of pigs and poultry. Its aim is to apply Best Available Techniques (BAT) to prevent, or reduce, emissions from these activities. In Northern Ireland, the IPPC Directive is implemented through the Pollution Prevention and Control Regulations (Northern Ireland) 2003 ('the PPC Regulations'). PPC Regulations address issues such as ammonia emissions, nutrients and metals in manure/litter/slurry, effluent discharges, dust, odour, and noise. Yet, not all farms in Northern Ireland have to comply with the PPC Regulations, as it will be shown later in the Local level subsection.

3.4.3.2 National level

Water (NI) Order 1999 is used to deal with incidents of pollution from farming. In 2016, there were 1,027 substantiated (confirmed) water pollution incidents, out of which 139 were of high and medium severity (DAERA, NIEA, 2018). Under the terms of the Water Order, NIEA may issue Notices (a Prevention Notice, an Enforcement Notice, a Prohibition Notice, an Anti-Pollution Works Notice) after which a Court Order can be applied. If enforcement action is taken, prosecution and court procedures are initiated. For instance, in the case of breaking the Nitrates Directive Regulations, the fine is up to £5,000. It is explicitly emphasised that NIEA seeks to work with farmers in a cooperative manner and enforcement action is seen as the last resort (DAERA, NIEA, 2015). Such approach echoes GfG's calls for compliance with regulations to be enacted as partnership rather than prosecution (AFSB, 2013).

As a result, a series of recommendations have been introduced to address pollution concerns. Pollution concerns have been featured in the Sustainable Agricultural Land Management Strategy for Northern Ireland that was developed in 2016, to address land management considerations related to the GfG. The main aim of the strategy was to identify where agricultural output can be increased without damaging ecosystem services delivery (DAERA, 2016). With its focus on soil management and improving the soil health, the strategy also shone the spotlight on the issue of agricultural ammonia in the Making Ammonia Visible report. The report confirmed the ammonia pollution concerns outlined above and introduced a series of measures to address spiking ammonia emissions: monitoring and communication, filling ammonia knowledge gaps, implementation of mitigation, and achieving behavioural change in farmers through education. However, the report explicitly stated that addressing of ammonia emissions will take place without contracting the size of the agriculture sector and identified the private sector as crucial for creating better environmental performance. The report thus was slanted in favour of the farming sector. Sustainable Agricultural Land Management

Strategy for Northern Ireland is infused with a similar spirit: its main aim is to demonstrate that farm incomes and environmental sustainability can be reconciled. This approach was considered to be a rather modest proposal that did not address the structural deficiencies of the inherently unsustainable agricultural growth model (Barry, 2009).

Additionally, technological solutions are put forward for mitigation of environmental impacts of farming. Anaerobic digestion (AD) is one of them. AD is a process in which organic matter (pig or cattle slurry, poultry litter, energy crops such as grass silage, and food waste) is broken down by micro-organisms in an oxygen-free environment to make biogas and digestate. Biogas can power on-farm operations while the digestate can be applied straight to land as a replacement for artificial fertiliser. From 2017 to 2019, there were 103 anaerobic digestion sites either under construction, or with planning applications approved or submitted in Northern Ireland (Northern Ireland Fresh Water Taskforce, 2018). Anaerobic digestion sites are eligible for the Renewable Obligation Certificates (ROCs) subsidy support scheme. ROCs are certificates issued to those accredited to generate renewable energy. As the number of AD plants increases, many farmers use the income derived from ROCs to subsidise other parts of their farming enterprise (Martin, 2017). A 500Kw capacity plant is reported to bring up to half a million pounds a year in subsidy (BBC News, 2018). While the pollution potential of the digestate is less than that of the original feedstock, it is still very high (Northern Ireland Fresh Water Taskforce, 2018). As a result, AD plants, while creating renewable energy, are reported to increase ammonia emissions in Northern Ireland, primarily through the storage of feedstock and digestate, and the land spreading of the latter (Bell et al, 2016). It is calculated that 1,869,300 tonnes of digestate will be generated by the 103 AD plants (Friends of the Earth NI, 2018). Provided that this digestate will be disposed of by land spreading, it will result in 1,551,519 kg of ammonia (Friends of the Earth NI, 2018). Moreover, AD plants are not regarded as waste-treatment facilities as, according to NIEA AD Quality Protocol, the digestate ceases to be a waste product. Therefore, no Waste Management License is required (Friends of the Earth NI, 2018). The License, however, ensures that waste management facilities do not cause pollution of the environment or harm to human health. Therefore, anaerobic digestion seems like a dubious solution for addressing the ammonia pollution issues.

3.4.3.3 Local level

As stated earlier, planning has a significant role to play for delivering sustainable development. Planning permission regulations also contribute to the mitigation of environmental impact of farming (DAERA, 2018). If a planning application has significant effects on the environment, an Environmental Impact Assessment is necessary to identify the risks and ensure their mitigation. It had been emphasised (DAERA, 2018) that individual permit or planning applications should each be subject to environmental assessments to ensure there will be no adverse impact on the environment. However, Purdy and Hjerp (2016) emphasise a lack of a strategic approach to spatial planning and suggest that there is also evidence of a lack of environmental consideration.

Environmental Impact Assessments are considered to be of substandard quality and the Environment Agency is not providing a sufficient amount of input into them (Purdy and Hjerp, 2016).

It has also been suggested that the planning system in Northern Ireland has a presumption in favour of development (Friends of the Earth NI, 2006), which is particularly resonant in the case of planning decisions in farming. Intensive livestock units over a certain threshold must obtain a permit to operate. Under the earlier mentioned IPPC Directive, the threshold is 40,000 bird places for poultry and 750 sows or 2000 production pigs over 30 kg (DAERA, 2018). As a response to this, GfG strategy recommended remodelling the supply chain to place sow and rearing units on separate sites to ‘facilitate growth while complying with IPPC requirements on environmental and welfare compliance along with improved disease control’ (AFSB, 2013).

Certain developments are also deemed ‘permitted developments’, and some of them belong to the category of farming and agriculture. The Planning (General permitted Development) Order (Northern Ireland) 2015 grants planning permission for certain types of permitted development, such as agricultural buildings (chicken and other livestock sheds, sheds for hay and straw, storage and maintenance of agricultural machinery and plant, milking parlours, slurry storage tanks). The size of the building that does not require a planning application can be up to 500 m² – this benchmark has been increased from 300m² in 2015. When the amended legislation was implemented, the then Environment Minister Alex Attwood stated that

‘these proposals, which are the most generous in these islands, will eliminate unnecessary red tape to enable agriculture to grow in a challenging economic climate. I want to help expand our agri-food business by 40% in the next few years. That is what producers tell me they hope to achieve – these changes can help the industry to do so. <...> Increasing the range of agricultural development that no longer needs planning permission will make it easier for farmers to undertake development’ (Department for Infrastructure, 2012).

Therefore, the change in the planning clause on ‘permitted developments’ can be seen as encouraging growth of the farming industry at the time when its environmental regulation is lagging behind.

To conclude, having analysed the mechanisms for addressing the environmental impacts of farming in Northern Ireland, this section demonstrates the inadequacies of environmental regulation of the sector. Environmental regulation of farming reflects the broader regulatory deficiencies in relation to the environment in the country. This analysis also reveals how the broader political economy of neoliberal capitalism with its emphasis on growth and deregulation intermeshes with power relations of state and economic actors on the national level. While the relational aspect of power in regulation will be examined in more detail in Chapter 5, this section lays the foundation for that analysis, evidencing a significant degree of influence of the farming industry over the regulatory bodies. Such influence manifests primarily in advocating for advice rather than punishment (recommendations rather than enforcement), self-regulation (which also involves ‘owning’ environmental problems by relying on technological solutions) and interfering with the unfavourable regulation; these examples echo a neoliberal approach towards regulation (White, 2008). A brief consideration of the local level regulation of farming also indicates how a presumption in favour of

development in planning favours the interests of the farming industry rather than the health of the environment.

The last two sections demonstrate that the EU has a major impact on both farming and environmental regulation in the country. The referendum on the membership of the UK in the EU was held on 23 June 2016. Although the majority (fifty-two percent) voted to break away from the EU, the Northern Irish majority voted to remain. Since the restoration of the Executive, the UK government has guaranteed to consult Stormont where Northern Ireland's interests are implicated, yet it remains to be seen how far Northern Ireland's politicians will be able to influence the process. The next section reviews the impact of Brexit on farming and environmental governance in the country.

3.5 Brexit, farming, and environmental governance in Northern Ireland

3.5.1 Brexit implications for farming

First, Brexit will have an impact on Direct Payments to farmers and funding to protect the rural environment. The UK will be designing its own scheme of farmer support and the new Government's Agriculture Bill intends to move away from a system of farming subsidies towards a scheme of 'public money for public goods'. Under this proposal, farmers would be supported to deliver specified outcomes, which could include 'managing the natural environment, protecting animal welfare, improving agricultural productivity, and preserving public access to the countryside' (House of Commons, 2018, p. 9). It is also suggested that 'direct payments can hinder productivity growth by undermining incentives to adopt best practice and by encouraging suboptimal investments that impact profitability' (DEFRA, 2018, p.4). The Bill sees Direct Payments as reducing market focus and an obstacle for farmers who are keen to expand (DEFRA, 2018, p. 28). Therefore, the Bill predicts that allowing Direct Payments to cease may encourage structural change where less efficient farmers decide to leave the sector. However, there are concerns that some aspects of the proposal would not be appropriate if applied to Northern Ireland (House of Commons, 2018, p. 11-12). It is suggested that moving away from Direct Payments could 'threaten the continuing viability of small farms and impact negatively on the development of rural areas' (House of Commons, 2018, p.25). As a result, the Northern Ireland Affairs Committee proposed that the definition of public goods should include the survival of small farms as 'essential rural assets' (House of Commons, 2018, p.26).

Second, animal health and welfare might come under pressure after leaving the EU. Farmers receiving direct support from the EU have to comply with EU rules on maintaining necessary animal health standards. The Health and Harmony policy paper suggests that the current regulatory system is burdensome for farmers (DEFRA, 2018), yet its simplification comes in conflict with the need to maintain high animal welfare standards. DAERA might have to bear extra costs for control and eradication of diseases in animals – currently the regulation and financial assistance for prevention and eradication of disease are derived from a series of EU Directives and Regulations (Allen, 2016).

Trade is another point of concern as the UK's trade relations are determined by its membership in the EU to a large extent (House of Commons, 2018). Northern Ireland currently exports 70% of its agricultural produce (Foord et al, 2018). The UK as a whole relies less on agriculture, and Northern Irish interests in negotiations might be side-lined in favour of financial or other services (Allen, 2016). Moreover, farmers remain concerned about the post-Brexit movement of goods across the border with the Republic of Ireland as many agri-food businesses operate on an all-island basis (House of Commons, 2018). Northern Ireland exported £899.5 million worth of food and live animals to the Republic in 2017 and 33% of its total exports to the country (House of Commons, 2018). Northern Ireland, the Republic of Ireland, the UK as a whole, and the EU will each be in a disadvantaged position if cross-border trade is interrupted (House of Commons, 2018).

The agricultural industry also heavily depends on a workforce from EU countries. The Northern Ireland Food and Drink Association (NIFDA) estimates that around 48% of workers employed in the agri-food sector are EU nationals (House of Commons, 2018). In Northern Ireland, there is a greater demand for skilled roles and less demand for seasonal labour than in the rest of the UK (House of Commons, 2018), and the need to employ workers from outside the UK is crucial after Brexit. One of the solutions to a dwindling workforce can be automation and mechanisation that, according to some, also changes the structure of the industry pushing for larger businesses (House of Commons, 2018). Overall, Brexit will prove to be disruptive for the farming industry, impacting the areas such as financial wellbeing of small farmers, animal welfare regulations, trade, and labour supply.

3.5.2 Brexit implications for environmental governance

It is predicted that Brexit is likely to lead to a reduction in cooperation to tackle environmental challenges (Brennan et al, 2018) and that environmental protections that stretch beyond product standards or trade may be weakened because of regulatory divergence (Burns et al, 2018). Brennan (2017) goes as far as suggesting that environmental law and policy framework will not only stagnate, but decay in a post-Brexit scenario. Current environmental governance is based on the shared right to decide and make laws between the EU and its Member States and, through devolution, Northern Ireland. The EU provides an extensive environmental law base, supports formulation of new policies, and performs enforcement and accountability functions (Brennan et al, 2018). These functions are threatened by Brexit. Considering the above described problematic history of enforcement of environmental regulations in Northern Ireland, Brexit may potentially destabilise environmental governance in the country (Brennan et al, 2018).

First, compliance and accountability need to be considered. The EU enforcement mechanisms are not flawless, yet they helped to pressure the devolved government to comply through the threat of infringement fines (Dobbs et al, 2018). The latter are imposed by the Court of Justice of the European Union (CJEU) if the EU Directives have not been implemented correctly or applied properly, and it is the devolved government rather than Westminster that is liable for financial

sanctions payment (Brennan et al, 2018). In the absence of the CJEU, there are proposals to have a new watchdog⁸ to replace it, yet its capacity and degree of independence are not determined (Brennan et al, 2018). The latter is particularly challenging in the Northern Irish context, given its faults of environmental governance and delays in implementation, and it appears that little effort is being made to address the previous governance weaknesses (Gravey et al, 2018).

Second, Brennan et al (2018) raise a number of questions on the implementation of common EU frameworks by the devolved governments, such as whether the UK frameworks will replace EU frameworks in some/all cases; which policy areas will be concerned; how the new frameworks will be agreed upon; governance and enforcement of the new frameworks; the degree of differentiation to be allowed for each devolved government. The developments sketching out what the common frameworks may be so far focus on protecting a UK single market and safeguarding trade, leaving a large environmental gap. Brennan et al (2019) evidence that transboundary issues such as water, air quality and biodiversity are either considered as not requiring a common framework (water) or requiring a political agreement only (air quality and biodiversity). Furthermore, the current development around the common frameworks are Westminster-focused and less considerate of the needs of devolved governments (Brennan et al, 2019), which is particularly problematic in light of the distinctive environmental governance challenges that Northern Ireland faces⁹.

The unique position of Northern Ireland in terms of sharing a border with the Republic of Ireland brings further challenges for environmental governance. The Irish border has featured extensively in Brexit negotiations so far, but little has been said about Northern Ireland's extensive cooperation with Ireland on environmental issues (Gravey et al, 2018; Burns et al, 2018). Its scope can be seen below:

⁸ Judicial review has been suggested as an alternative to a new watchdog, yet a number of problems has been highlighted in relation to it: prohibitive cost, its suitability, its ability to fill the accountability gap, the clash between ‘the ‘political’ nature of environmental law and the legal focus of judicial review’’ (Brennan et al, 2018, p.21).

⁹ They include sharing a border with a non-UK country, the involvement of groups with paramilitary links in environmental crime, dealing with the legacy of past neglects and political disinterest in environmental issues (Brennan et al, 2019).

| Cross-border areas of cooperation | All-island areas of cooperation |
|---|---|
| <ul style="list-style-type: none"> Environmental funding Fuel laundering Marine environment Protected habitats Strategic Environmental Assessments Waste and waste crime Water catchments Water pollution and regulation Wildfires | <ul style="list-style-type: none"> Air quality Birds and Habitats Directives Climate change Energy supply Invasive species Marsh fritillary Plant health Pollinator Plan Radiation |

Figure 3.12. Cross-border cooperation. Source: Northern Ireland Environment Link (2017)

It is predicted that regulatory alignment may be lost, enforced cooperation regarding water bodies and nature protection may disappear and there may be no mechanisms for cross-border decision-making and litigation (Brennan et al, 2019).

Furthermore, it needs to be specified that EU environment policy is infused with the ethos of environmental protection, and rests on the principles such as prevention, precaution, polluter pays, proximity and integration (Fact Sheets on the European Union, 2019). The earlier discussed Aarhus principles regarding access to environmental information, public participation in environmental decision-making and access to justice in environmental matters are also applicable to the EU and all Member States and play an essential role in good environmental governance (Brennan et al, 2019). It is suggested that if left to its own devices, Northern Ireland's devolved government may be unwilling or unable to maintain, implement and enforce environmental standards post-Brexit (Brennan et al, 2019). To summarise, it is evident that Brexit may have negative implications for both the farming industry and environmental governance in Northern Ireland.

3.6 Conclusion

This chapter provided the background information on Northern Ireland and set the context in which the findings in my research are embedded. Northern Ireland is integrated in the globalised neoliberal capitalist political economy driven by economic growth fetishism (Kramer and Michalowski, 2012). This global political economic paradigm shapes national policy realities (Ban, 2016) and determines the choices made by individual actors. This chapter demonstrated how global political economic setting, in its interaction with the national realms and the legacy of the Troubles, furnishes conditions for environmental harm embodied by the adoption of GfG agri-food strategy and the process of pig farming intensification.

The political economic context is marked by institutional instability and divisions within governmental departments, which culminated in the recent absence of the Executive. Social development has also been affected by the Troubles as the conflict complicates the implementation

of the policies aimed to consolidate participatory democracy. Although the ethos of participatory democracy is strong, its practical application is reported to resemble democratic window-dressing, which is emblematic of the previously discussed elimination of the political under neoliberal capitalism. The ideology of neoliberal capitalism also pervades the farming industry in the country. This chapter showed that farming has a particular historical significance in Northern Ireland and remains a powerful industry today. Yet, the country's long-lived devotion to small-scale farming is changing and the adoption of the industry-led GfG agri-food strategy in 2012 is a testimony to that. Pig farming is an exemplification of the trends of farm concentration and production intensification, which have been particularly evident since the implementation of GfG. This development takes place in the context where environmental impacts from farming are already concerning and it can be assumed that a rising number of intensive pig farms will further exacerbate them. The rise in intensive pig farms exposes the communities living in close proximity to such farms to a disproportionate amount of environmental burdens and the ineffectiveness of planning in preventing and controlling such harms through environmental decision-making forums is concerning in this context.

In addition to that, environmental regulation appears to be flawed. The Troubles guaranteed prolonged de-prioritisation of environmental matters and influenced the lack of political will towards this subject. Additionally, the global direction of leaving environmental governance and regulation in the hands of the market actors to remove the barriers for incessant economic growth (Harvey, 2010) is integrated into domestic policy milieus (Hall, 1989). Environmental regulation of farming is an example of that. This chapter revealed the dynamics of power relations in relation to environmental regulation, whereby the farming industry possesses a significant degree of influence over the regulatory bodies. Moreover, it showed that the planning policy is dominated by a presumption in favour of development, thus also favouring the economic interests of the farming industry rather than the health of the environment. Lastly, this chapter reviewed the impact of Brexit on farming and environmental governance in the country, revealing the potential detrimental effects in Northern Ireland. The next chapter will discuss the methodology in my research.

Chapter 4 – Methodology

4.1 Introduction

This chapter outlines and details the methodological approach adopted to collect and analyse primary and secondary data concerning pig farming intensification and environmental injustice in Northern Ireland. The chosen methodological approach is used to provide answers to the research questions outlined in Chapter 1. To reiterate, the main question in my research is: *how does the process of pig farming intensification in Northern Ireland lead to environmental injustice?* To answer the main question, three sub-questions have been formulated:

1. *How does the process of pig farming intensification take place in Northern Ireland and how do power relations that support and reinforce it operate on the three levels of inquiry: macro (international), meso (national) and micro (local)?*
2. *What is the current distribution of harms from farming in the studied area and what effect does it have on the realm of capabilities?*
3. *How does the process of environmental decision-making regarding the new farms in the studied area take place and what are the dynamics of power within it? What are its effects on the distribution of future harms associated with farming intensification?*

This chapter starts by detailing the ontological and epistemological assumptions that underpin my research. It proceeds to explain why the case study method is suitable as the methodological approach in the context of my epistemological assumptions and specifies the case study in my research. Following that, this chapter details the literature review process that preceded data collection. The chapter also elaborates on the techniques used for data collection, including primary and secondary sources of data. Afterwards, the data analysis process is explained, as well as ethical issues and limitations pertaining to my research. Finally, my positionality as a researcher is discussed.

4.2 Ontology and epistemology

The ontological position adopted in my research is critical realism, which allows movement beyond the constructivism/positivism dichotomy (Carolan, 2005). Reality in critical realism ‘is constituted not only by experiences and the course of actual events, but also by structures, powers, mechanisms and tendencies – by aspects of reality that underpin, generate or facilitate the actual phenomena that we may (or may not) experience’ (Bhaskar and Lawson, 1998, p.5). This conceptualisation of reality is underpinned by the three overlapping domains: the empirical, the actual and the real (Bhaskar, 2008). The empirical consists of the events as one experiences them; the actual consists of the events that happen regardless of whether one experiences them or not, since what happens in the world may not be the same as what is observed; the real consists of the mechanisms that produce events in the world (Bhaskar, 2008). While my research considers the empirical dimension of pig farming

intensification and environmental injustice, it uses this observable event as ‘a springboard or gateway to understand the complex, layered, and contingent processes or structures’ which cause it (Archer et al, 2016, p.6). They exist in the domain of the real.

Critical realist research employs retrodiction as a ‘mode of inference in which events are explained by postulating (and identifying) mechanisms which are capable of producing them’ (Sayer, 1992, p.107), therefore asking what must be true to make events possible (Easton, 2010). Furthermore, generative mechanisms can be considered at the three levels: micro, meso and macro. Each of them consists of powers such as ‘causes, motives, considerations, choices, and social interaction’ (Blom and Moren, 2011, p. 64). Such mode of inference is essential for examining the generative mechanisms behind farming intensification through the lens of state-farming industry relations on the macro and meso levels and their effects on the micro level in the realm of environmental justice.

Critical realist ontology also posits that generative mechanisms are contextually conditioned (Blom and Moren, 2011; Bygstad et al, 2015). Bhaskar (2010) suggests that contexts influence generative mechanisms rather than determine them. Nevertheless, the two cannot be examined separately, as the mechanism’s action depends on its context – what Bhaskar (2010, p. 8) calls ‘the effective generative dyad in social life’. For my research, it means examining the Northern Irish historical, political economic, social, and regulatory contexts (discussed in Chapter 3) and subsequently grounding the identified generative mechanisms in those contexts. Moreover, contextual dependency of generative mechanisms implies that under certain contextual circumstances the empirical effects do not take place (Blom and Moren, 2011; Bygstad et al, 2015). In my research, the effects of farming intensification can be observed in the micro level context of communities living in close proximity to farms, coupled with the context that shapes environmental decision-making.

Ontological realism’s stance that the world exists independently of our constructions of it leaves room for epistemological interpretivism (Bhaskar, 1998; Easton, 2010). As Frazer and Lacey posit (1993, p. 182), ‘even if one is a realist at the ontological level, one could be an epistemological interpretivist <...> our knowledge of the real world is inevitably interpretive and provisional rather than straightforwardly representational’. Thus, one’s understanding of the world is a construction from their own perspective. Such distinction between the nature of reality and the experience of it allows to avoid what Bhaskar (1978) calls an epistemic fallacy of bundling together ‘being’ and one’s knowledge or experience of being. Such distinction allows for ‘the speaking of things that cannot be directly observed (and are thus, beyond the level of the empirical), but which are real nevertheless’ (Carolan, 2005, p. 395), such a larger biophysical whole that serves as a reference point to social constructions. As Bhaskar (2008) states, the anthropocentric bias of classical philosophy invalidated the concept of the ontological realm. The anthropocentric bias obscures the reality of the biophysical whole, the natural world, thus eroding the basis for environmental politics; yet, addressing this bias is crucial for the project of green criminology. Thus, in my research the combination of ontological realism and epistemological interpretivism allows analysing the objective realities of the impact of

global capitalism and its anthropocentric bias on the natural world, along with the variety of subjective experiences of humans operating and living within these objective realities.

An interpretivist position is concerned with understanding a phenomenon from an individual's perspective (Bryman, 2012). The role of the interpretivist researcher is to capture this process of interpretation from the participants' points of view (Blumer, 1969) and understand what lies behind it. Adopting an interpretivist epistemology in my research implies understanding the phenomenon of farming intensification and environmental harm from different perspectives, such as the farming industry, the government, and individuals living in close proximity to farms. A crucial aspect of my research is to acknowledge that different actors can perceive the same instance of harm differently and those perceptions should be studied and explained using their own terms and contexts.

Moreover, the interpretivist position also accommodates a critical inquiry. A critical inquiry aims to find a social power structure (Lincoln et al, 2018), where certain groups of society are privileged over others and aim to exert control. The issue of power runs through the integrative theoretical framework in my research; exploration of the role of power is crucial because of its ability to influence the processes of social construction of reality for both state and farming industry actors and those being exposed to environmental harms from farming intensification. Opening one's knowledge claims to criticism and further improvement is an essential part of the critical realist project (Carolan, 2005) as it acknowledges that some approximations of reality are more valid than others (Carolan, 2005). Interpretivist researchers analyse the social lives of others according to their own sets of meanings (Saunders et al, 2007) and I need to acknowledge that my preference of certain approximations of reality over others will be influenced by my values and beliefs. A further elaboration on this is provided in the *Positionality* section later in this chapter.

4.3 Research design – case study

The previous chapter outlined the context of my research and showed why Northern Ireland is an appropriate case for intersecting pig farming intensification and environmental injustice. Below I justify the choice of a case study approach in my research.

A case study approach enables a holistic understanding of a particular phenomenon, investigating how actors engage in certain acts over a particular time in a particular space (Feagin and Sjoberg, 1991). It is suitable for research questions that are explanatory in nature, which is the case for my study. In social sciences, a case study is used as a foundation for data collection and analysis (Burton, 2000) and can be defined as an empirical enquiry that analyses a contemporary phenomenon in a particular context (Yin, 2003). Case studies are known for their internal validity, as a causal relationship is more easily established in a single case than for a larger set of cases (Gerring, 2007). As it was stated earlier, my research is informed by the green criminological perspective. Green criminologists have employed a variety of research designs to collect their data (Brisman and South, 2016), and a case study is one of them. Heckenberg and White (2013) posit that the analysis of evolving harms and crimes invites a case study approach that brings together

descriptive information and contemporary facts and figures. Rothe and Kauzlarich (2016) concur, stating that the case study approach is suitable for qualitative criminological research. Moreover, the case study approach is also suitable for the critical realist ontological position: ‘it justifies the study of any situation, regardless of the numbers of research units involved, but only if the process involves thoughtful in-depth research with the objective of understanding why things are as they are’ (Easton, 2010, p. 119). A case study approach recognises the importance of context (Harding, 2013) and allows its in-depth analysis. The chosen research design, thus, provides a holistic understanding of pig farming intensification in Northern Ireland and allows explaining its link to environmental injustice.

Additionally, as it was specified in Chapter 2, the integrative theoretical framework for my research incorporates crimes of the powerful scholarship to understand workings of power in the context of intensive farming. Rothe and Kauzlarich (2016) emphasise that the case study approach is particularly useful for crimes of the powerful research given the ambiguity of links and relationships. A case study approach also allows to discern the dynamics of power in the processes of environmental decision-making on the local level, considering the power wielded by the farming industry and their close relationship with the government (McAreavey and Foord, 2016). Finally, a case study approach is also suitable for events that deal with operational links that need to be traced over time (Yin, 2014). Intensification of pig farming is a long-term process, rather than an incident, and has its roots in history. Yet, despite its significant history, it can be seen as a contemporary event, over which the researcher has little or no control; the combination of these two factors also invite a case study approach (Yin, 2014).

A case study approach is not without criticism. It is still deemed to be a less desirable design than an experiment or a survey (Yin, 2014). Generalisation is a big concern regarding case studies (Bryman, 2012): Gerring (2007) claims that a case study approach is not representative enough as it includes only a small amount of cases of a more general phenomenon. However, it has been noted that the issue of generalisation is predominantly a concern for quantitative researchers (Harding, 2013). Rather than generalising, case studies aim to contribute to theory (Yin, 2003). Some criminologists also contest the generalisation criticism, asserting that specific case studies of harm can be transferred to other industry domains (Heckenberg and White, 2013). While examining particular contextual specificities, such studies contribute to the broader research frontier and are valid in their own right. Therefore, this case study of pig farming intensification in Northern Ireland also aims to contribute to the broader frontier of criminological research, both theoretically and empirically. Having justified my research design, the next section will outline the techniques used for sampling of the literature in my research.

4.4 Primary and grey literature review

The literature in my research included both the academic literature as well as legislation and policy documents. Sampling of the academic literature was conducted primarily through Northumbria

University library. Platforms such as Google Scholar, Library Genesis and Sci-Hub were also used to locate the work that could not be found in the University Library. Only peer-reviewed sources written in English were considered.

Legislation and policy documents were found online once the research topic was determined. They included documents from Northern Ireland Assembly¹⁰, legislation and policy documents related to farming, planning, environmental regulation (in general and of farming). Documentation specifically from the Committee for Agriculture, Environment and Rural Affairs was reviewed, including Briefing Papers, Research Papers (2016-2017) and Minutes of Evidence (2014-2015 and 2016-2017). Unavailability of records after 2017 might be explained by the absence of the functioning Assembly at that time. These documents provided an insight into the government strategy in regard to farming and their concerns about the future of the sector. Policy documents related to the GfG strategy were also examined. The text of the strategy *Going for Growth. A Strategic Action Plan In Support Of The Northern Ireland Agri-Food Industry* was read to understand the context behind the strategy, its goals, and the means of achieving these goals. Documents related to the strategy, such as the *NI Executive action plan in response to the Going for Growth strategy* and the strategy's progress updates were reviewed to triangulate the farming industry participants' answers. Similarly, annual reports from the UFU (specifically sections on the pork production and the environment) were examined with a similar intention. More generally, publications on the pork sector from the Agriculture and Horticulture Development Board (AHDB) were used to identify the trends in research in the pig industry and application of innovative technologies for the mitigation of environmental impacts from pig farming. Documents under the categories of 'environment' and 'research and innovation' were selected for this purpose.

Planning documents and planning legislation were also studied. Documents associated with pig farm planning applications¹¹ such as environmental impact assessments, consultation responses, neighbour notifications, planning decisions, etc. were deemed to be relevant for my research. They allowed a better understanding of the planning system in relation to farming developments in Northern Ireland. The issue of public participation in planning decision-making emerged during primary data collection and it was decided that planning legislation should also be examined to understand the role of Northern Irish citizens in shaping environmental decision-making. Consequently, the Planning Act (Northern Ireland) 2011, The Planning (General Permitted Development) Order (Northern Ireland) 2015 and The Planning (Statement of Community Involvement) Regulations (Northern Ireland) 2015 were analysed. The Planning Portal was instrumental for understanding the formal nature of public participation in environmental decision-making.

¹⁰ To identify the relevant documents from Northern Ireland Assembly, the website of the Assembly was searched using the key words 'farming', 'intensive farming', 'pig farming', 'ammonia emissions', 'animal waste', 'environment', 'environmental justice', 'public participation', 'planning community involvement', 'access to justice', 'third-party right of appeal'.

¹¹ These documents were obtained through PublicAccess for Planning Applications website <https://www.planningni.gov.uk/index/tools/public-access-info.htm>.

Furthermore, understanding of environmental regulation was essential to establish a benchmark of what farmers have to comply with to subsequently compare it with the status quo in Northern Ireland. The DAERA website was the first point of reference and the topics of ‘Pollution’, ‘Protect the environment’, ‘Water’ were browsed to identify the relevant control mechanisms in place. Moreover, since the bulk of national environmental regulation has its roots in the EU regulation, documents related to environmental regulation of farming on the EU level were also examined, including Cross-Compliance Statutory Management Requirements, the Nitrates Directive, Water Framework Directive, Pollution Prevention and Control (PPC) licensing, Waste Management licensing and Animal By-Product legislation. I also reviewed the documents that allow an insight into relations in regulation and advance my understanding of the regulatory processes that apply to farming in the country. Ulster Farmers' Union & NIEA Memorandum of Understanding presents an example of that and illustrates how farming lobbying groups interact with the government to shape environmental legislation. Briefing Papers from Northern Ireland Assembly were also reviewed on the subject of evaluating the impact of Brexit on environmental governance in the country.

Having detailed the process of primary and grey literature review in my research, the next section will discuss the process of primary, secondary and media data collection.

4.5 Data collection

Prior to the fieldwork, an ethics form was completed and approved. The ethical risk was identified as medium and all the necessary documentation was prepared to make sure that ethical guidelines are maintained in research. Before explaining the process of data collection, my sampling strategy needs to be clarified.

4.5.1 Sampling strategy

A systematic approach to data collection in qualitative research is determined by two factors: having a case to investigate and determining the framework of a particular sample (Flick, 2014). I have shown that Northern Ireland provides a suitable case for studying pig farming intensification. Therefore, sampling techniques in my research will be discussed here.

My study revolves around three levels of inquiry – international, national, and local. To understand the specifics of pig farming intensification on the national level, Belfast was chosen as the main research location, considering that the majority of government and industry participants are based there. The same participants were able to provide a sufficient insight into the international level of inquiry, as they discussed the link between global trends in pig farming and intensification in Northern Ireland. Furthermore, a location needed to be chosen in order to provide a local level insight into the phenomenon of pig farming intensification. My research used non-probability sampling, as it constructs a sample that can yield the most valuable insights into the study’s focus (Yin, 2014). Within a non-probability sampling framework, purposive sampling was used, looking at the case that might not be representative of a wider population, but represented an example of the

community where farming intensification was taking place. The figure below displays the dynamics of factory pig farming in Northern Ireland. It is evident that the number of animals reared intensively is smaller in County Antrim than in other areas. Yet, planning permission for a pig farm that would house 15,000 animals was granted in 2016 in Antrim and Newtownabbey district¹², and another planning application (for a farm producing more than 50,000 pigs per year¹³) in the same area was under consideration at the beginning of my research¹⁴. Antrim and Newtownabbey district, thus, can provide an insight into intensification as a process rather than an existing phenomenon. Moreover, the area already has a farm that houses around 9,000 animals, which made it suitable for the research on the existing distribution of harms from intensive farming on the environment and society. Based on this, Antrim and Newtownabbey district was selected as the research site for data collection on the local level.

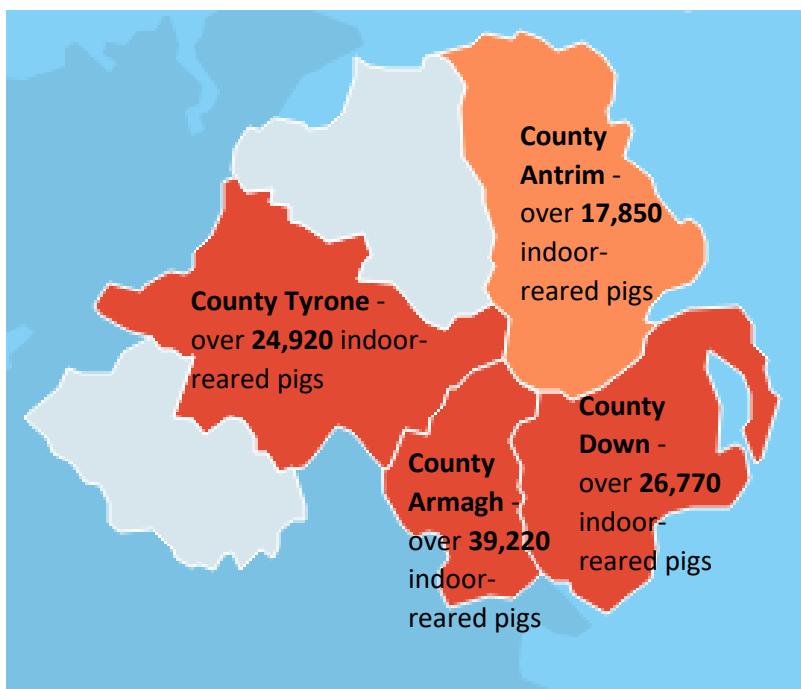


Figure 4.1. Dynamics of factory pig farming in Northern Ireland. Source: Compassion in World Farming (2017)

In addition to sampling of the context, sampling of the participants is also a crucial part of sampling (Bryman, 2012). For sampling of the participants, snowball sampling was employed: as the key informants provided more information on the local context, other potential informants were identified. The key informants were selected based on the following criteria: they had available

¹²<http://epicpublic.planningni.gov.uk/publicaccess/applicationDetails.do?activeTab=summary&keyVal=NN5KWFSV30000>

¹³ Based on the assumption that 2,755 sows (as described in the planning application) will average two litters per year and 10 piglets per litter.

¹⁴<http://epicpublic.planningni.gov.uk/publicaccess/applicationDetails.do?activeTab=externalDocuments&keyVal=P4YQR7SV30000>

knowledge and/or experience needed for this research (either of the farming industry in Northern Ireland or of the effects of farming intensification); they were capable of reflection; and they had time to be interviewed and were willing to take part in this research (Flick, 2014). The sample of participants was diverse to make sure that the case is made up of as many facets as possible (Flick, 2014). Four categories of participants are described below in Table 4.1.:

| Participant category | Justification for inclusion |
|--|--|
| Local residents | Those residing in the area where pig farming intensification is taking place. Alkon et al (2013) claim that getting an insight into the community perspective is essential for providing support for those affected by environmental inequalities. The research considered the perspectives of those actively opposing large-scale farm projects in the area as well as those not actively contributing to decision-making around such projects. |
| Government | Both local and national levels of government, including participants that are directly or indirectly engaged in policymaking or decision-making around farming in Northern Ireland: local councillors, local Members of the Legislative Assembly (MLAs), participants from the DAERA and Invest NI (regional business development agency that constitutes part of the Department for the Economy). |
| Farming industry | -Local farmers - both large-scale and small-scale pig farmers with an insider knowledge of the industry. -Corporate participants (Agri-Food Strategy Board members involved in the creation of the GfG agri-food strategy and participants involved in pork procurement on the retail level). -Lobbying groups (UFU participants representing the interests of farmers in Northern Ireland). |
| NGO actors and public-spirited citizens | NGO participants providing an alternative perspective on regulatory environments |

| | |
|--|--|
| | (Kauzlarich and Matthews, 2006) and participants involved in campaigning beyond the local level. |
|--|--|

Having described the details of location and participant sampling, the next section will outline the process of data collection in my research.

4.5.2 Primary data

Primary data collection included semi-structured interviews. An empirical research project drawing on critical realism can, according to Archer (2003), use interviews to capture individuals' interpretations of social structures in which they exist. This approach fits with the theoretical framework of my research; Kauzlarich and Matthews (2006) suggest that state-corporate crime researchers need to place a more detailed focus on individual-level analysis as internal dynamics of organisations and their connection to the broader political economy have garnered most of the scholarly attention thus far. They assert that the 'lived reality' (2006, p. 241) of state-corporate crime can be understood through the perspectives of actors and victims associated with harmful activities. Therefore, it was assumed that an analysis of pig farming intensification in Northern Ireland can be conducted by interviewing the individuals that shape this phenomenon, while an analysis of environmental injustice can be conducted by interviewing the individuals that experience its effects and shape environmental decision-making processes.

Moreover, a further clarification is needed of the choice of semi-structured, rather than structured or unstructured interviews. Galetta and Cross (2013) suggest that semi-structured interviews address specific research questions, but simultaneously leave space to bring in new findings into research. Considering my outsider perspective, semi-structured interviews allowed the participants to introduce me to the new facets of the studied topic. Semi-structured interviews are characterised by their flexibility (Bryman, 2012). Considering my positionality (which will be described later), the topic of pig farming intensification could appear controversial to some participants (such as the farming industry or government participants). As semi-structured interviews provide a greater leeway in how to reply to participants, they were chosen as the preferred mode of interviewing. However, any kind of interview can bring some challenges that are beyond a researcher's control. They include issues surrounding subjectivity, interviewee and interviewer bias, interpretation of interviews, explorative rather than hypothesis testing nature of interviews, their generalisation and validity (Kvale, 1996). The issue of bias is pertinent to my research. The interviewer bias will be explained later in the *Positionality* section. In terms of interviewee bias, participants' responses might be influenced by their idea of what the interviewer might require (Gomm, 2004). In my research, it was assumed that the farming industry participants would stress their environmental and animal welfare responsibilities, while local residents would respond at length

to the questions about the effects of intensification. Both assumptions proved to be true and were recognised during interview transcription and data analysis.

A detailed fieldwork plan was formulated prior to going to Northern Ireland and a database of all potential participants was made. Participants were put in one of the four categories (as outlined above), their contact details were recorded, and their status was defined (contacted on <date>, contact again on <date>, interview scheduled, unavailable). Twenty-nine semi-structured interviews were conducted between November 2018 and January 2019 with eight local residents, seven government participants (two local councillors, two MLAs, one participant from the DAERA, two participants from Invest NI), nine farming industry participants (three local farmers, two participants from the AFSB, one participant involved in pork procurement on the retail level, three participants from the UFU), four NGO participants and one public-spirited citizen. Further details of the semi-structured interviews (including the date, participant category and the code that will be used in the following chapters to communicate information provided by the corresponding interviewee) can be found in the Appendix 1.

The decision to finish primary data collection in January 2019 was motivated by several factors. First, limitations of access precluded me from interviewing some participants (this aspect will be discussed later in this chapter). Second, while the concept of saturation was not applied in my research as there is always potential for new information to emerge (Mason, 2010), it was decided that a sufficient amount of data was collected to answer the main research questions and new information obtained made little contribution to the overall purpose of research (Mason, 2010). Indeed, the participants interviewed were ‘the ‘right persons’ to study’ (Brannen, 2012, p.16) and were crucial to my particular case study.

Semi-structured interviews incorporate both open-ended and more theoretically driven questions, thus producing data from the personal experience of the participant as well as data steered by theoretical foundations of the discipline within which one is conducting research (Galetta and Cross, 2013). The initial interview guides were based on the initial research questions and the theoretical framework discussed in Chapter 2. For instance, for the farming industry actors, the questions were organised around the themes of motivation, opportunities, and controls for intensification while the questions for the local residents concerned the distribution of environmental benefits and burdens, recognition of their views regarding the intensification, and participation in environmental decision-making. The focus of each interview was adjusted depending on the category of the participant, as described in Table 4.2.:

| | |
|------------------------|---|
| Local residents | -Their views on pig farming intensification in the area, both positive and negative aspects of it. -The impact of pig farming on the local area, the natural environment, and the quality of life in the area. |
|------------------------|---|

| | |
|-------------------------|--|
| | <p>-Their participation in the decision-making process around new farm developments and the recognition of their views in that process.</p> <p>-Their diets and the way they source their meat.</p> |
| Government | <p>Local councillors and MLAs: planning process in Northern Ireland and their engagement with local residents on the matters related to environmental decision-making around farming intensification.</p> <p>DAERA: the context of the GfG strategy and their engagement with the farming industry, environmental and social implications of farming intensification in Northern Ireland and the future of pig farming in the country.</p> <p>Invest NI: the importance of pork exports, the role of globalisation for the industry, and global trends in pork production and their influence on the local production.</p> |
| Farming industry | <p>Local farmers: their farming businesses and the history of their farming businesses, environmental regulation in farming and mitigation of the existing effects of intensification.</p> <p>For small farmers: their views on intensification, the factors behind it and the components of a successful pig farming business today. For large farmers: the role of GfG in the intensification, the role of globalisation, the relations in the supply chain (both in terms of production and consumption) and the role of technology in farming intensification.</p> <p>Corporate participants: the context of GfG, the support behind it and the application of GfG to pig farming. For participants involved in pork procurement on the retail level: the relations in pork supply chains and their engagement with farmers.</p> |

| | |
|--|---|
| | <p>Lobbying groups: their engagement with the government, the background of the GfG strategy, the current trends in pig farming in the country, environmental regulation of farming and the effectiveness of the existing mitigation practices (including the technology solutions).</p> |
| NGO actors and public-spirited citizens | <ul style="list-style-type: none"> -The opportunity structures for pig farming intensification and their effects. -The state of environmental regulation in Northern Ireland. -The structure of the planning system and opportunities for public participation in environmental decision-making. |

The location for interviews was chosen based on the respondents' preference; most interviews with government, farming industry and NGO participants took place in their offices, while interviews with residents and farmers took place at their homes. Eight interviews were conducted on the phone. Telephone interviewing is reported to be effective for addressing sensitive questions, since participants might feel more at ease, with the interviewer not being physically present (Bryman, 2012). Several farming industry participants were interviewed on the phone and the context of telephone interviewing helped to ease tension when the topic of the effects of intensification was brought up. While Irvine et al (2013) found that face-to-face interviews resulted in longer and more detailed interviews, it was not the case for my research. The quality of interviews, their length and depth were similar for both face-to-face and telephone interviews, which, according to Bryman (2012) can indeed be the case. Characteristics of face-to-face interviews, such as body language, the setting of the interview were not considered to be relevant for my research, which made telephone interviews a convenient choice in a number of cases. Moreover, a short time gap between telephone interviews and the trip to Northern Ireland allowed me to prepare new interview guides to ensure that findings that emerged from telephone interviews were discussed in face-to-face interviews. New interview guides for the industry participants prioritised the history of pig farming in Northern Ireland to obtain a better understanding of the evolution of intensification and aimed to get an insight into the vertical integration of the pig sector. Furthermore, the role of technology in intensification and issues surrounding animal welfare became more prominent in the new interview guides. For the local residents, flaws and industry influence in the planning system were included in new interview guides as it was assumed that these issues needed further clarification.

Each interview lasted from forty-five minutes to two hours as most participants were keen to engage with the research topic. The nature of the research topic and the significance of the effects of intensification on the environment and society to my research led to a prediction that farming

industry participants would not engage with the topic enthusiastically (this aspect will be covered in more detail in *Challenges and limitations* section). Therefore, the manner in which the research was presented upon making the first contact with certain participants was crucial. Brisman and South (2016) claim that the question of transparency of research aims for the powerful and influential participants has become a debate in criminological methodology. As a result, the research information sheet and the research consent form featured a more neutral term ‘farming expansion’ rather than ‘farming intensification’. A strong focus was placed on the need to engage with both the farming industry and the local resident participants to guarantee a balanced outcome. Recruitment letters and emails were customised for all categories of participants, and each of them emphasised the aspects of the research most relevant to each participant group. Furthermore, my status as the researcher was made clear from the outset; I believe that my association with a university, rather than an NGO or a governmental organisation facilitated access to the farming industry actors. During the interviews, I followed Kvale’s (1996) criteria of a successful interviewer. I demonstrated my knowledge of the discussed subject and was open to the introduction of new topics. I made sure I had a clear plan for the interview, introducing the purpose of the interview in the beginning, explaining the ethical guidelines, and allowing time for additional comments or clarification questions in the end. The questions were also formulated in an easy, open-ended way to allow participants to engage with the subject of each question. I believe that I was a gentle, easy-going interviewer, listened actively to what was said and took opportunities to interpret some of the responses, for them to be either confirmed or disconfirmed by participants. Kvale (1996) also includes ‘critical’ in his criteria of a successful interviewer. This aspect proved to be challenging when dealing with the farming industry participants. According to Kvale, being critical entails questioning the reliability and validity of participants’ responses. Despite the presence of inconsistencies in some responses, I decided not to challenge my interviewees because of my concern that criticism might result in discontinuation of an interview, withdrawal from research or blocking access to other participants. In several cases, my decision not to adopt an antagonistic approach resulted in a successful application of snowball sampling. The influence of some of my interviewees led to me being introduced to other participants, and these introductions would not have taken place otherwise. Thus, semi-structured interviews provided primary data for this research. The role of secondary data and media data will be discussed below.

4.5.3 Secondary data

Documents and official statistics serve as a vehicle for making sense of the organisational practices and constitute readings of social events and social settings (Flick, 2014). The following sources of secondary data were used: official statistics related to farming in Northern Ireland and media data.

4.5.3.1 Official statistics related to farming and the state of the environment in Northern Ireland

This section of my secondary data provided a comprehensive insight into the Northern Irish farming industry. The trends in pig farming were of particular relevance, and the general direction of the country's farming industry was also explored. Official statistics were obtained from the DAERA website. First, historical figures were examined to get a clear picture of the farming industry in Northern Ireland. They included: historical livestock data (1847-2017), farm numbers (1981-2017), historical labour data (1912-2017), historical enterprise data (1981-2017), and pig populations (1981-2017). Statistical reports containing statistics on the agricultural economy, livestock numbers, farm structure, incomes at farm level, agri-food sector performance, the rural economy, animal health and welfare, and the agri-environment, were analysed. They included documents of The Statistical Review of Northern Ireland Agriculture from 2007 to 2017, The Agricultural Census in Northern Ireland from 2000 to 2019, Farm Business Data (only the most recent report was available for the year 2018). Comparing older and more current numbers from the industry allowed me to document structural changes of farming in Northern Ireland and reflect on the information that was obtained from the primary data.

Environmental statistics were also reviewed to examine the state of the country's environment and cross-check the concerns that were voiced during the semi-structured interviews. The Northern Ireland Environmental Statistics Reports was downloaded from the DAERA website (from 2009 to 2018) to analyse the change in environmental quality that happened during that period. Particular attention was paid to air, water, and soil quality as well as to the trends in biodiversity. However, Lynch and Stretesky (2003) suggest that reliance on the information provided by the official sources might not provide the full picture. They recommend utilising other evidence, including the information from environmental protection organisations. Consequently, documents on the subject of the state of the environment and farming intensification in Northern Ireland produced by Friends of the Earth Northern Ireland were also examined.

4.5.3.2 Media data

Media data in my research included online newspaper articles, social media data, and film data. Media data provided a deeper insight into the context of farming in Northern Ireland. The abundance of farming-related newspapers demonstrated the importance of the industry in the country. I subscribed to email updates from the major newspapers such as *Farming Life*, *Irish Farmers Journal*, and *AgriLand* to stay informed about the recent developments in the industry. The latter is the largest farming news portal in the whole of Ireland, therefore only the articles relevant for Northern Ireland were read. Newspaper articles were also instrumental for understanding the business-like environment in farming and thus triangulating the information obtained from the primary data sources.

Furthermore, social media platforms such as Facebook and Twitter were used to obtain a better understanding of the views of the local residents regarding intensification of farming in their area. For this purpose, Facebook groups and Twitter accounts created to amplify local residents'

voice (such as Stop the Newtownabbey Pig Factories, Stop the Limavady Pig Factory) and the related Twitter accounts were identified and monitored on a regular basis. These groups were also used to recruit some of the research participants. However, the biased nature of the information posted and shared online was considered.

Another source of media data in my research was the film about the intensification of pig farming in Northern Ireland titled *Pig Business in Northern Ireland*¹⁵. Visual representations reflect problematic cultural and social experiences (Flick, 2014). In this case, the film was produced by the NGOs Friends of the Earth Northern Ireland and Farms Not Factories in 2018 to discuss the impact of pig factory farming on local residents' lives. It features interviews with an ex-Minister for Agriculture, an ex-planning committee member, several Members of the Northern Ireland Assembly, small-scale pig farmers as well as residents protesting against intensification of farming (Farms Not Factories, 2018). The film was helpful in outlining the context of the fieldwork location as well as expanding the understanding of residents' and officials' views on farming intensification. However, it is also important to remember that any film creates its particular version of truth (Flick, 2014), and the anti-industry bias of the narrative of *Pig Business in Northern Ireland* was subsequently considered.

4.6 Data analysis

The analysis of the qualitative data was performed through thematic analysis in combination with comparative analysis. Thematic analysis refers to 'a process of identifying themes in the data which capture meaning that is relevant to a research question, and perhaps also to making links between such themes' (Willig, 2013, p. 147). Braun and Clarke (2006, p. 87) detail the steps of the thematic analysis, which I took in my research:

| Phase | Description of the process |
|---|--|
| 1. Familiarizing yourself with your data: | Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas. |
| 2. Generating initial codes: | Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code. |
| 3. Searching for themes: | Collating codes into potential themes, gathering all data relevant to each potential theme. |
| 4. Reviewing themes: | Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis. |
| 5. Defining and naming themes: | Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme. |
| 6. Producing the report: | The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis. |

Figure 4.2. Thematic analysis steps. Source: Braun and Clarke (2006)

Policy documents related to farming in Northern Ireland and some secondary data (statistics related to farming) were examined prior to the primary data collection to create a general idea of the farming

¹⁵ The film can be watched here: <https://farmsnotfactories.org/articles/new-film-pig-business-northern-ireland-2018/>.

industry in general and pig farming in particular in Northern Ireland. The following questions were asked when reviewing policy documents and secondary sources of data: “What kind of reality is the document creating? How is the document accomplishing this task?” (Flick, 2014, p. 371). Furthermore, social media data was examined to detect the themes in the local residents’ experience of environmental harm.

As mentioned, seven phone interviews were conducted in November 2018 before the trip to Northern Ireland, which was crucial for capturing new themes that were developed further during in-person interviews. These themes were also matched with the themes identified in grey literature and secondary data. The collection and the analysis of planning documents and planning legislation and other secondary data pertaining to regulation of the environment and farming in Northern Ireland was thus undertaken to expand the understanding of the new themes. A project drawing on critical realism searches for tendencies that can be identified through trends and patterns in empirical data, which are known as ‘demi-regularities’ (Fletcher, 2017). The latter were revealed through qualitative data coding, which was done during the second stage of data analysis.

The second stage of analysis took place after the fieldwork in December 2018 and phone interviews in January 2019. This stage of analysis resulted in the majority of the key findings. Multiple readings of data helped capturing the meaning of the data (Silver and Lewins, 2014). All interviews were transcribed and then read ‘vertically’ (Silver and Lewins, 2014) – in the chronological order of their collection. Afterwards, the interviews were coded – coding was organised separately for the different categories of participants. Individual phrases, sentences or paragraphs that were considered relevant to the main research question were given a code. All codes were recorded in an Excel sheet and a definition was given to each code to ensure its consistent use throughout the interview data. Afterwards, the interviews were read horizontally (Silver and Lewins, 2014) by code, to assess the internal cohesiveness of the identified codes. Inconsistencies were identified and the second wave of coding took place to rectify these inconsistencies. The process was repeated until it was made sure that the coding is consistent throughout all interviews. Grey literature and secondary data resources were also analysed to validate the findings (including NGO reports, documents from the Northern Ireland Assembly, documents related to planning and public participation, and policy documents from the farming industry).

Following that, interrelationships between codes were built to organise them into broader themes. It was very important to keep taking notes during the coding process as some links started to emerge early in the process. I read the stream of codes both separately as well as together with the primary data, which was helpful in identifying interrelationships between the codes. It was also decided at this point of data analysis that interpretation of some of the findings can be organised around three levels of inquiry: international, national, and local. Linkages between the codes and themes were visualised on paper and two diagrams were designed: one detailing the findings for those supporting and reinforcing pig farming intensification and the other demonstrating the coded and categorised view of those living in close proximity to farms. The two diagrams can be seen in the Appendix 2. Lewis (2003) asserts that comparative analysis explores the differences in how the

research issue is experienced and enables analysis of the reasons behind these variations. Although my research is based on a single case study, the comparison of the two perspectives illuminates the contexts in which the participants are embedded and facilitates the analysis of the power relations dynamics (with the latter being of crucial importance for critical criminologists). At the final stage of analysis, all interview transcripts were read again to make sure that the findings correspond with the contents of the interviews.

Member checking was organised in September-October 2019 to explore the credibility of the themes that emerged during analysis. Member checking is considered a validation technique (Birt et al, 2016) and is seen as a measure of more rigorous qualitative research (Lincoln et al, 2018). It addresses the idea of co-construction of knowledge and provides participants with an opportunity to engage in the process of data analysis several months after the interview (Thomas, 2017). One of the methods of member checking is sharing synthesised analysed data with participants (Creswell and Miller, 2000; Birt et al, 2016), which aims to ensure that the findings as interpreted by the researcher paint an accurate picture of the realities experienced by participants (Thomas, 2017). In my research, several participants were selected for member checking – COM002, COM005, COM006, COM007, COM008, COU001, COU002, NGO002. All of them were provided with a summary of findings that emerged from their interviews in a form of a report. Birt et al (2016) suggest that data selected for member checking needs to be presented in an accessible way. For this reason, certain segments of the report were highlighted and clarified, and I attempted avoiding academic jargon. The selected participants were asked to provide general feedback on the findings as well as specific feedback on the parts about which I had some specific queries. Additionally, they were asked whether the conclusions drawn in the report are a fair representation of their realities. Birt et al (2016) suggest that one of the ethical challenges arising in this process is confirming that participants are able and willing to participate in member checking after several months since the interview. One of the participants – COU001 – did not engage in member checking. Nevertheless, the feedback I received from the rest of the participants was very positive and confirmed the credibility of the themes that emerged in the analysis.

Additionally, it is worth elaborating on the grounding of my findings in theory. Merriam and Tisdell (2016, p. 88) suggest that a researcher's interpretation of the data is influenced by the theoretical framework of the study and the analysis will 'reflect the constructs, concepts, language, models and theories that structured the study in the first place'. Going further, Merriam (2009) posits that every part of any research is informed by its theoretical framework, regardless of the latter being explicit or implicit. While Chapter 2 outlined the integrative theoretical framework in my study, its underpinnings were further consolidated in the beginning of this chapter where my ontological and epistemological positions were discussed. Mutual interdependence between interpretivist epistemology and the broader theories that inform my research needs to be made explicit (Collins and Stockton, 2018). Understanding the process of social construction of an activity through participants' own interpretations resonates with the critical theoretical frames that explain crimes of the powerful. For my research, it means discovering the motivations, opportunity structures, and

controls for farming intensification through the perspectives of the participants and grounding these findings in the broader political economic context, on the global, national, and local levels. Interpretivist epistemology can also accommodate broader theories of justice that support the environmental justice paradigm. With environmental justice having its roots in a social movement, participants' own interpretations of the lived realities are particularly relevant if one aims to understand the injustices in recognitional and procedural realms.

The above begs the question of the effects of the integrative theoretical framework in my research on the findings (Anfara and Mertz, 2006). Maxwell (2005) described the advantages of the theoretical framework by using two metaphors. Theory as a coat closet provides a framework for organising and connecting data. In my research, the integrated framework of state-corporate crime was instrumental for the initial structuring of the themes that emerged from the interviews with the farming industry participants and building links between them. The structure of the integrated framework of state-corporate crime sheds light on the three levels of inquiry and illuminates the relationship between them. The environmental justice paradigm, on the other hand, allowed for organising the themes around the impacts of farming on the participants and environmental decision-making. Maxwell (2005) also uses the metaphor of theory as a spotlight, where it can illuminate the findings that otherwise might go unnoticed. In my case, the environmental justice paradigm captured not only the distribution of environmental burdens and its effect on the realm of capabilities, but also acknowledged the role of recognition and participation in environmental decision-making.

4.7 Ethics, challenges, and limitations

All PhD researchers conducting research at Northumbria University have to comply with ethical standards to ensure good research practice. As I mentioned above, an ethical approval was obtained prior to primary data collection. During interviewing, I adhered to the principle of informed consent. In some cases, an information sheet explaining the nature of research, the interview procedure, benefits, and disadvantages of taking part (for all participant categories), personal data-related issues and participant rights was distributed prior to meeting in person. In other cases, participants were presented with the information sheet before the start of the interview. Additionally, participants were asked to sign a consent form. One of the clauses on the consent form included participants' agreement to audio-record the interview to avoid any risk of misquotation. Two participants chose not to record the interview, in which case detailed hand-written notes of the conversation were taken instead. After the interview was completed, I provided participants with a debrief sheet further explaining the nature of the research, how participants can find out about the results of this research, and how they could withdraw their data if they wished. I also adhered to the principle of confidentiality. During interview transcription, data analysis and research write-up, personal details of all participants were codified. Each participant was given a code number (see Appendix 1) and participants' names were not written on the recorded interviews, or on the typed-up versions of discussions from the interview. The consent forms signed by participants were stored separately from other data. In terms of data storage,

all paper data and consent forms were kept in locked storage in a lockable office. All electronic data, including the recordings from interviews and interview transcriptions were stored on my personal laptop on the University U drive, which is password protected. In accordance with Northumbria University Research Records Retention Schedule, the data obtained during this research will be stored up to the completion of this study and three years after the completion.

In regard to challenges, elite status of some respondents (such as government and farming industry participants) evokes particular methodological concerns. Welch et al (2002) outline the challenges that permeate the fabric of elite interviewing. They define elites as a ‘group in society considered to be superior because of the power, talent, privileges etc. of its members’ (Welch et al, 2002, p. 613). Issues such as obtaining access to participants, power dynamics between the researcher and the researched, and openness and frankness that the researcher can expect from the participants can be challenging when engaging with elite participants. Desmond (2004) concurs, identifying power asymmetries as the main obstacle when engaging with the elites.

To mitigate such challenges, I adopted a number of strategies. In terms of access, assuming the role of an informed outsider is a suggested strategy for approaching the elites (Welch et al., 2002). As it was mentioned above, my researcher status was emphasised when participants were contacted and my university affiliation facilitated the recruitment of participants. To address the challenge of power dynamics and differences in professional values, participants were encouraged to see the interview as a stimulating intellectual discussion, in which academic neutrality and empathy towards the respondent play the key role, helping to achieve maximum openness and frankness (Welch et al., 2002). I endeavoured to remain friendly and polite in my email correspondence and during all my interviews, aiming to establish a good rapport with the interviewees. Most of the elite respondents proved to be very friendly and engaging, despite their social status and the topic of the research. It is believed that the manner in which the research was presented (as it was discussed in the *Data Collection* section) helped to ease tension during interviewing.

However, some of my interview requests were declined and many were not answered after repeated reminders and phone calls. The first participant recruitment email or letter was usually followed by a reminder within two weeks if no response was received. If the second invitation to participate was ignored, the third reminder was sent, after which the participant was marked as ‘unavailable’ in the interview database. Some interview requests were declined on the grounds of commercial sensitivities, as farming industry participants requested that I obtain appropriate non-disclosure agreements to interview them. The latter was not possible in the scope of this research. Some participants (such as the government) used the formal protocol – directing my questions to the press office – as a strategy to side-line my invitations to participate in this research. Despite multiple requests to clarify the status of my questions, no formal response was obtained from most of the DAERA participants and all NIEA participants. Additionally, one government participant did not attend the interview after it was scheduled and ignored the requests to re-schedule it. It was assumed that the controversial nature of the topic might have dissuaded government officials from engaging

with this research. Moreover, prioritisation of Brexit agendas might have impeded some government officials' response.

The challenge of access in my research resulted in one of its limitations. The scope of participants turned out to be narrower than was initially planned. Most significantly, the primary data from the national government is underrepresented for reasons outlined above. One DAERA participant that agreed to be interviewed may have been biased against the GfG strategy, and this bias needs to be taken into consideration. During the analysis, their opinion was not considered representative of the general stance of the DAERA. To fill this gap, secondary data produced by the DAERA and the NIEA were reviewed and it is believed that these documents helped to reflect the governmental position on farming intensification in the country. It was also expected that other corporate farming industry participants, such as meat processors, may make a valuable contribution to my research, yet none of the participants in that category who were contacted agreed to participate. To address this gap, secondary data such as newspaper articles and meat processors' websites were studied on the subject of the role of processors in the meat supply chain. In addition, other industry participants were asked about the role of meat processors in the supply chain.

Another potential limitation is related to the distribution of local resident participants. Most local residents interviewed were opposed to farming intensification in the area. Yet, two participants did not actively participate in environmental decision-making in relation to farming, which diversified the pool of local participants. Moreover, the predominance of the respondents who did express their concerns regarding the intensification allowed a deeper insight into recognitional and procedural environmental injustices in Northern Ireland. Finally, a case study method can also have its limitations. The issue of generalisation of case studies was discussed earlier in this chapter and it is worth reiterating that findings from the local level of inquiry do not purport to represent the dynamics of intensification in the whole of Northern Ireland. However, to increase the validity of the findings obtained from Antrim and Newtownabbey district residents, one local resident and one public-minded citizen from county Derry (Londonderry) were also interviewed. Moreover, secondary media data (Pig Business in Northern Ireland film) was also used to validate the case study findings.

4.8 Positionality

Sultana (2007) suggests that it is crucial to pay attention to positionality to undertake ethical research. Positionality is of particular importance in green criminological research; Natali (2013) proclaims that researcher's theoretical, philosophical, and political-economic perspective determines whether an event or group of events are defined as 'green crime'. Positionality refers to both the researcher's worldview and the position adopted by the researcher in relation to a specific research task (Howell Major and Savin Baden, 2012). Both aspects of positionality in my research are explained below.

In an attempt to understand how my presence and actions influence my study, I analysed the relevance of my own identity in this research (Wetherell, 2001). The researcher's worldview, as

suggested earlier in the *Ontology and epistemology* section, is influenced by their values and beliefs. It is necessary that the researcher's values always be declared so that readers can assess the procedures of the research and its outcomes (Sollund 2017). Consequently, no inquiry is value-free (Shrader-Frechette, 2002). Identity influences the selection of the topic (Wetherell, 2001). My values as a vegetarian had a profound impact on the choice of the topic for my research. My values also shaped my negative attitude towards intensive farming and its impacts on the environment and the lives of non-human animals. Moreover, the intensive mode of meat production is intertwined with the capitalist mode of production, and it needs to be emphasised that I remain critical of the latter as well. These values and beliefs shaped the design of the integrative theoretical framework for my study and shaped my formulation of the research questions whereby I assumed from the outset that intensive farming led to environmental injustice.

Researcher identity also influences the data collection. Therefore, my influence on participants and the way they presented information in interviews needs to be considered (Wetherell 2001). My political allegiance and religion did not influence the course of my research because of my 'outsider' researcher status and me having no Northern Irish background. Yet, my geographical location might have impacted my interviewees' perspectives – my institutional affiliation with an English university might have influenced some of the responses: England was mentioned rather frequently, in both positive and negative contexts. Moreover, me not having any background in farming (which was also mentioned on several occasions) might have influenced some responses as participants might have chosen not to use technical terms related to the industry to facilitate my understanding of the topic.

Thirdly, data analysis reflects the theoretical, epistemological, and ontological assumptions of the researcher (Schally 2018) and research findings are inseparable from the researcher's positionality. The findings chapters intend to describe phenomena as they are, avoiding the presentation based on perception or wishful thinking (Howell Major and Savin Baden, 2012). However, the bottom line of my research is to regard intensive farming as a harmful practice, critically evaluate the processes that shape it and establish how it leads to environmental injustice. The question of taking sides is perennial in criminology (Brisman and South, 2016) and the fact that intensive farming is seen as a harmful practice might imply that I am not 'siding' with the corporate actors in the farming industry. Yet, as it was stated above, no research in social sciences can be value-free, and the process of taking sides is seen as inevitable.

4.9 Conclusion

This chapter introduced the methodological approach adopted in my research. It described the ontological and epistemological assumptions in it – critical realism and interpretivism, justified the choice of the case study method and discussed how the fieldwork location and participants for this research were chosen. For the macro level of analysis, the capital of Northern Ireland was chosen as the research location. For the micro level of analysis, the choice of Antrim and Newtownabbey

district was justified by the opportunity to study the process of pig farming intensification, the harms from existing farms, and the process of environmental decision-making around new farms. This chapter also detailed methods of data collection, which included semi-structured interviews and the analysis of secondary data. Furthermore, the process of thematic analysis in combination with comparative analysis employed to analyse data in this research was explained, which was followed by the discussion of ethics in my research, as well as of the challenges and limitations that my research encountered. Finally, my positionality as a researcher was explained to clarify my stance in relation to the context of this study.

Chapter 5 – The political economy of pig farming intensification in Northern Ireland

5.1 Introduction

The first findings chapter provides an analysis of pig farming intensification in Northern Ireland, and power relations that support and reinforce it, in particular in the context of the GfG agri-food strategy. For that, a detailed look at the political economy of farming intensification is needed. This chapter is structured around the three levels of inquiry that originated from the thematic analysis in my research. First, the chapter analyses the political economic arrangements on the international level of meat production. It demonstrates how macro level arrangements shape the ambition for growth consolidated by the GfG in Northern Ireland. The chapter demonstrates how a ‘regime of permission’ (Bernat and Whyte, 2017, p. 71) for intensification was and continues to be established by analysing the catalysts for harm – motivation, opportunity structures and operability of control – on the national level. The chapter demonstrates how state-industry symbiotic relations work to eliminate the alternatives to a market-oriented, profit-driven model of farming. Finally, the chapter analyses how both the international and national arrangements encourage farming intensification on the local level. It concludes by critically analysing political economic linkages between international, national, and local levels of meat production and highlighting how the pursuit of the intensification agenda protects the hegemony of the dominant capitalist order.

5.2 Macro level political economic arrangements

This section subjects the findings related to international political economic arrangements for meat production to a critical analysis and concludes by identifying how these arrangements might influence the decisions made on the national level in Northern Ireland. The analysis of global trends provides an insight into ‘larger-scale political economic arrangements that define the particular relationship between capital and the national state and shape the opportunities and rewards’ (Kramer and Michalowski, 2012, p. 77) for harmful activities, which in my case is intensification of pig farming.

Nearly all interviewees emphasised the dominance of a market rule ideology, as evidenced by one of the quotes: ‘The market is the market, and we have to accept that; we can’t change it’ (AFSB001). The prevailing perception was of the market as a rational entity that determines global economic development and drives progress. The market was perceived as an unknowable machine that operates by the rules beyond human control, which cannot be challenged or questioned, thus echoing Slobodian’s (2018) thinking. This opinion reflects the logic of capitalist political economic order where market systems are regarded to be the only rational way in which production can be organised (Pearce and Tombs, 1998). Related to market rationality is the ability of the market to allocate production resources in the most efficient way (Peine and McMichael, 2005). One of the examples of this characteristic of the global market is animal feed production:

‘Then you look at the big cost of [a pig farming] business – animal feed. You are working in a global supply chain so there’s volatility in feed prices. Soya comes from North America or Brazil. You can also use canola – it comes from Canada; you can also use rapeseed from the EU but it’s not as efficient as soya. [It can be a challenge] but the market finds a way, and it finds a way that is most efficient. And it is most efficient to bring it from all over the world than grow it locally. The market drives efficiency. We can’t produce it as cheaply as they can’ (UFU002).

The global market rule eliminates geographical barriers (Slobodian, 2018) as it is more profitable to import animal feed than produce it nationally. It is evident that motivation of profit seeps into the discourse of market rationality in relation to its ability to allocate production resources. Yet, capitalist commitment to profit (Pearce, 1976) achieved through the allegedly efficient use of resources is characterised by the uneven distribution of benefits and burdens from the global circulation of capital and goods. As I showed in Chapter 3, the rise in pork prices since 2004 went hand in hand with the rise in animal feed prices. While the prices for animal feed are rising, the costs of its production remain low (Friends of the Earth, 2008). This dynamic, stemming from the internationalisation of production (Bonanno and Busch, 2015) where resources are allocated ‘efficiently’ by the free market, privileges corporate actors involved in feed production (Peine and McMichael, 2005) at the expense of other actors (such as local communities and small farmers) involved (Brisman et al, 2014). Furthermore, the discourse of market rationality obscures power relations behind it that aim to produce ‘the image of the market as ‘the state of nature’’ (Neveu, 2018, p. 365). One of the examples of power relations concealment is the subsidy support, which is provided for animal feed and animal products (Stoll-Kleemann and Schmidt, 2015). Policies on the EU level have continuously guaranteed the availability of cheap animal feed, maintained the competitive level of meat prices on the international market and also regulated the market internally (Greenpeace, 2019).

Finally, the environmental toll of market rationality in animal feed production needs to be considered. As one respondent articulated it, ‘you are wiping out land in South America to grow the feed, it gets shipped over here to feed the animals here and pork is exported’ (NGO002). This globalisation of monoculture agribusiness (soya monoculture, in this case) driven by food production corporations (Goyes and South, 2016) leads to biodiversity loss, deforestation, soil erosion, and desertification (Wyatt, 2014). Thus, it is challenging to acknowledge market rationality in its allocation of resources, as this model tends to privilege a small number of its advocates who extract economic value while creating uneven geographical development (Harvey, 2000), where profit is made at the expense of the integrity of the global environment. Thus, the idea of rationality in market rule ideology serves the needs of profit accumulation while posing risks of harming the environment.

Market rule ideology is underpinned by the forces of demand and supply. According to the industry respondents, the global market is characterised by an increasing demand for pork:

‘The phenomenon we’re witnessing at the moment is the emerging developing economies. Opportunities to meet their demand are endless. We are guilty of navel-gazing in the UK and not realising that bigger opportunities exist outside the borders’ (AFSB001).

The context of the global market presents ample opportunities to maximise profits: ‘When you see demand, it’s an opportunity for price increases and margin increases. So, the industry is told that it’s

a demand that needs to be supplied' (UFU002). Industry respondents employed the argument of market rationality once again, presenting national pork production increases in Northern Ireland as a sensible response towards the international demand for meat. It cannot be denied that social context is an important element of the political economic background of farming intensification in Northern Ireland, as meat consumers continue to support the treadmill of production. While simply reproducing their social practices, they become locked into 'a treadmill of consumption' (Curran, 2017, p. 32). Within the treadmill of consumption, there exists demand for low-cost pork, which was emphasised particularly by the GfG strategy authors, large-scale farmers and UFU respondents (AFSB001; FAR001; UFU001; UFU002) who identified the need to meet this demand.

Yet, this argument once again presents a depoliticised image of the global market and the economic sphere (Slobodian, 2018) where the majority of the industry and political actors disembed themselves from influencing the global demand for pork. The argument of the primal role of consumption masks power relations that underpin globalised capitalist political economy (Gould et al, 2003), which was demonstrated by a government respondent: 'If we cannot produce the demand, someone somewhere else in the world will produce it' (DAERA001). Ultimately, production takes place before consumption and producers have the capacity to construct consumer desires and needs (Gould et al, 2003) due to their control of the decisions around production. The above-mentioned environmental externalities of low-cost production are masked as Northern Irish producers use the image of environmentally-friendly farming and emphasise meat quality associated with it to sell their foods on the global market:

'We have a lot of small companies, small family farms and it's good for Northern Ireland because they do create that image that people do like to see' (AFSB002).

'The thrust of the work Invest NI do would be 'pure natural quality'. Invest NI would be selling Northern Irish food on the basis of that at events and exhibitions: traceability of food, food fortress, farm traceability is probably the best in the world, and the quality of food – it's coming from Northern Ireland, from the best grass-fed cattle' (InvestNI001).

Producers' meaning of 'green' (Lynch and Stretesky, 2003) is used for economic ends and this agenda downplays the environmental damage associated with intensive meat production on the national level. It is production, rather than consumption, which is in a direct relationship with ecosystems through resource extraction (Gould et al, 2003). Consumers have little influence over the ecological impacts of production decisions and can do little to reverse the harmful nature of the dominant manner of meat production (Emel and Neo, 2015), which Northern Ireland seeks to emulate. Therefore, the argument of global demand for pork being presented as unquestionable masks the power of meat producers over demand manipulation, thus guaranteeing perpetuation of the current capitalist model of meat production based on profit accumulation.

Furthermore, global demand for pork opens opportunities for production export. Opening new export markets is seen as a progressive step, as advocates of free trade regard mobility as synonymous with progress (Morris, 2001). Northern Ireland is under pressure to make the most of

its export returns to succeed on the global arena where markers of a successful economy are defined in economic terms:

‘But as a relatively small country that does not have many resources, Northern Ireland has to focus on the countries that provide best returns. So Northern Ireland sees real growth opportunities in the Middle East and Far East. <...> It becomes a premium product and commands a much higher price <...>’ (InvestNI001).

‘Because we do not have a big market on our doorstep (NI is a small country), the demand isn’t here to meet the supply that we can produce. So, we are forced to sell externally, over 70% of animal products produced in NI are sold outside NI. I think growing export markets is our only option, we either sell more to GB or to export markets’ (DAERA001).

The comments above demonstrate that Northern Ireland’s decision to open new export markets particularly in the Middle East and Far East is a response to a strain caused by limited opportunities to maximise profit domestically. Both Merton (1937) and, later, Agnew (2001) argue that when profit-making becomes the core goal, a strain to achieve it results in deviance. In my case, the goal of profit-making is the dominant goal within the globalised political economy of neoliberal capitalism; structural barriers on the national level in Northern Ireland that prevent both farming industry and state actors from achieving this goal lead to an environmentally harmful intensification of production that serves to meet the demand from the export markets. This idea needs to be explored further.

Embeddedness in the profit-driven competitive global market rule ideology determines the rules of pork production. Faber (2008) claims that in order to compete on the global market, the business needs to stay efficient. Ultimately, if efficiency of production is improved, growth will occur faster (Schnaiberg, 1980). Efficiency was emphasised by the vast majority of the Northern Irish farming industry and state actors (AFSB001; AFSB002; FAR001; InvestNI001; InvestNI002; UFU003): ‘It is what the society wants frankly – producers will end up producing what the market wants. If that is what the market wants, it’s our job to produce it as efficiently as we can’ (UFU002). Efficiency, from the perspective of the political economy of capitalism, encompasses two interrelated dimensions. Its first dimension is lowering of production costs to maximise profit (Faber, 2008; Schnaiberg, 1980) and, therefore, economic efficiency (Tudge, 2003): ‘<...> you want to be efficient, you want to drive down costs and increase your margin out of a more profitable industry <...>’ (InvestNI001). However, this comment ignores the fact that profitability of the industry depends on unsustainable and environmentally harmful forms of production, and intensive farming is an example of this. Its harmful nature is related to the scale of production, another dimension of efficiency. Lower costs of production can be achieved by increasing production (Duffy, 2009). It has been claimed that in large, high-capacity, high-technology pig farms production costs were 25 percent lower than in a small, low-technology farms (Neo and Emel, 2017). Some Northern Irish farming industry respondents acknowledged that large-scale production is more conducive to efficiency: ‘A big unit could be the most efficient, best way to produce food’ (AFSB001).

The motivation to produce pork more efficiently on a larger scale is amplified by the pressure to compete internationally, which resonates with the comments above. Some respondents lamented

the structural reality of farming in Northern Ireland, identifying the predominance of small farms as a barrier for competition on the global market (InvestNI001). They voiced the need to ‘catch up quickly’ (UFU002) through organising production more efficiently and reaping the benefits that come with a larger scale of production (UFU002; InvestNI002): ‘In Northern Ireland most of our pig farms are very small – in China they can have one farm with 36,000 sows. So, in order to compete, you have to keep up’ (UFU002). The realities of the global political economy promote a criminogenic idea of efficiency by normalising lower production costs and a larger scale of production, thus setting unrealistic goals for the Northern Irish farming industry: ‘If you have other parts of the world that are moving to larger farms and better economies of scale, there’s no doubt that [small farms in Northern Ireland] would become more of a challenge’ (InvestNI001). The discrepancy between the global goals for meat production and the difficulty in achieving these goals in Northern Ireland due to its predominance of small-scale farming create a strain. In response to the strain (Merton, 1938), the GfG strategy was developed by the major corporate actors in the farming industry, encouraging growth through the pursuit of environmentally and socially harmful farming intensification.

5.2.1 Summary

To summarise, this section demonstrated that macro level political economic arrangements for meat production are structured in accordance with the neoliberal market rule ideology aimed at accumulation of capital. Market rule ideology has turned profit into the global ethic (Findlay, 1999; Ruggiero and South, 2013; Rothe and Friedrichs, 2015) and those abiding by this ideology take advantage of ‘anything that will increase profits’ (Stretesky et al, 2013, p. 97).

Embeddedness in the frameworks of the global capitalist market builds up pressures on individual countries since material goals of success become the primary focus (Merton, 1938; Cheng, 2011). The globalisation of markets results in an ‘acceleration’ of the treadmill of production (Gould et al, 1996) on the national level. My respondents frequently emphasised the discrepancy between the need to meet the global pressures and the structural opportunities that exist to meet them; the dominant mode of meat production in Northern Ireland characterised by small farms is not equipped to meet such pressures. This discrepancy is associated with strain (Merton, 1938), as Northern Irish corporate farming industry actors were frustrated with the availability of the means to realise the overarching goal of economic success in meat production. The GfG strategy, focused on growth through intensification, consolidated this ambition. While embeddedness in the global market system creates pressure to compete on the global arena, it also opens up new opportunities for profit-making. In my case, the latter included opening new export markets justified by a global demand for pork. Thus, the triad of profit, growth, and efficiency (Passas, 1990) dominates the global organisation of meat production.

The logic of the global market is also essential for a successful dissemination of common sense in farming. In the case of the ordinary harm of intensive meat production, contrary to

rationalising deviant behaviour, where ‘actors convince themselves that in their particular circumstances an exception is acceptable’ (Passas, 2000, p. 20), the ideas of common sense centre on why the Northern Irish farming industry should be fitting the global norm. Therefore, ‘it is not deviance from, but adherence to, legal norms that presents itself as problematic...’ (Halsey, 1997, p. 225). The discourse of market rationality was presented as common sense and disseminated as part of an ongoing process of securing the hegemony of market-driven production (Whyte, 2016). Part of the discourse of market rationality included an increasing demand for pork globally, which diverted the attention from the profit-oriented ethos of the capitalist market economy. The authors of the GfG strategy and other industry respondents framed meat consumption as a normal and even necessary act. Social context and contemporary meat consumption do provide the integral support for the treadmill of meat production. In my case, social context served as a vital part of disseminating common-sense ideas where the industry actors could absolve themselves of the responsibility for meat production increase. Instead, they transferred the responsibility to the global and national meat consumers, creating a semblance of consumer agency. While meat consumption can be interpreted as an ‘ordinary harm’ that contributes to ecocide (Agnew, 2013), I also demonstrated that consumer power in influencing the processes of production is rather limited (Gould et al, 2003).

Global political economic arrangements thus normalise the neoliberal, productivist agenda (Cheshire and Lawrence, 2005) in farming, fostering adaptations to global economic expectations and pressures (Passas, 1990) and simultaneously providing its legitimacy on the national level in the country. Yet, this agenda also demonstrates the association between capitalism and environmental harm (Lynch et al, 2016). The next section will demonstrate how state and industry actors respond to the political economic arrangements on the macro level, ultimately increasing the likelihood of environmental and social harm from embracing a more intensive model of pig farming geared towards capital accumulation.

5.3 Meso level political economic arrangements

Transformations on the national level cannot be seen in isolation from the global arrangements (Aas, 2013). As the previous section demonstrated, national meat production is firmly embedded in the global context. This section analyses the workings of power relations that supported and reinforced the pursuit of the goal of profit-making through efficient pig meat production on the national level in Northern Ireland. It unpacks and analyses the first catalyst for harm – motivation behind farming intensification in the context of the GfG agri-food strategy, proceeding to analyse the second catalyst for harm – the opportunity structure shaping farming intensification. It subsequently analyses the third catalyst for harm – operationality of control in relation to farming intensification, both in the course of the GfG and beyond.

5.3.1 Motivation

Embeddedness in the context of the globalised capitalist market, with a high emphasis on the goal of financial success incentivises more efficient meat production, with intensification being at its core. Such dynamics influenced the development of the GfG strategy, and the goals set by its authors – the AFSB. The latter are analysed below.

The dominance of the market rule ideology on the macro level was reflected in the responses, as they revealed the goal of organising farming efficiently as a priority. According to both the AFSB members and other farming industry actors, an efficient industry organises production in line with the rules of supply and demand. The goal of efficiency also implied competitiveness, a characteristic visible on the macro level: ‘If you’re going full-on capitalist, the inefficient fall away, only the competitive are left’ (UFU002). More intensive production was seen as more efficient and as a standard to aspire to for some respondents (AFSB002; UFU002):

‘Do we need to intensify, or do we need to make our farms more efficient? Those are two things that are not necessarily mutually exclusive. <...> It’s a matter of driving efficiencies - on a land mass of our size, do we need 25,000 farms?’ (InvestNI002).

The goal of efficiency was also associated with the introduction of automation and new technologies on farms (InvestNI002; AFSB001; AFSB002; UFU001): ‘The industry needs to become more efficient and that happens if automation is increased’ (InvestNI001). Technological innovation was presented as a value neutral (Borgmann, 2017) element of efficiency. Such argument conceals the fact that introduction of automation and new technologies may be linked to intensification of production (AFSB002; FAR001; UFU002; UFU003):

‘With a sensible application of technology you could solve any challenges in Northern Ireland easily. But that means that we have to get a lot of people to agree, and with 20,000 farmers...’ (AFSB002).

The goal of efficiency was applied to the animals as some respondents (AFSB002; UFU002; UFU003) suggested that the use of livestock genetics should be promoted to result in more ‘efficient animals’: ‘<...> it’s not only about faster growing pigs but about the pigs that suit the system, that are more efficient’ (AFSB001). Efficiency in animals is linked to profitability of the industry and animal bodies become an accumulation strategy (Harvey, 2006). The desire for profit creates an environment where the development of efficient animals is no longer perceived as abuse, but instead becomes an appropriate means of driving capital accumulation (Nurse, 2013). Thus, the global push for economic success in the organisation of meat production placed a greater emphasis on the attainment of the goal of efficiency in Northern Ireland. The latter was reflected in the GfG strategy’s ambition for a more intensive production that relied on technological and research innovation.

Additionally, the goal of efficiency was interlinked with the goal of professionalism in farming. The goal of professionalism was seen as essential for the industry to stay competitive (AFSB001, AFSB002; UFU001). ‘Professional’ farmers were identified to be those driving the industry’s profitability and its ability to respond to the needs of the market (AFSB001; UFU001;

UFU002; InvestNI001); in other words, those in tune with the macro level political economic arrangements for meat production. A more professional industry was seen as more likely to organise its production efficiently. As efficient production was associated with the introduction of technological innovation, and so was professional farming, as defined by some respondents. As a result, a generational divide in farming was considered to be problematic and the need to enhance the skills of the existing older generation of farmers and attract younger people to agriculture was identified as a priority (UFU001). The need to attract younger farmers was perceived as particularly acute since younger farmers were perceived as more willing to take professional risks (UFU002) and develop as entrepreneurial farmers.

As I showed in the previous section, the discourse of market rationality on the macro level was frequently used to present the goals of introducing a more intensive and concentrated model of farming as common sense. Similarly, on the meso level the dissemination of common sense was done to provide consent (Gramsci, 1971) to the changing model of farming. It was done by disseminating a moral argument that suggested that changes in meat production needed to happen in Northern Ireland among other places as Northern Irish producers have higher standards of production (UFU001; UFU003): ‘There’s clearly a need to produce food, this is an opportunity for us and do it properly, the best way we can’ (AFSB002). By appealing to higher loyalties (Sykes and Matza, 1957), farming industry actors justified the pursuit of the goals of efficiency and professionalism and removed potential feelings of guilt that can arise during the later evaluation of the environmental and animal welfare impact of farming intensification (Mackenzie and Yates, 2015).

Moreover, the idea of intensifying production domestically for the greater good of not ‘exporting our challenges to the parts of the world where they can’t mitigate them as well as we can’ (AFSB002) and not ‘shifting the problem’ of production elsewhere (DAERA001), also justified the pursuit of the goals of efficiency and professionalism. The idea of not wanting to shift the problem of production elsewhere because Northern Ireland is able to mitigate the production risks better reveals the dependency of capitalist political economy on the fictional discrepancy between the modern and wealthy west, and the backward and poor ‘other’ (Blaney and Inayatullah, 2010). Northern Irish farming industry actors presented their actions as philanthropic, suggesting that their decision to intensify production domestically may benefit others rather than themselves and thus detracted the attention from the harmful nature of this endeavour. The above-mentioned ideas of common sense were presented in a manner that showed that it was in the national interest of Northern Ireland to increase meat production through intensification. Yet, the ‘national interest’ can be confused with private business interests (White and Kramer, 2015), working to secure their hegemony. In my case, economic interests of the corporate farming industry actors (such as the AFSB) carried considerable economic and political clout and were prioritised over the interests of the population and the environment.

To conclude, the first catalyst for the environmentally harmful pig farming intensification included the goals formulated by the AFSB within the GfG strategy; they reflected the macro level motivation where increases in production are sought to drive financial success, the main ambition of

capitalism (Pearce, 1976). The AFSB employed the argument of the market rule to formulate the goals of efficiency in meat production and professionalism of the farming industry. Yet, the implications of pursuing this trajectory are far-reaching. The goal of professionalism encourages farmers to prioritise economic sustainability and strive to achieve economic efficiency in farming. The latter is characterised by competitiveness rather than cooperation, intensive and technology- and automation-dominated production with a utilitarian approach to animals. It has been suggested that ‘pressure for profits’ is the most compelling factor behind crime and harm (Kramer, 1982, p. 81). The motivation and the subsequent goals set out by the authors of the GfG strategy ignore the environmental externalities arising from the lawful activity of meat production intensification and downplay social harms related to intensification. Kauzlarich and Kramer (1998) claim that the means that are most effective in achieving the set goals are likely to be selected. The next subsection discusses the opportunity structure constructed by the GfG authors with the state support to achieve the above discussed goals.

5.3.2 Opportunity structure

5.3.2.1 Goal of efficient farming

In the context of strain, opportunities must be available for crime and harm to happen (Vaughan, 2002). In this subsection, I start the discussion of the second catalyst for environmentally harmful farming intensification – the opportunity structure created to achieve the above discussed goals. The opportunity structure to achieve the goal of efficiency in meat production included propagating the discourse against small-scale farms, providing material support for technological innovation and research into efficient production.

5.3.2.1.1 Discourse against small-scale farms

The discourse against small-scale farms appeared within the GfG strategy and found resonance among the corporate farming industry respondents. Considering that growth within the farming industry has come mainly from pig and poultry production (DAERA, 2020) in the last decade, the strategy encouraged further intensification of both sectors. While the strategy presented small farms as ‘a major element of our economy’, it stated that ‘they also present a significant challenge in terms of long-term sustainability’ (AFSB, 2013, p. 23). Moreover, the GfG Chair also suggested to the Agriculture and Environment Committee that only 6000 farmers were needed for food production (Macauley, 2016). In my interviews, a significant number of respondents also dismissed small-scale farming in favour of large-scale, more intensive farms (AFSB002, UFU001, UFU002, UFU003):

‘A big unit could be the most efficient, best way to produce food. Small farming looks nice in practice but if those small farmers can’t make enough money to educate their kids, have a car, buy things, they won’t be there’ (AFSB001).

‘Most small farmers in NI say that they’re quite happy with their small farms, they have a huge connection with their land because that land was handed down through generations. The question is then that it increasingly becomes unviable’ (InvestNI001).

The comments above demonstrate how a consensus around efficient farming is created; the latter secures the hegemony of the dominant capitalist order (Gramsci, 1971). The discourse of dismissal of small-scale farms translated into tangible actions that served to catalyse harmful farming intensification. The GfG strategy offered little support to small family farms (Attorp and McAreavey, 2020), as I will also demonstrate later. Its focus on expanding intensive farming served to eliminate the alternatives to the market-oriented profit-driven model of farming, which was exemplified by the critique of subsidies that provide support for small-scale farms; the latter were seen as an antithesis of efficiency by my respondents (UFU001; UFU002): ‘You can say that the subsidy in the past encouraged the way of farming that isn’t efficient enough’ (UFU003). While this scepticism regarding the role of the state resonates with the neoliberal ethos of expanding markets and shrinking of the state (Whyte, 2016), this particular instance of the neoliberal rollback of the state (Glassman, 2007) disadvantages small-scale farms that are supported by the subsidy:

‘<...> they are getting 87% of their income from the subsidy. If you want to encourage keeping smaller businesses, you are going down the socialist model, but it isn’t good from the efficiency point of view’ (UFU002).

Efficiency is intolerant of government intervention if the latter stands in the way of profit-making. In my case, the idea against government intervention overlapped with the idea against small-scale farms. The state actors reproduced the same idea: ‘I’m not that keen on supporting the industry with funding at all. I’d rather see the market drive demand’ (DAERA001). Propagation of the discourse against small-scale farms results in the institutionalisation of the ideas of efficient production in practice (Jackson, 1989), and the post-Brexit Agriculture Bill exemplifies that. As Chapter 3 showed, the Post-Brexit Agriculture Bill aims to replace the current system of the CAP Direct Payments to encourage less efficient farmers to leave the sector¹⁶. Aspirations to withdraw state support and revert to market support may result in a further decrease of small farms and an increase in more intensive production.

The first element of the opportunity structure to achieve the goal of efficiency – the discourse directed against small-scale farms – was perpetuated by the GfG strategy authors and validated intensification by reproducing the relations of domination of large-scale, intensive farming

¹⁶ This is not to suggest that the CAP subsidy is immune from controversy. It has been claimed that the majority of agricultural subsidies today are received by the wealthiest (Carolan, 2012). As a result, the CAP direct payments based on the area of land in production have been criticised for their disproportionate favouring of large-scale producers and marginalisation of smallholder farmers (Kay, 2016) and their promotion of farming industrialisation (Greenpeace, 2019). However, Northern Ireland has higher levels of the CAP direct support since a large proportion of its farms are located in the Less Favoured Areas (LFAs) and the majority of such farms are small-scale (House of Commons, 2018).

businesses over small-scale farms. As the discourse against small-scale farms achieved what Gramsci (1971) would identify as the ‘common sense’ status, it generated, in Bourdieu’s (1990) words, ‘common-sense’ behaviour, encouraging large-scale production. The discourse resonated with the state actors; through withdrawing subsidy support for small-scale farmers, the state contributed to shaping the ‘regime of permission’ (Whyte, 2014, p. 241) for more efficient farming and consolidating a ‘deeper architecture of power in which states guarantee corporations various privileges and infrastructural capacities’.

5.3.2.1.2 Material support for technological innovation

The opportunity structure also includes material support that addresses mechanisation and technological innovation of production to achieve the goal of efficiency, thus echoing Schnaiberg’s (1980, p. 130) statement that ‘technological investment is the most efficient path to growth’. Some of that material support was provided within the framework of the GfG strategy. The strategy authors pronounced it ‘essential that Government seeks to support technologies complementary to agricultural production rather than in competition with it’ (AFSB, 2013, p. 35), as evidenced by one of the comments: ‘the principle was that equipment and technology was needed to manage the land and that would then be supported by the programmes from the government’ (AFSB002). Under GfG, £250 million of the government funding was initially expected (AFSB, 2013) for the Farm Business Improvement Scheme, eventually amounting to £60 million instead (AFSB002):

‘We put capital support in place with significant grants so that farmers could buy equipment. We were pretty prescriptive about what kind of equipment we wanted them to buy. Lots of farmers did not want to buy what is called abatement equipment because they saw it as a threat rather than an opportunity to do it better. And that is the dynamic you face. It is easier to do it with big farms – there are not that many of them and you can have a much greater effect than trying to do it with 10,000 smaller farms’ (AFSB002).

This quote demonstrates that within GfG material support was provided for specific types of farm equipment that mitigates the environmental impact of farming. Nearly all industry actors mentioned the environmental concerns and underscored the importance of environmental sustainability in farming, thus echoing the environmental challenges described in Chapter 3 (AFSB001; AFSB002; FAR001; RET001; UFU001; UFU002; UFU003). Similarly, the text of the GfG strategy (AFSB, 2013) referred to environmental activities. An independent Expert Working Group established in 2014¹⁷ to produce a strategy reconciling the ambitions of GfG with the interests of the environment claimed that low-emission slurry-spreading equipment can be effective in some cases for mitigating the ammonia emissions (Expert Working Group on Sustainable Agricultural Land Management for N. Ireland, 2016; Davies, 2019). Yet, this technological innovation may be promoting intensification of production; as the above comment demonstrates, material support for technological innovation may be logically easier to provide for larger farms. Furthermore, technological innovation support

¹⁷ It is worth noting that the Chair of the Group is Director of Agriculture and Sustainability at a livestock nutrition company.

may also result in the concentration of capital in the large-scale farms (Greenberg, 1981) as they invest in the equipment that small-scale farms cannot afford. As evidenced by one of the respondents, ‘all these [abatement] technologies become increasingly expensive and if you want to be a business that can carry that cost, you need to be a bigger business’ (UFU002). This discrepancy in capital concentration reproduces inequalities that are essential for the capitalist order to thrive (Henry, 1991).

Technological innovation was perceived as a solution for environmental crisis in Northern Ireland. However, endowing technology with significant powers (Bonds and Downey, 2012) while intensifying production at the same time continues ecological disorganisation by polluting the environment (Lynch and Stretesky, 2014). Justification for material support provision for technological innovation was formulated by portraying small-scale farms as backward and environmentally unfriendly:

‘We have many small farms that don’t have any rules and we have a planning system that once you go over a certain size, you have to do all sorts of things, everybody works to strain people who want to go big. That means that you do not have to invest in technology to abate it. <...> our agenda has been to make these farms bigger but to invest in technology to have as little impact on the environment as possible’ (AFSB002).

To reiterate, technological innovation exonerates the economic dimension of a large-scale production increase; the latter was portrayed as environmentally friendly and sustainable, while the stigma was placed on small-scale producers by portraying them as backward and environmentally unfriendly. This juxtaposition guaranteed that the proponents of large-scale production could also claim that their interests in protecting the environment fit into the broader social context and therefore are benign rather than environmentally and socially harmful.

Opportunity structure for technological innovation support included the anaerobic digestion (AD) subsidy previously discussed in Chapter 3. One of the recommendations of the GfG authors was to fast-track a solution for turning animal waste into energy and ‘remove a key uncertainty over the growth of the agri-food industry in Northern Ireland’ (AFSB, 2013, p.36); AD technology that turns animal waste into renewable energy was proposed as such a solution and AD sites were eligible for a subsidy support scheme. It was reported that the major meat processing companies lobbied the government for increased material support for AD, as a strategy to circumvent the European Union’s Nitrates Directive discussed in Chapter 3 and pursue goals of expansion articulated in the GfG (Source Material, 2018). The government created a team of officials to help one of the poultry companies, Moy Park (whose then director also chaired the GfG’s AFSB) expand its operations and simultaneously meet its EU obligations (Source Material, 2018; Gannon, 2019). Between September 2014 and April 2017 there were 14 meetings between the corporate farming industry actors and the DAERA officials in which anaerobic digestion was discussed as a strategy for meeting the EU obligations (Source Material, 2018). Moreover, in 2015, the major meat processing companies successfully lobbied the government to keep subsidies at the top level, by which time they were four times higher than anywhere else in the UK (Source Material, 2018).

The economic clout exercised by the industry ‘makes them potent claimants on the public trough and potent influencers on the list of public expenditures’ (Schnaiberg, 1980, p. 246). At the same time, the state also plays a crucial role of a backer and regulator of technological innovation (Pechlaner, 2012). The move to increase the subsidy level can be seen as economic growth support (Schnaiberg, 1980) masqueraded as a strategy to address environmental problems (De Geus, 2004). Both the government (DAERA and NIEA, 2016) and the bodies associated with the government expressed support for anaerobic digestion:

‘Animal waste used to be considered a problem 10 years ago but now with anaerobic digestion it is seen as an asset. People used to want to get rid of waste but now they see value in it. But there were some issues with planning around AD, but still it needs to be looked at as an asset’ (InvestNI001).

This quote demonstrates that while in the past environmental externalities were problematic, they now are ‘increasingly coming to be viewed as assets that can be addressed and solved by market-based solutions’ (Lang and Klein, 2015, p. 197). Provision of subsidies for AD not only eliminates barriers that stall production expansion; it reinforces economic relationships within capitalism (Kramer and Michalowski, 2012) by turning the final product of the AD cycle into a commercial asset valued in monetary terms. Moreover, since efficiency can also equal economic growth (Schnaiberg, 1980), the subsidy support scheme also fulfils the goal of efficient farming: ‘You turn what is a problem into a resource, you’re making it more efficient’ (UFU002).

Similarly to other forms of support for technological innovation, material support for AD technology can result in subsidy concentration in the hands of larger farmers and promote a more intensive form of production. AD plants in Northern Ireland range from 180kW to 500kW capacity. The subsidy mechanism offers the biggest returns for 500kW digesters (BBC News, 2018), and the latter are not suitable for the small farms. This sentiment was expressed by the UFU’s Senior Policy Officer: ‘tariffs were stacked in favour of largest installations. From the outset, the UFU felt that small scale should have been closer to 30kW and below’ (Farming Life, 2017). Therefore, lack of consideration of the needs of smaller farmers in relation to AD once again consolidated the dominance of larger-scale farms.

To conclude, the opportunity structure to achieve the goal of efficiency in farming through technological innovation (in relation to both farm equipment and AD technology) becomes a condition for continued expansion of capitalism. It proves William Jevons’ conclusion (1865; Clark and Foster, 2001) that technology serves to increase production efficiency, not establish resource conservation, and consequently does not resolve the conflict between the environment and the economy (Lynch et al, 2017). This subsection also explored the role of the state in the project of neoliberal capitalism further, proving that the state remains vital to the market rule (Peine and McMichael, 2005; Slobodian, 2018). Meat production organised under the umbrella of neoliberal capitalism, thus, necessitates both ‘state rollback and state rollout’ (Glassman, 2007, p. 96). Industry-state relations behind this part of the opportunity structure demonstrate how collaboration between

government and capital at both an institutional and an individual level works to facilitate the motivation of economic success in farming and results in state-corporate environmental harm.

5.3.2.1.3 Material support for research into efficient production

The opportunity structure that catalyses harm also includes material support for research to increase production efficiency. Scientific research shapes the environment in which the decisions are made by the economic and the state actors (Griffin and Spillane, 2016). Therefore, research can serve as a mechanism that further consolidates the market-oriented and profit-driven approach in farming. Industry actors were keen to recognise the importance of research (AFSB002):

‘There is a perception of what some people describe as factory farms being worse from animal welfare and environmental points of view. It’s probably the reverse, it’s probably better but you’re probably quite early in that journey that haven’t got research to show it’ (UFU002).

The production of knowledge is organised through growing academia-industry collaboration, where the state also plays an active role. The latter was particularly emphasised by the GfG authors as they suggested that ‘Government must commission research into measureable, best practice systems for sustainable intensification on-farm’ (AFSB, 2013, p. 36). As a result, several collaborations have been developed. The Agri-Food and Biosciences Institute (AFBI), for instance, is sponsored by the DAERA and was running 63 projects in 2017 with industry co-funding (AFBI, 2017). Some of the AFBI’s work in the pig sector supports increased efficiency (AFBI, 2015). One of the research projects on pig feed efficiency funded by the DAERA promises to ‘yield an extra performance value of at least £1m, if applied across the NI pig industry’ (Ley, 2018). Some of the pork industry funders include Pig Regen, John Thompson and Sons Ltd, Devenish Nutrition, JMW Farms Ltd and Rektify Ltd (AFBI, 2015). The nature of the projects sponsored by the industry echoes the goals that help responding to the broader political economic arrangements in meat production. Pig Regen fund research on efficient diets for pigs, feed efficiency and improving technical efficiency of pig production (Magowan and Ball, 2013). John Thompson and Sons Ltd and Devenish Nutrition provide funding on the efficient use of feed (Devenish Nutrition, 2019), while JMW Farms Ltd and Rektify Ltd fund research on practical management and nutrition (AFBI, 2017).

It may be suggested that research into efficient farming is used as an instrument in achieving the overarching goal of driving the farming industry’s profitability. It, thus, becomes a form of, in Bourdieu’s (1990) terms, symbolic capital, which legitimises the economic ambition. Other initiatives positioned at the nexus of the farming industry and scientific research in Northern Ireland also address the broader capitalist discourse of profitability that underpins efficiency. For instance, the Institute for Global Food Security at Queen’s University Belfast aims to ‘develop a range of paradigm shifts in agricultural practices to enhance profitability and sustainability without compromising biodiversity and ecological stability’ (QUB, 2015) and secures large amounts of funding (£2m in 2017) (McKeown, 2017) by bringing together the agri-food industry needs and

scientific expertise. The Institute also hosts the Agri-Food Quest Competence Centre that was launched in 2015 (DAERA, 2016) under the auspices of the GfG strategy. The centre ‘is focused on increasing the level of collaborative research activity to support the agri-food industry growth strategy and help its competitiveness’ (Agri-Food Quest, 2020). Agri-Food Quest regards industry-academia collaboration as crucial in helping the Northern Irish producers to withstand the competition in the global markets and grow ‘a sustainable, profitable, integrated agrifood supply chain’ (QUB, 2015). It was set up as a collaborative government-industry effort, with Invest NI providing £5m of research and development assistance and industry partners allocating £1.7m of investment (DAERA, 2016).

To conclude, the knowledge base around efficient production reflects the dominant power interests and serves to generate consensus around the farming model that is needed in Northern Ireland. It serves as a ‘theoretical mirror’ and a theoretical validation (Althusser, 1971, p. 52) for pursuing an efficient model of farming. Through research, ‘cost-effective strategies’ (Snider, 2000) of meat production are reinforced, which ultimately serves the purpose of profit-making under neoliberal capitalism. Academic knowledge is suggested to play an important role in giving legitimacy to the powerful actors (Bittle et al, 2018). As Snider (2001, 2002) argues, some knowledge claims are more powerful because of their link to the structural dominance of capital. It is evident that the state plays an important role in co-shaping the opportunity structure for advancing research into efficient farming. The actions of the state are ‘subordinate’ to capital but not ‘dictated’ by it (Barak, 2015, p. 2). State-industry symbiosis through research emerges as an effective way ‘to help realise the dominant goals of profit and growth’ (Pearce, 1976, p. 102) in farming in the long run, thus reinforcing the hegemony of neoliberal capitalism.

5.3.2.2 Goal of professionalism

This subsection discusses the opportunity structure constructed to achieve the goal of professionalism in farming. As the GfG strategy suggests, ‘the achievement of our growth targets depends on innovation, entrepreneurship, and skills’ (AFSB, 2013, p. 37). The opportunity structure to achieve the goal of professionalism in farming includes education of farmers and organisation of business development groups, which are essential for ‘professionalising’ the industry and ensuring that it embraces efficient production to respond to the needs of the market.

5.3.2.2.1 Education of farmers

The respondents saw education of farmers as an important context for shaping the level of professionalism and cultivating the knowledge that farming should be treated as a business (Martin, 1995), rather than as a vocation (Gray, 2019). The content of education conformed to the demands of the political economy of capitalism: ‘In the agricultural college I was always told that as a farmer you need to specialise and professionalise your industry, focus on your core strength’ (AFSB001). The idea of farming-as-a-business was also evident in the curriculum of one of the colleges providing

training in agriculture in Northern Ireland - College of Agriculture, Food and Rural Enterprise (CAFRE). It states that those considering a career in agriculture should be capable of availing of market opportunities; the courses in CAFRE are designed to be practical and ‘focused on the application of business, economic and scientific principles’ (CAFRE, 2020).

The broader culture within educational institutions that embraces the realities of the political economy of capitalism may encourage deviant behaviour (Kramer and Michalowski, 2012) in relation to the environment by promoting large-scale farming:

‘As an industry agriculture is fascinating because you get people who left school at 16 but you also get people who have a master’s in agriculture and agribusiness. Those who studied business are much more business-minded, they feel much more comfortable taking those big risks; they understand it more than those who did not get the education. They are more willing to jump from a small farm to a large enterprise’ (UFU002).

The process of learning allows an individual to justify and neutralise their behaviour (Piquero et al, 2005) and thus frame their chosen mode of meat production as progressive rather than harmful. In addition to education, another part of the opportunity structure to professionalise farming included business development groups. In 2016, over 3,000 farmers joined Business Development Groups under the auspices of the GfG strategy (AFSB, 2016). Similarly to education, the discourse of farming-as-a-business was the defining direction taken by business development groups. Business development groups offered a clear development plan for a farming business, an opportunity to improve farm profitability and keep up to date with the latest technologies (CAFRE, 2020). One of the authors of GfG also illustrated it: ‘We had business development groups for farmers to come together and we taught certain subjects. It is like an education programme. You have to tell them without telling them’ (AFSB002). This remark in particular demonstrates the power element in the development of an ‘entrepreneurial’ farmer (Martin, 1995) as corporate actors in the farming industry, driven by the global prescription for economic success, shape the consciousness of individual farmers. This comment demonstrates the manner in which power is exercised through consensus rather than coercion (Gramsci, 1971) as the entrepreneurial spirit in farmers is cultivated through the use of education as an instrument of soft power.

Similarly to the opportunity structure for the goal of efficiency, the opportunity structure to achieve the goal of farming professionalism is co-constructed by the industry and the government. The respondents pointed out that ‘[the] government was prepared to give capital support and to put out mechanisms to improve education, training. So it is both this support but also the industry itself growing and investing in itself, making sure that there is a return on their investment’ (AFSB001). Indeed, CAFRE is funded by the DAERA and the total investment in skills development programmes within the framework of the GfG agri-food strategy totalled £18 million (DAERA, 2016). Therefore, ‘institutions of economic production’ pursue a goal of professionalising farming in cooperation with ‘institutions of political governance’ (Michalowski and Kramer, 2006, p. 15). Education programmes and business development groups shape the environment that ultimately affects the

structure of farming businesses and the strategies that Northern Irish farmers pursue. The opportunity structure also provides a normative support (Vaughan, 1999) for individual farmers' actions. The opportunity structure for the goal of professionalism shapes what Bourdieu (1990) refers to as 'cultural capital' through education and training of farmers, thus attuning them to the goals of political economy of capitalism (Passas, 1990; Martin, 1995) and making them more inclined to organise their production in an efficient manner to meet the demands of the market.

5.3.2.3 Summary

The opportunity structure described above has been developed to pursue the motivation of profit-making through efficient professionalised pig meat production in the context of the GfG agri-food strategy; it presents the second catalyst for environmentally harmful pig farming intensification in Northern Ireland. The opportunity structure catalyses harm by responding to the global ambitions of meat production. The discourse against small-scale farms as inefficient validates farming intensification and results in changing the structural conditions around the subsidy mechanism that supports small-scale farms. The propagation of this discourse by the GfG authors and the state works to eliminate the alternatives to the market-oriented profit-driven model of farming, thus reinforcing the hegemony of the dominant capitalist order. Material support for technological innovation also works in favour of large-scale farms and encourages intensification, simultaneously limiting the opportunities for small-scale farms. It vindicates the economic activity of large-scale production increase through portraying technological innovation as environmentally friendly. Material support for research into efficient production is employed as a tool that simultaneously seeks ways to increase production and legitimise the decisions made by corporate farming industry actors and the state. Finally, education of farmers is an instrument of soft power, which cultivates entrepreneurial spirit and works in line with the goals of the political economy of capitalism, conditioning individual farmers to organise their production in an efficient manner to meet the demands of the market.

The question arises why these means have been identified as likely to achieve the goals of efficiency and professionalism in farming and respond to the meat production strain on the national level in Northern Ireland identified by the GfG authors. The chosen means present an amalgamation of material and ideological support for a profit-driven, efficient, and professionalised model of farming. Material support for technological innovation and research is enabled by the collaboration between political interests and the interests of capital. The state is necessary for sustaining the ideological structure of neoliberal capitalism in the long term (Harvey, 2005; Bittle et al, 2018) and can serve as a facilitator of the industry's profitability (Bittle et al, 2018; Pechlaner and Otero, 2008). My analysis shows that free markets heavily depend on state interventionism, thus echoing Polanyi's (1944) thinking. Corporate actors in the farming industry responsible for the development of the GfG strategy, being proponents and beneficiaries of neoliberal capitalism, are not seeking the disappearance of the institution of the state. Instead, they seek profit-generating incentives and a business-friendly regulatory environment (as will be explored in the next subsection), which is

reciprocated by the state (Slobodian, 2018). At the same time, the government itself has a significant interest in the economic growth through capital accumulation (Schnaiberg, 1980). As it was shown in Chapter 3, farming in Northern Ireland makes a substantial contribution towards economic expansion, which is necessitated in the context of the political economy of capitalism. Therefore, the government also reacts under the pressure to grow its economy and aims to salvage the capital (Schnaiberg, 1980). In this context, its support of GfG seems like a reasonable solution.

The second catalyst for harm is dependent not only on material outcomes of the interactions between the state and the farming industry, but also on ‘moral and intellectual leadership’ (Pearce and Tombs, 1998, p. 52). The role of discursive sites of power and discursive rationalisations should not be underestimated (Kramer et al, 2002; Barak, 2017). They enable the dominant ideas to be normalised and treated as ‘common sense’. Discourses of dismissal of small-scale farming, research into production efficiency and discourses of economic rationality dominating farming education solidify a particular idea of how meat production should be organised. As the consensus around efficient farming is created, alternatives to profit-oriented and ultimately larger-scale, more intensive production are eliminated. Yet, as I stated before, this mode of production also accelerates ecological destruction (Lynch et al, 2013).

Thus far I discussed the first and the second catalysts for environmentally harmful pig farming intensification in Northern Ireland – motivation behind GfG and the opportunity structure constructed to achieve this motivation. To recap, the global market rule ideology driven by capital accumulation creates a strain for the ambitions of the farming industry in Northern Ireland. In response, the GfG strategy has been developed to consolidate the pursuit of the goals of efficient production and professionalism in farming. To achieve these goals, an opportunity structure has been created consisting of both material and ideological support, both of which encourage farming intensification. Yet, the third catalyst – operationality of control – needs to be discussed. Kramer et al (2002) suggest that crime and harm may occur when regulatory or social control bodies are either guided by or work for elite interests. The subsection below discusses controls in the context of farming intensification and analyses how the industry-government relations are organised to eliminate pathways for control (Kramer et al, 2002), thus exacerbating environmental harm from farming intensification.

5.3.3 Operationality of control

5.3.3.1 State

As discussed above, the Northern Irish state adopted the GfG strategy and co-constructed opportunity structures to achieve the goals of efficient and professionalised farming, encouraging an environmentally harmful intensification of pig meat production. Nevertheless, the GfG authors also saw the state as part of social control framework; this view echoes the neoclassical economic thinking of the state being ‘a drag on the market’ (Schnaiberg, 1980, p. 241) usurping business freedom:

‘It’s been difficult – sometimes it’s like walking through treacle with government, but we are making progress’ (AFSB001).

‘The system has discouraged some people from progressing, doing the right thing’ (AFSB002).

Therefore, the question of how Northern Irish farming industry’s motivations of growth are pursued when the state is not being cooperative needs to be examined more closely. The pursuit of the GfG goals appeared to rely significantly on corporate farming industry actors putting pressure on the government:

‘Northern Ireland has a political population that never had to do a job for forty years. They really did not do their job. The reason that the industry [needed to step in] is to tell them what to do. We needed to educate the politicians, so that when they made a decision, they knew how to do it. They may or may not agree with it but at least they knew what they are doing <...> We worked with civil servants and institutions’ (AFSB002).

This quote refers to the political stalemate caused by the Troubles. As I showed in Chapter 3, after the end of the Troubles, the state actors felt the pressure to be integrated into the global context of neoliberal capitalism and grow its economy, rewarding profit-making industries with a more favourable treatment. The culture of ‘demanding’ such favourable treatment by the industry persists, particularly because of the power wielded by the farming lobby in Northern Ireland. At the same time, as I suggested in the previous section, politicians are unwilling to jeopardise economic development and are likely to respond favourably to the lobbying demands or simply delegate certain policy areas to the lobbying groups (Culpepper, 2011), as exemplified by GfG.

Although the farming industry succeeds at getting the incentives for its goal pursuit, the tension between the industry and the state nevertheless exists; the latter does not always guarantee smooth functioning of the capitalist system (Kolko, 1963). As mentioned in Chapter 3, current absence of the Executive as well as Brexit aggravated this tension, which was evidenced in the interviews¹⁸:

‘For pig farmers there’s uncertainty with Brexit – they don’t really know what it’s going to bring, what it’ll look like’ (UFU002).

‘And we can do with ministers to make the decisions on those issues, but we don’t have the ministers at the moment. Therefore, nothing is happening. Will we continue with our nitrate vulnerable zones? Nobody quite knows what the answer to those things is’ (UFU001).

Capitalist production requires a predictable environment under the control of capitalists (Datta, 2018), and both the absence of the Executive and Brexit usher in unpredictability. When the stability of the capitalist environment is compromised, as Schnaiberg (1980) points out, it is common that the economic elites blame the state for creating this environment and demand the restoration of a business-friendly climate, which the quotes above demonstrate. In the case of Brexit, such demands

¹⁸The Assembly was restored on January 10, 2020, yet at the time of data collection and data analysis, Northern Ireland did not have a functioning Executive in place.

were expressed by a coalition of the UK farming unions (which included the Northern Irish UFU) who made a series of policy proposals for political consideration. Their message was to ensure that the ‘developments on Brexit prioritise the needs of farm businesses and the long-term prosperity of the agri-food sector’ and that policy decisions lead to a ‘productive, profitable and progressive farming sector that benefits us all’ (NFU and UFU, 2019, p. 3). Moreover, continuation of the smooth functioning of the capitalist political economy also implies the reduction of legislative controls. As both government and the industry ultimately adhere to the same set of common goals of economic growth and profit maximisation, aggressive regulation may hamper the achievement of these goals (Kramer et al, 2002). Below I discuss two facets of regulation in farming as a mechanism of control.

5.3.3.2 Environmental regulation

Several industry respondents emphasised that the NIEA adopts a punitive approach towards environmental transgressions from farming (UFU001):

‘<...> our environment agency has only been a police force’ (AFSB002).

‘In Scotland the Environment Agency does advocacy and trains people but it also comes in with penalties. In NI we don’t really have the advocacy and education part, it goes straight to penalties. There are different ways to change behaviour and education is one of them’ (UFU002).

In these comments, environmental regulation is portrayed as a ‘big stick’ (White, 2013, p. 58) and consequently ineffective. These comments also suggest that a ‘police force’ approach implies a ‘single-minded enforcement of the rules’ (Tombs and Pearce, 1990, p. 27). This line of thinking resonates with the neoliberal ethos in regulation, where regulatory bodies are seen as inflexible, purposefully searching for violations, overly bureaucratic and sluggish (Bardach and Kagan, 1982). As a result, the GfG authors encouraged the farming industry to ‘engage with Regulators in order to develop an agreed regulatory environment which adds value, is proportionate, informed and has a risk-based approach to regulation’ (AFSB, 2013, p. 16). This plea was reflected in the interviews. The respondents argued in favour of what can be described as a consensus perspective that ‘requires that strict enforcement and prosecution are minimised in order to encourage the active participation of business in ‘self-regulation’’ (Whyte, 2004, p. 133). Respondents advocated for advice rather than punishment from the environmental regulator as well as for working in close collaboration with the NIEA (RET001):

‘There is a stick and obviously no one likes to be beaten. There is a problem, but we do not see it from the same viewpoint, so it is about working on the solution collaboratively’ (UFU002).

‘We should have a much more driven agenda within the government. The resistance within the government [against] supporting the farmers who want to do the right thing is disgraceful. It should be much more supportive in principle. You have to be able to sit down with the Environment Agency and say – let us do it the best we can. [we might not always

agree] but if we can do it better than we are doing it today, then we are making progress' (AFSB002).

The conciliatory stance taken by the respondents aimed to ensure that environmental regulations do not challenge the industry's economic sustainability. Moreover, the respondents recognised the existence of the environmental challenges and aimed to contribute to their regulation to ensure that structural reorganisation of farming could continue in what Bittle et al (2018) label as a safe and predictable regulatory environment. The industry respondents, therefore, attempted to establish what Szasz (1986) sees as the regulatory order that preserves the status quo with the least change and also removes the pressure of accountability for regulatory violation.

The desire for a predictable regulatory environment also manifested in actively advocating against an independent environmental protection agency in Northern Ireland (AFSB001; UFU003). It serves as the empirical evidence for the discussions on the neoliberal attack on environmental regulation (Whyte et al, 2004; Faber, 2008; Czarnezki and Fiedler, 2016) developed in Chapter 3, where the regulatory functions of the state are subordinate to the hegemony of capital (Faber, 2008). It was aptly summarised by one of the respondents: 'You constantly get into market-driven factors versus regulatory-driven factors, and regulatory-driven factors are driven by what the market wants' (UFU002). The hegemony of capital in regulation also involves emphasising the costly nature of regulation, which was seen as detrimental to the overarching ambition of profit-making:

'It is challenging, it adds a lot of cost – sometimes it puts people off. They spend thousands on ammonia assessments before they even start the project' (UFU002).

'So if there is a market for that product, are we better off supplying it here and focusing on doing it better? Or you put so many controls and regulations that it becomes unprofitable - you lose your income, you lose your farmers, you lose your rural community <...>' (UFU003).

Therefore, in addition to being structured around consensus, environmental regulation in Northern Ireland also possesses the characteristics of neoliberal regulation, where regulation by the state is shifted towards the regulation by the market (Whyte et al, 2004).

Moreover, when the interests of profit are threatened, the farming industry is capable of tampering with the existing regulatory systems. In the process of creating a climate where environmental regulation becomes a matter of governing and normalising the capitalist social order (Bittle et al, 2018), environmental regulators become subject to regulatory capture (Bernstein, 1955; Barak, 2017). The farming industry in Northern Ireland participated in shaping the regulation for its own benefit and creating 'a mandate on how to develop the economy the right way' (AFSB002) with the NIEA. For example, a Judicial Review taken by the UFU against the NIEA and the then Department of Agriculture on the subject of breaches of the CAP support cross-compliance was in favour of the UFU position (UFU, 2017). The Review aimed 'to defend [the UFU] members against unfairness and to protect the wider industry from harsh treatment for minor mistakes'. Another instance is the Memorandum of Understanding between the NIEA and the UFU signed in 2017,

which contributed to the creation of the collaborative regulatory environment between the industry and the environment agency. The memorandum aimed to ‘help the farming community unlock the commercial advantages that excellent environmental performance can generate in competitive global agricultural markets’ and ‘improve environmental outcomes through a more effective partnership approach’ (NIEA and UFU, 2017, p.1). Similarly to the Judicial Review, the Memorandum also encouraged the NIEA ‘to explore new ways of dealing with low severity incidents’ (NIEA and UFU, 2017, p.8), which, in other words, encouraged the NIEA to adopt a more lenient stance towards low severity environmental transgressions in farming. Both of these examples demonstrate that regulatory capture eventually morphs into cognitive capture (Barak, 2017); the ideological hegemony of neoliberal capitalism shapes the course of regulation and the regulators themselves become more pliable in their response to the demands of the industry. Cognitive capture is emblematic of the normalisation of the neoliberal mindset where ‘the conduct of conduct’ of neoliberalism is accepted (Keil, 2010).

Using the context of environmental regulation of farming as it becomes more intensive following the adoption of GfG, I demonstrate how in the context of neoliberal capitalism where capital accumulation is the main imperative, regulatory agencies are vulnerable to regulatory and cognitive capture by the farming industry. To continue the discussion developed in Chapter 3, the NIEA relents to the pressure of the industry to ‘own the environmental problem’ and also starts advocating for a collaborative approach. The NIEA’s acceptance of the industry’s definitions of what constitutes the appropriate regulation boosts the legitimacy of the capitalist order and creates ‘a better regulation of capitalism’ (Garside, 2013, p. 247). Environmental regulation, thus, does not serve to penalise the industry or reform the current political economic order; it serves to resolve the contradiction between capitalism and the environment, and save capitalism from itself (Khoury, 2018). However, prioritising the interests of capital at the expense of the environment results in the generation of ecological destruction and disorganisation (Lynch et al, 2017), from both the cumulative impacts of minor environmental infractions and more serious harms associated with intensive farming.

5.3.3.3 Planning regulation

As I discussed in Chapter 3, planning has a significant role to play in safeguarding environmental sustainability and, therefore, is closely linked with environmental regulation. However, the structure of current planning frameworks was described as limiting by the industry respondents. The GfG authors asked the government to ‘revise current planning and IPPC application procedures and priorities to ensure the speed of successful processing of Agri-Food applications is equal to, or better than those in Great Britain’ (AFSB, 2013, p. 16). The regulation of ammonia emissions was seen as particularly important. The obligation to reduce ammonia emissions under the European law means that many planning applications for the new farms are suspended in the planning system because of the rising ammonia levels in Northern Ireland: ‘Ammonia emissions are also affecting the planning

system because the planners don't know how to get round the ammonia stuff' (UFU001). The current situation was described as 'a planning limbo' (Farming UK, 2018) and caused major dissatisfaction for the industry:

'Ammonia is a problem from a planning point of view – so if industry is looking to expand, it can't. Industry will find a way once someone says what you can and cannot do but at the moment there is no clarity so they cannot start planning the next pathway. It is frustrating for a progressive industry' (UFU002).

Preoccupations about the uncertainty of regulation is related to the 'obsessive relationship of powerful individuals with their future' (Ruggiero, 2015), where the power accrued thus far can be lost as a result of future events. However, the action the farming industry takes to cope with the unforeseen situations, rather than being determined by the future, is shaped by the capitalist system of production (Bourdieu, 1990), which is reproduced through the relations between the industry and the state. This symbiosis once again is essential to address the planning controls both in the past and at the present moment. One of the NGO respondents pointed out that in the past,

'there was a particular unit within the planning system which was set up to fast-track people putting in factory applications <...>. So they would have their own planners dealing with applications. It's no longer in operation' (NGO002).

This separate planning arrangement was organised within GfG by the then Department of Environment and ended before planning responsibilities were transferred to local councils in 2015 (DAERA, 2016). DAERA (2016, p. 10) also reported that after the dissolution of this arrangement, regular meetings were held by the NIEA and the corporate farming industry actors 'to discuss relevant issues relating to their expansion plans and help co-ordination of applications e.g. PPC permits'. This example can be seen as an attempt to redesign planning institutions to protect the interests of the market (Kauzlarich and Matthews, 2006; Slobodian, 2018) and realise the dominant goals of the farming industry.

Furthermore, political pressure has been put on the civil servants involved in the decision-making around planning by the DUP – a political party that protects the interests of the farming community in Northern Ireland, as I mentioned in Chapter 3. DUP MLAs, during their meeting with the NIEA, pointed out that,

'Northern Ireland has in the region of 100 applications in the planning system currently awaiting environment assessments by the NIEA. The lack of decision-making has effectively put a brakes on the agri-food industry at a time when farm gate prices and returns have been relatively positive. With Brexit on the horizon farmers want to take advantage of an opportunity to expand to meet demand in some sectors however that has been frustrated by this process' (Farming Life, 2018).

During the meeting, the NIEA officials were encouraged to process their input in the planning decision-making faster to ensure that the expansion of farming does not face any impediments. Similarly to the environmental regulation controls, regulatory capture (Barak, 2017; Bernstein, 1955)

is present, this time by the political party that represents the interests of the farming community. Both industry and political pressure to address the backlog of farm planning applications related to ammonia concerns paid off: in August 2020, the current Agriculture and Environment Minister intervened urging elimination of the backlog in one month (Macauley, 2020). The decision raised concerns about the breaches in the European legislation protecting important habitats.

Ruggiero (2013) suggests that the neoliberal economic order encourages individuals to change the existing rules and resort to innovation to achieve their goals, resulting in a socially and environmentally injurious behaviour. In Northern Ireland, the pressure to pursue the goal of profit-making by the farming industry through intensifying meat production (as consolidated by the GfG strategy) encourages the industry actors to influence the regulatory forums to shape the existing environmental and planning regulation in their favour. Simultaneously, being under the pressure to maintain economic growth within the neoliberal political economic order as well as under the pressure from the farming industry, state actors create an enabling environment for the pursuit of the economic interests (Bisschop et al, 2018), thus loosening some of the controls over farming expansion.

5.3.4 Summary

This section demonstrated how the context of the previously discussed macro level political economic order of meat production influences the national context in Northern Ireland. On the macro level, the overarching goal of economic success dictates efficient organisation of production. In light of the discrepancy between the macro level goals of profit-making, growth and efficiency and the structural reality of small-scale farming in Northern Ireland, environmentally and socially injurious behaviour of farming intensification takes place, as economic production is prioritised over ecological production (Stretesky et al, 2014). The motivation to organise production efficiently by increasing its scale to ensure an increase in economic returns and competitiveness of the industry, as consolidated by the GfG strategy, constitutes the first catalyst for harm. Efficient production cannot be possible without the individual producers embracing the model of farming premised on market hegemony and accepting it as a given. As a result, another goal was to professionalise farming to ensure that individual farmers structure their production in accordance with the needs of the market.

As these goals are pursued, the second catalyst for harm – opportunity structures – have developed in support of them (Kauzlarich and Kramer, 1998). They include promulgation of the discourse against small-scale farms as inefficient, material support for technological innovation and research into efficient production, and redesigning education of farmers to professionalise the industry. This opportunity structure exemplifies the intersection of political economic and ideological power (Michalowski, 2018) to allow for constant innovation of relations of production (Quinney, 2000). The intersection of political and economic power takes place as farming industry actors and the state cooperate in the creation of the opportunity structure to maintain a smooth functioning of the capitalist system (Tombs, 2017; Bittle et al, 2018; Michalowski, 2018) of

production. It demonstrates that state power, despite its changes in ‘form, scale, type of practice, or effectiveness’ (Peluso, 2007, p. 89), remains essential for the functioning of the neoliberal capitalist regime and therefore plays a crucial role in providing the conditions for farming intensification. The ideological power intersects with the other two elements of power; the opportunity structure is also premised on the soft power of legitimisation of the harmful practice of farming intensification as the idea of common sense in farming is produced through education and research. Within it, avoidable harm from farming intensification is framed as necessary and inevitable or is denied altogether (Cohen, 2001). The dissemination of common sense provides consent (Gramsci, 1971) to the changing model of farming.

Moreover, the analysis of the third catalyst for harm – controls for farming intensification – demonstrates how regulatory relationships in Northern Ireland are conducive to harm. Economic actors exist in tension with the state actors but also work in tandem to engineer an appropriate regulatory environment that diminishes the possibility of control (Ruggiero, 2015). The intersection of economic and political power is reported to decrease the likelihood of regulation of harmful behaviour (Kramer et al, 2002). Farming industry actors guarantee that the regulatory frameworks continue to protect their vested interests (Boekhout van Solinge, 2010). Their close involvement in environmental and planning regulation with the approval from the state results in the regulations remaining malleable enough to allow industry actors to shape them according to their goals (Ruggiero, 2013) and remain in touch with external political economic contingencies. Through transformation of the regulation, they, therefore, form a new type of legitimacy (Ruggiero, 2018) that consolidates efficient, growth-oriented meat production. Its consolidation safeguards the hegemony of the dominant capitalist order and implies that alternatives to it are excluded; the analysis of the motivations, opportunity structures and operability of control on the meso level demonstrates this exclusion by highlighting the marginalisation of small-scale farmers. Individual farmers are influenced by the political economic arrangements in which they are embedded. The next section details how the macro and meso level political economic contexts influence the actions of individual farmers.

5.4 Micro level political economic arrangements

This section analyses how catalysts for environmentally harmful farming intensification on the macro and meso levels operate on the micro level, influencing the decisions made by individual pig farmers. Ultimately, ‘a decision and a system of preferences which underlies it depend not only on the previous choices of the decider but also on the conditions in which his choices have been made, which include all the choices of those who have chosen for him, pre-judging his judgement and so shaping his judgement’ (Bourdieu, 1990, p. 49).

The above described goals and opportunity structures create a competitive environment that forces farmers to embrace dependence on the market and step away from self-reliance and control over their production (Morris, 2001; Gray, 2019). Embracing dependence on the market entails

accepting the forces that are beyond farmers' control, but instead are regulated by corporate actors in the meat supply chain, such as animal feed companies profiting from such arrangements (Gray, 2019). The farmer respondents expressed their displeasure about the lack of control over the market forces:

'The feed is very expensive' (FAR002).

'<...> it doesn't matter if you're self-sustaining on your own crops, the world grain price sets the pressure and same for the pork price' (FAR001).

The forces of capital pressure the farmers to embrace a farming process that uses the inputs of maximum value to the input producers (Lewontin, 2000). In addition, Lewontin (2000) demonstrates that farm produce is tailored to the demands of a few major purchasers. As meat supply chains become more retail-based and profit driven (Brisman et al, 2014), retailers can put pressure down the supply chain, taking control over farming production further away from the farmers, as the comments below suggest:

'We went through the period of food deflation and cheap food. But actually it was a price war going on between the 5 biggest supermarkets. Lidl and Aldi arrived, and they were a really big disruptor in the grocery market – they supplied a good quality product at a small price. So the UK supermarkets needed to get down to the same prices. There was a recognition that if they continue to put that amount of pressure on a supply chain, we'll lose the indigenous supply chain' (AFSB001).

'It used to be that an animal will be moved 5 times on average during its lifetime. Sainsbury's person told us: 'the cost is 40 pounds a movement and its 200 pounds per animal that you are losing. When are you going to stop losing this money and stop asking supermarkets to pay more for food?' (AFSB001).

'But there is a lot of demand out there for cheap food, we cannot ignore it. Certainly, the retailers will not ignore it, they will want to continue to get cheap food to satisfy that demand and therefore there would be pressure for farms to become more concentrated and squeeze out every last economy of scale' (DAERA001).

These comments evidence how the drive for profit on the retail level can shape the environment at the bottom of the meat supply chain. Farmers, while having to integrate into the market-driven environment, are also confronted with the negative impacts of the volatile food economy (Clapp, 2012), where they face constant financial pressure as well as pressure to increase production (James, 2019). The response to these pressures within the narrow confines of the competitive industry (Tandon, 2010) might be engagement in ethically questionable practices (James, 2019) such as the decision to intensify production, leading to an environmentally deviant outcome (Kramer and Michalowski, 2012). As some respondents put it,

'if you do not move with the time, there will be a point when you are stagnant, so you have to continually move with the time to keep your efficiencies and know what consumer wants. <...> We had to expand to be doing it fulltime. <...> We had to expand in order to stay sustainable. If we did not move, we will eventually have to seize production' (FAR001).

‘Another problem with the British farmers is that we’re responding to the demands of supermarkets. Can we get a market return on all those things we have to do to meet those standards?’ (UFU001).

These quotes illustrate that in order to participate in the capitalist race, farming success needs to be measured in financial achievement, and intensification of production might be necessary for that:

‘You’re balancing demand, you try to listen to retailers and what they say about price which again encourages you to expand economies of scale’ (UFU002).

The importance of the economic capital (Bourdieu, 1990) is valued by the broader supply chain community, thus reinforcing its power. Individual farmers’ pursuit of the goals for production set on the macro and meso levels reinforces the existence of a competitive, profit-driven environment. Yet, the relationship between the market and morality is controversial (Merton, 1938). Under market rule ideology, farmers might not have an opportunity to make ethical choices and risk committing environmental harms. As one respondent concluded, ‘[the expansion is about] pushing [farming] to the business side rather than the environment side’. The goal of professionalising farming also resonated with individual farmers:

‘The environment [in farming] is getting very business-like. <...> it is the money controlling what happens there rather than a farmer controlling the pigs. <...>’ (FAR003).

The quote once again demonstrates that corporate control of farming leads to the reduction of farmers’ control over production (Pechlaner, 2012). It results in the loss of decisive power in farmers where they no longer determine what they produce and for whom, leading to a rupture between the farmer and the practice of farming (Tandon, 2010). Instead, farmers find themselves in an environment where concerns of economic costs and benefits outweigh other (Passas, 1990), such as environmental, concerns. It risks normalising environmental harm and perceiving it as a ‘normal, routine or accepted practice’ (Halsey, 2004, p. 837). Normalisation of harm is done through framing intensification as a ‘normal’ and inevitable part of the business structure, which negates the element of deviancy in it (Whyte, 2016). Some farmers also appeal to a higher loyalty (Sykes and Matza, 1957) of the mission of ‘feeding the world’, thus deflecting the focus from the economic rationale behind their decision:

‘We are trying to increase production here and on the other side of the world people are starving. How does it add up? And then [local community] says they want it all green, they want farmers to grow more trees’ (FAR001).

Yet, as I stated earlier, normalisation of harm also serves to reinforce the hegemony of neoliberal capitalism (Pearce, 1976), ensuring that the status quo remains unquestioned and unchanged.

The pursuit of the goal of professionalism, in addition to encouraging farmers to prioritise economic sustainability, has tangible effects on individual small-scale farmers. Farms with less than

2,000 pigs are often vertically integrated in the supply chain and this trend is being developed further in the pig sector, based on the success of the poultry sector:

‘There are several very big producers of pigs and they are subcontracting fattening of pigs to smaller farms and it’s working quite well. It’s very target driven and professional’ (UFU001).

Vertical integration tended to be associated with professionalism and was actively promoted throughout the GfG strategy. It has been described as ‘much more market driven, [where] everything is organised and controlled by the processing system’ (UFU003) and one respondent remarked that integration in a single supply chain implies that ‘what farmers decided is connected to what the processor, supermarket and consumer does’ (AFSB002). These comments mask the complexity of the relationships in the meat supply chain – they appear to be determined by the institutionalised mechanism of the free market, but actually become an arena where relations of domination are established through personal interactions (Bourdieu, 1990). Such relations of domination guarantee that individual farmers are convinced of the benefits of such form of production, thus demonstrating the ideological power of vertical integration (McMahon and Glatt, 2019), which masks the relations of power in meat supply chains. Vertical integration is reported to strengthen retailers’ power (Morgan et al, 2006) with retailers dictating production practices to processors and farmers:

‘You find supermarkets wanting a cheap product and the only way of getting it is by taking shortcuts in production. <...> Now you have an animal, you take it to the factory to get killed, then you have a processor that’s trying to get as much as possible out of it, then packaging, then it goes to a supermarket which has to get a cut as well. There are four or five different links and each of them is making profit. The farmer comes at the bottom of that. If there are not enough pigs from a farmer, other [actors in the food chain] are still getting profit because they will charge the consumer more. But they try to keep the price down, but how? They do not pay the farmer as much’ (FAR003).

This quote once again illustrates the retail-based and profit-driven nature of meat supply chains, characterised by unequal distribution of power, which may lead to environmental harm and even crime (Donnermeyer, 2016). The current interaction between meat processing companies and farmers is emblematic of power disequilibrium and serves to reproduce the relations of domination:

‘Food processors were complaining that they can’t manage the inconsistencies related to farming (50 different types of cattle, etc.) and needed uniformity. The business is not sustainable that way. The vertical integration put a degree of sustainability and profitability into it’ (AFSB001).

‘In Northern Ireland we have two big meat processing plants, they import 8000 to 10000 pigs per week to slaughter from the south of Ireland simply because we can’t get the local supply. We need more local pigs. Cranswick [the processing plant] since taking over want to increase the capacity of the plant which means more demand for pigs’ (UFU002).

It is evident from these comments that the dispositions of the meat processors (some of whom are responsible for the development of GfG) are influenced by the political economy of capitalism as

they are driven by the ambition of capital accumulation. As a result, individual processors are incentivised to put pressure down the supply chain and encourage farmers to have bigger units of production, thus reinforcing individual farmer disposition to intensify production. The latter was reflected in this comment:

‘If you look at it from a production point of view, it is easier for a factory [to work] with a large producer. Say you want to kill pigs privately – once a small farmer wants to get their pigs killed, there is just one factory that will kill them now. And that factory is far. Other factories will only take from bigger producers. It is because of the size and scale of it now. [the factories] are producing for supermarkets, there are quality regulations and everything. It is a system that’s tied up very much so now. That’s why it would suit factories to have bigger units [of pigs]’ (FAR003).

The relationship between processors and farmers can result in the latter becoming vertically integrated into the meat supply chain. While the industry respondents pointed out that vertical integration in Northern Ireland is a suitable model for small-scale farmers, this arrangement is nevertheless reported to be facilitating access to the market for large-scale producers (McMahon and Glatt, 2019). Intensification of farming serves the interests of retailers and processors (Westra, 2004), as they form relations that increase their ability to pursue profit interests (Bourdieu, 1990); the farmers who choose the environmentally harmful route of intensification merely respond to the goals presented as the normal functioning of the meat supply chain and opportunity structures created to meet such goals.

Yet, the farmers who choose not to produce intensively to stay competitive and instead opt for a different mode of production are marginalised (Fuchs et al, 2009). The previous section discussed how the meso level opportunity structure facilitates this marginalisation through labelling small farms as inefficient, re-structuring mechanisms of their support, opening avenues for technological innovation that favour large-scale farming and advancing research into efficient rather than small-scale farming. The issue of marginalisation resonated with small-scale farmer respondents:

‘It doesn’t make any economic sense to go organic, we don’t make any money [from keeping pigs]’ (FAR002).

‘A small farmer is on the way out at the minute’ (FAR003).

These responses demonstrate that political economy of neoliberal capitalism is not favourable to small-scale farming in the same way as it is favourable to large-scale, more intensive farming. The farmers who prioritise the environment are marginalised because this priority does not fit the dominant ideology that sees profit-making as the main marker of success. The above-described relations in the supply chain structured around the capitalist logic and reinforced in the GfG strategy also help to reproduce marginalisation of small-scale farmers. Supply chain relations reinforce the idea of profit-growth-efficiency as common sense in farming and work to exclude the behaviours that are incompatible with the conditions of the capitalist political economy, such as small-scale farming.

Marginalisation of small-scale farmers is also orchestrated through the meso level opportunity structures discussed in the previous section. Small-scale farmers have low profit margins and the opportunity structure for technological innovation does not provide financial assistance for them to mitigate some of the impacts of farming, such as ammonia emissions (The Bureau of Investigative Journalism, 2019). The funding available under GfG was, as one respondent pointed out,

‘for much larger capital projects, so the number of people that benefitted would have been small to begin with - you’re talking really large sums of money, maybe quarter of a million for a big project and the average person isn’t willing to make that much investment so it only suited a small percentage to begin with’ (UFU002).

Instead, as I showed earlier, the opportunity structure for technological innovation is more likely to benefit larger farmers. Farmers who decide to intensify their production reported to have benefitted from the AD subsidy:

‘There is a lot of misconception over the price gained from an AD – you have to buy the plant, feed it, maintain it. The subsidy is ok, but it’s required – there are a lot of beneficial factors [associated with it]’ (FAR001).

As individual farmers implement the technology, the doctrine of promotion of ‘green growth’ through innovation (Hannigan, 2006) is further reinforced, creating an impression that environmental issues stemming from farming intensification are successfully dealt with. However, as I discussed in the previous section, proliferation of technological innovation as an answer to the environmental crisis does not serve the interests of social and ecological justice. Instead, it reinforces the existing regimes of power that govern meat production globally and nationally (White, 2017). Technology serves the interests of capitalism and not the environment and fuels the continuation of environmental harm caused by unsustainable intensive production (Lynch et al, 2016).

Furthermore, farmers are also discouraged from protecting the local farming economies. As it was pointed out by one respondent, ‘there is no support for farmers to work within the local economy, only for them to export’ (NGO001). The incentives that exist to support an environmentally friendly and socially beneficial practice in farming that is not geared towards capital accumulation are very limited:

‘Recently [we] started getting Organic Payments – Environmental Farming Scheme. It is not enough but is better than nothing’ (FAR002).

‘You’ll get schemes where farmers would be planting hedges, that money isn’t so much there now’ (FAR003).

Since a subsidy can be defined as a form of support that aims to promote an activity considered to be beneficial (Myers and Kent, 2001), the following dynamics of subsidy distribution demonstrates that

protection of the environment may not be considered as beneficial as economic growth, which is in line with the existing political economic arrangements (McKie, 2018).

Finally, the opportunity structure around research support on the national level also has consequences on the local level. Pioneering intensive farms volunteer to contribute to research development, specifically on the topics of technological innovation:

‘there will also be research people coming in to show what we put in, what we got out, what the benefits are. That’s when it starts benefitting everybody when we go down the route of health’ (FAR001).

Development of scientific knowledge is linked with the interests of the global and national political economic power structure of capitalism (McKie, 2018) and in this case further reinforces the consensus around the market-oriented profit-driven model of farming by stressing its benefits.

In terms of dealing with the controls for intensification, the national-level response informs the response on the local level. As I stated in the previous section, the industry respondents contribute to shaping environmental and planning regulation, controlling stability and predictability of the regulatory environment. In a similar vein, individual farmers respond to this trend by pre-empting environmental regulation, thus allowing for an uninterrupted production:

‘Our farm is way in excess of what is required [for environmental regulation]. I wanted to live my life easier for whenever they change the rules, I wanted to box it off so that nothing gets pass 300 mm concrete wall. When someone wants to buy from me, they want to buy at a certain standard – the last thing you want is something happening and you having an environmental problem’ (FAR001).

Such pre-empting of regulation or over-compliance (Pearce and Tombs, 1998) may result in its institutionalisation (Culpepper, 2011) and allow the industry, rather than the government, to be regulatory authorities (Gray, 2018) and shape the regulation in their favour. Producers may also influence the structure of penalties (Lynch et al, 2016), ensuring that they avoid the latter by pre-empting regulation.

5.4.1 Summary

This section presented an analysis of the micro level political economic arrangements around farming intensification. It demonstrated the trickle-down effect of the macro and meso level catalysts for environmentally harmful intensification, exposing the link between capitalism and ecological harm (Lynch et al, 2015) on the local level. Individual farmers experience the pressure to attain the goal of profit-making by keeping their production efficient. Strain is experienced again (Merton, 1938), as response to such pressure (Kramer and Michalowski, 2012) from individual farmers may be the intensification of production, which ultimately leads to grave environmental damages from institutionalised legal violence of intensive farming (Westra, 2004). Thus, individual farmers reproduce the ideological hegemony of the capitalist order as they resign their production to the rule of the market.

The analysis also evidences marginalisation of small-scale farmers. Power relations in the meat supply chain reproduce this marginalisation as they reinforce the idea of profit-growth-efficiency as common sense in farming, thus curtailing the alternatives to the globalised capitalist order of meat production. The national opportunity structure to achieve the goals of efficient and professionalised farming also excludes such alternatives by removing the opportunities for small-scale farmers and giving preference to larger-scale production. The opportunity structure operates as a mutually reinforcing mechanism. It serves the needs of the powerful actors who shape it, while less powerful actors perpetuate its workings by reproducing the dominant rules of production. Finally, individual farmers' reaction to controls for production intensification also reflects the global and national trends of neoliberalisation of regulation; individual farmers contribute to the creation of a predictable regulatory environment by pre-empting government regulation.

5.5 Conclusion

This chapter provided the analysis of the political economy of farming intensification in Northern Ireland and examined power relations that support and reinforce it on the three levels: macro (international), meso (national) and micro (local).

On the macro level, a profit-driven competitive global market rule ideology demands an efficient organisation of meat production. For Northern Ireland, the pursuit of the dominant goals of meat production is associated with strain; predominantly small-scale farms are being re-structured to organise their production more efficiently, leading to environmental and social harms. Efficiency implies increasing the scale of production, which is associated with faster-paced production at lower cost (Wyatt, 2014). In this process of profit-making through efficient production, non-human animals are killed and maimed (Beirne, 2014; White, 2016), environmental and planetary integrity are compromised (Wyatt, 2014; Schally, 2017; White and Yeates, 2018) and public health might be endangered (Gunderson, 2015). Neoliberal market rule ideology also shapes the consensus around common sense in farming; adverse environmental and social outcomes associated with intensification are seen as part of a 'normal' political economy of meat production (Cruciotti and Matthews, 2006; Lynch et al, 2015). The need to meet an increasing demand for pork globally is embedded in the idea of market rationality and works to secure the hegemony of the capitalist order.

The macro level political economy plays a role in creating structural conditions for harm (Bernat and Whyte, 2017) on the meso level. The goals of making production more efficient and professional on the national level consolidated by the GfG strategy serve as the first catalyst for harm and are rooted in a particular context where the drive for capital is an overarching ambition (Kramer, 2002). Embeddedness in the global political economy of capitalism influences the relationship between the state and economic actors (Kramer and Michalowski, 2006). Bernat and Whyte (2017) suggest that in the political economy of capitalism, state actors act as enablers of capital accumulation while economic actors realise that capital accumulation. In my analysis, political actors enable the expansion of the farming industry to guarantee economic growth on the national level, while

corporate farming industry actors take the opportunity to increase their profits through developing and adopting a strategy such as GfG with the help of the state. This symbiotic relationship determines the opportunity structure – a discourse against small-scale farms, material support for technological innovation and research, and education of farmers – which is premised on eliminating the alternatives to a market-oriented, profit-driven model of farming, and serves as the second catalyst for harm.

The symbiotic relationship between the state and farming industry actors also works to eliminate the regulatory controls to farming intensification in Northern Ireland, further reinforcing the ideological hegemony of neoliberal capitalism. Social relationships that shape regulation (Tombs, 2012) in relation to the environment and planning are organised in a manner that creates a favourable regulatory climate for capital accumulation, enabling the industry to pursue their vested interests. As I demonstrated in this chapter, both consensus and neoliberal perspectives are visible in regulation, whereby the farming industry actors advocate for both self-regulation and minimisation of regulation. Moreover, regulatory agencies are vulnerable to regulatory and cognitive capture by the farming industry, leading to the formation of a new type of legitimacy (Ruggiero, 2018) that consolidates efficient, growth-oriented meat production. In each of these contexts, the farming industry possesses power reinforced by political actors for their mutual benefit, which enables them to perform purposive actions for the achievement of their goals (Ruggiero, 2018) and reinforces their ability to compromise regulatory controls for farming intensification. The compromised regulatory controls are the third catalyst for harm.

The micro level political economy is also affected by the power relations that create the macro and meso level catalysts for harm and reinforce the hegemony of capitalism. According to Smith (1990), it is the national-level goals that empower individual farmers. The goal of re-orienting farming in the entrepreneurial direction and guiding farmers' behaviour by market-based efficiency norms results in an increased pressure from a culturally prescribed drive for economic success by any means necessary (Gray, 2019). Ruggiero (2018) suggests that such pressure on the local level is tantamount to coercion accompanied by the development of a 'false consciousness'. Yet, rather than seeing the emergence of false consciousness as coercive, it can be seen as emerging through consent, as individuals are 'acting in all consciousness according to his [their] belief' (Althusser, 1971, p. 158). Through the meso level opportunity structures, individual farmers accept a market-oriented profit-driven model of farming as a norm and endeavour making their production more efficient, which results in intensification. The farmers who adopt the prevailing definition of success reproduce and strengthen the dominant rules of production through benefitting from the opportunity structure and the existing regulatory climate. In this situation, they are confronted with the fact that the dominant production order is worth investing their vital energy in (Neveu, 2018). At the same time, the farmers who do not adopt the neoliberal capitalist definition of success are marginalised, as evidenced in the meso level opportunity structures and relations in meat supply chains. Their marginalisation means that alternatives to the capitalist meat production are eliminated.

To conclude, the three levels of inquiry – international, national, and local – are interrelated. On each of them, a market-oriented, profit-driven model of farming that prioritises efficiency is

supported and reinforced. This model is embedded in the capitalist political economic order and sustained by power relations catalysing harm and excluding alternatives to the dominant order. Yet, as this chapter repeatedly emphasised, this model of farming is also environmentally harmful. The next findings chapter, thus, analyses the distribution of environmental harms associated with farming intensification and their effects on the realm of capabilities. Furthermore, considering that power and influence inequalities remain the norm in environmental decision-making (Holifield et al, 2018), the next chapter also unpacks power dynamics in environmental decision-making around pig farming intensification. The latter determines whether the realm of planning can act as a mechanism of regulatory control for farming intensification or operates to further catalyse harm and lead to its uneven distribution.

Chapter 6 – Farming intensification and environmental (in)justice in Northern Ireland

6.1 Introduction

The intensive model of farming, while being a normalised production practice, has been identified to have harmful effects on both the environment and society. Considering this, the analysis below employs the environmental justice paradigm to demonstrate how the existing environmental harms from farming are currently distributed in the studied community and what impact they have on the realm of capabilities. The chapter subsequently discusses recognition of the views of the affected community on farming intensification. Justice as recognition requires individuals within a group to be considered full members in a social interaction (Fraser, 1995) and the notion of recognition applies not only to individuals but also to their values and ideas. Following that, the chapter turns to analyse the procedure of environmental decision-making to understand ‘who has the power to make decisions, the kinds of decisions that are made, in whose interests they are made, and how social practices based on these decisions are materially organised’ (White, 2008, p. 56). The chapter dissects power relations that connect those who are or may be affected by environmental harm from farming intensification to the institutional structures of environmental decision-making (Lake, 1996). It demonstrates how power relations that underpin the broader forces of meat production manifest themselves in environmental decision-making process and analyses how the latter is organised to preserve the hegemony of neoliberal capitalism. The chapter concludes by stating that environmental decision-making is marked by recognitional and procedural injustices. The injustices indicate that the previously discussed inability of the realm of planning to act as a mechanism of regulatory control for farming intensification is further compromised, which catalyses harm. The latter will bring about injustice in the distribution of environmental harms from pig farming intensification and have an adverse effect on the realm of capabilities in the future.

6.2 Distributional environmental justice and pig farming intensification

The issue of the distribution of environmental harms in the studied area was brought up in most interviews with the Antrim and Newtownabbey district community. The interviewees were preoccupied and displeased with the proliferation of intensive farms in the area (COM001, COM005, COM007, COM008, COU002):

‘You cannot put too much in one place. If you put too much farming in one place, you get pollution. It is like giving the land its heart attack; you are destroying the ecological balance’ (COM002).

‘If we take it back to the sheer numbers of these things being proposed, the problem that people feel that they are being swamped by these proposals, then within it there are concerns over air quality, build-up of gases, concerns over water quality and general quality of life in the area. The impacts are bad enough if you take a single unit, but they will be massively exacerbated if you have two or three or more of these in a rather restricted residential area’ (MLA002).

For the respondents, proliferation of intensive farms was associated with a number of environmental harms. First, disposal of animal waste presented a challenge for the area. Whereas in non-intensive farms animal waste is considered to be an essential element of a natural nutrient cycle, animal waste disposal becomes a problem in intensive farms (Goodman and Redclift, 1991; Gray and Hinch, 2015). As I stated before, mismanagement of both waste itself and wastewater may result in air, soil, and water pollution. A common current practice is to use animal manure as a fertiliser by applying it onto land. Yet, the proliferation of farms means that the amount of animal waste will increase dramatically, which was reflected in the interviews:

‘I think [pig farming expansion] is a very bad idea. The worst thing is the amount of nitrates and slurry that will be produced and dumped on the land’ (COM007).

‘We are a very small country; it cannot take all this digestate. Is it going to be policed to make sure it’s not harming the ground?’ (COM004).

‘Then there is an environmental impact that this concentration of animals will cause – a considerable amount of waste that will be produced and how it will be disposed of. There are a lot of issues that are not well understood and how we can deal with them in the future’ (COU001).

Moreover, the distribution of harms associated with the disposal of animal waste was perceived as a problem on the national scale as the respondents suggested that more communities in Northern Ireland might be exposed to such harms due to the country’s geographical makeup:

‘The whole problem is as far as we know the meat is going abroad and we are left with all the slurry and we cannot take more of that because the ammonia levels are far too high. Northern Ireland is very small’ (COM005).

‘<...> pork goes over to England. What are we left with in Northern Ireland? We are left with pig dump’ (COM006).

These quotes demonstrate that the global connectivities underpinning meat production (as shown in the previous chapter) may also produce inequitable distribution of environmental harms on the national level; the ‘supplying’ countries in the global economy are likely to be confronted with environmental burdens (Lynch et al, 2017). The respondents regarded Northern Ireland as a ‘supplying’ country, due to the strategic importance of the farming sector. This argument ignores the fact that some pork produced in Northern Ireland will also be consumed within the country; AHDB (n.d.) reports that Northern Ireland would consume around one third of its domestic pig meat production. Nevertheless, from the interviews it was evident that current practices of animal waste disposal are already having an impact in the area. Water and air quality were of particular concern to participants. Water pollution preoccupied local residents both in terms of its impact on the native species and local people (COM001; COM002; COM007):

‘There is so many nitrates going down into the river now, the rivers are going eutrophic. We are losing the native species because the water quality has been destroyed’ (COM002).

Water pollution stems from the fact that ‘generally accepted livestock waste management practices do not adequately or effectively protect water resources from contamination’ (Burkholder et al, 2007, p. 308). Some interviewees reported that water contamination has already taken place in the area:

‘There have been episodes of water pollution from the existing farm and the farmer has been convicted in court’ (COM002).

The latter calls into question the issue of protection of the basic right to clean water (Walker, 2012). It has been recognised at the international level by the U.N. General Assembly, Human Rights Council, and Committee on Economic, Social and Cultural Rights, and requires states to ‘refrain from interfering directly or indirectly with the enjoyment of the right to water’ (Meshel, 2018, p. 283). Despite this, it has been reported that the farming industry may not be held accountable for the impacts of their practices on local water resources (Meshel, 2018; Schaider et al, 2019). The respondents also expressed their uncertainty about the future of the water quality in the area:

‘There was also a waste water leak going into the river. From my point of view, <...> dogs that I walk there – I do not want them to be on land or let alone swim somewhere where there is a risk. And I would not know if there is a risk, it is not something that you can see per se’ (COM001).

Harm from water pollution is linked to the rise in intensive farms in the Antrim and Newtownabbey district. At the same time, it is part of the collective production of environmental harm from farming intensification in Northern Ireland and beyond. Ultimately, harm becomes an inevitable part of the neoliberal governance of meat production (Stoddard, 2015). As I previously stated, neoliberal capitalism prioritises economic growth, and this process is accompanied by the creation of harm, without which economic growth becomes impossible. In the context of meat production, such harms have an impact on the environment and human health. The respondents also saw the existing farms as a burden on the local ecological system and were concerned about the loss of biodiversity. Loss of biodiversity in river ecosystems was indicated above, but the respondents were also preoccupied about terrestrial biodiversity:

‘If you look at what is happening to the countryside, it is becoming sterile. Those used to be fields with different grasses and wild flowers; there was an orchard. What was the first thing they [the farmers] did? They fenced it to keep out larger animals – foxes, badgers. Then they ploughed it and put in a particular grass that will produce silage for them’ (COM006).

Intensive farming may foment deforestation and loss of vegetation, and also has adverse effects on wildlife (Fitzgerald, 2019). As I stressed in Chapter 3, ammonia emissions from animal waste are undermining the diversity of local ecological systems, and this sentiment was present in the interviews:

‘The house down the field has a meadow next to it and all wildlife disappeared from there. When we first moved here, the neighbouring pig farm had land and other animals on it. And then it was bought over – they sold off all the land and just kept the pig farms, so it was transformed from a family farm into a pig factory’ (COM007).

As previously stated, the drawing of nitrogen compounds from animal waste into the air causes air pollution in the form of ammonia. Antrim and Newtownabbey district is likely to face a higher concentration of ammonia as pig farming intensification gathers pace: ‘<...> environmentally, we have a collective of pig farms which will happen in this area. As you know, ammonia levels are up through the roof’ (COU002).

All of the above indicates that the environmental conditions that constitute the meta-capability of sustainable ecological capacity are compromised. Yet, such environmental conditions are instrumental to human capabilities (Holland, 2008). The compromised meta-capability of sustainable ecological capacity has a knock-on effect on other capabilities. Air and water pollution and soil degradation contribute to mental and physical health risks, thus rupturing ‘the organic reproduction of ‘man’’ (Lasslett, 2010, p.12). As outlined in Chapter 1, there is evidence to suggest that communities in close proximity to intensive farms and fields where slurry is spread are exposed to antibiotic resistant bacteria and have higher risks of developing respiratory diseases, Q fever, and changes in stress and mood levels (Casey et al, 2015). The health concern was reflected in the interviews:

‘I cannot see how you can manage that number of animals in a safe and humane way without having to develop processes that would not meet many animal health and safety regulations. I am sure they will say that they have all the processes in place to meet those needs, but one issue of concern is that with that many animals there will be a significant need for antibiotics and the knock-on effect of those antibiotics on human health [will be detrimental]’ (COU001).

‘Apparently cancer risks in people living close to [intensive farms] and breathing all that crappy air is higher, especially in America. For asthmatics and others with pulmonary diseases breathing pig slurry is also not a good thing’ (COM002).

Bodily health is included in Nussbaum’s (2001, p. 78) list of capabilities, as she adopts the idea that health is ‘complete physical, mental and social well-being’. From the quotes above, it can be surmised that proliferation of intensive farms will compromise this capability. Inability to breathe unpolluted air compromises it further:

‘I had been living close to the existing farm before I moved; the smell is horrendous’ (COM003).

‘Even the <...> walk, it leads to [the existing] farm – you get half way down there and you choke. It is a community tree lined area that you can walk in and it is absolutely stinking’ (COM002).

‘The smell from [the existing] farm is really bad, and that is going to double. [the farmer] might talk about state-of-the-art technology and no smell, that is not true. There is potentially three times the smell’ (COM006).

The quotes above evidence sensory disruption and the experiences of ‘the unequal access to healthy sensory environments’ (Hoover, 2018, p. 53), whereby the community has a limited opportunity to enjoy good quality air. Hoover (2018) claims that the senses incorporate the environment into the body and changes to the environment may cause health problems, from which the conclusion can be drawn that farming intensification in the area will have an impact on human health. Furthermore, pig farming intensification was reported to affect the community’s quality of life:

‘Everywhere they are spreading the slurry, the fields are surrounded by villages. It will have an effect on the health of the people and their quality of life’ (COM007).

The negative effect on the quality of life is further evidenced by the compromised capability of play, particularly in relation to enjoyment of recreational activities: ‘A pig farm just across

the road from us with 4,300 pigs had an impact on us and it will be multiplied once those [big] farms are built. The existing unit will also be expanded, and the number of pigs will increase dramatically. It impacts all aspects of your life – we do not have a clothes line outside, we cannot open the windows and doors at times, we cannot use our garden in the summer time because of the smell and flies' (COM007).

'The slurry is being spread during public holidays and stuff when families are sitting outside, barbecuing. The smell drives them indoors. They cannot hang their washing out; it has to be done again. You want to be able to use your garden. <...> If the new planning application goes through, we will end up with three intensive farms in a very small area. Nobody would want to go to the countryside when it's up and running' (COM004).

As Holland (2008, p. 323) suggests, being able to enjoy recreational activities 'might require the protection of particular natural places in which people can find the components of ecosystems that enable them to pursue the kinds of recreation and play that they enjoy'. For the local residents, the capability of play was linked with the capability of affiliation, in particular the ability 'to engage in various forms of social interaction' (Nussbaum, 2003, p. 41):

'you can have a barbecue and then a waft of the pig farm comes – everybody in, we will bring the barbecue inside and shut all the windows. It does affect you from the point of socialising' (COM002).

The inability to do so has a subsequent negative effect on community functioning (Schlosberg, 2014):

'[the new farm] is a blight on the natural environment – it's concerning whether the environment is safe now, whether the water is safe, how long it's going to be safe for. It does take away some enjoyment from being outside – knowing that it's been polluted and destroyed' (COM003).

The quote above also demonstrates that the capability of other species is compromised. Nussbaum (2001) asserts that natural places are central to living a good and dignified human life. Yet, as intensification continues, the latter becomes impossible.

6.2.1 Summary

To sum up, sustainable ecological capacity as a meta-capability and the capabilities depending on it – bodily health, play, affiliation, other species – are compromised, thus leading to injustice. Moreover, the current distribution of harms from farming in the Antrim and Newtownabbey district is uneven because the residents living in close proximity to the farms are exposed to a disproportionate amount of environmental harm. The proliferation of pig farms in the area is likely to exacerbate this inequitable distribution and further compromise the above capabilities.

As suggested in Chapter 2, Nussbaum (2001) also includes control over one's environment in her basic set of capabilities, which, as it will be shown later in this chapter, local residents may not possess. The lack of control over one's environment is also exemplified by the local community's position in the environmental decision-making forums. The next section analyses the first aspect of environmental decision-making regarding the new intensive pig farms – that of recognition.

6.3 Pig farming intensification and recognitional injustice

This section discusses several markers of recognitional injustice in the process of environmental decision-making in regard to farming intensification. First, it considers non-recognition of the ideas of opposition to farming intensification and unpacks the reasons behind it. Second, it analyses non-recognition of non-expert voices in the decision-making process.

6.3.1 Non-recognition of the ideas of opposition to farming intensification

From the interviewees' perspectives, the process of environmental decision-making was characterised by a lack of recognition of values, rationales, and lifestyles of those opposed to farming intensification in Northern Ireland. The respondents lamented that their ideas of how farming should be organised in the area and what environment they would like to live in were not recognised by decision-makers. First, such ideas need to be presented and discussed.

The question of what kind of environment people wish to preserve or inhabit is, according to Swyngedouw (2009), the key political question as it brings to the surface the disagreements about the desirable economic development. When disagreeing with the direction that farming was taking in Northern Ireland, some respondents expressed concerns about future generations:

'We need to protect the countryside for the future generations. Smaller farms are a better bet than these factory farms' (COM004).

'Kids will grow up and there would not be an animal in the field. [Animals in the fields] are becoming less and less obvious. When I was a kid the field beside us always had sheep and cattle in it, and now there is nothing on it, a barren piece of grass' (COU002).

The above quotes favour making environmental decisions that do not compromise the livelihoods of future generations. The question of whether future generations can be recipients of justice has frequently been considered (Brisman, 2007; Reed, 2008; Walker, 2012). Future generations have been considered as environmental victims (Hall, 2015) and have been included in the framework of social justice (Dobson, 1998). While their interests are under-represented in the existing decision-making forums, it nevertheless does not mean that they should not be taken into consideration. Their consideration is part of Eckersley's (2000) 'enlarged thinking' that includes the interests of future generations and non-human animals.

In terms of inhabiting a particular environment, respondents' understandings of and reactions to environmental degradation (Schlosberg, 2002) focused on the scale of farming intensification threatening their right to a clean and healthy environment:

'For the local people, environment is of massive importance – it relates directly to the quality of their everyday lives. Clearly [the environment] is not important enough for the government <...> Balance is important – no one is trying to restrain agriculture or the importance of agriculture to the economy of NI in general. But you have to balance that with the needs of the local community and the right of the local community to live in the environment that is safe and clean and healthy. The farming need is always there and will be

there. Objectors are not objecting to any development of any kind; they are objecting to the sheer scale of what is being proposed' (MLA002).

Swyngedouw (2000) suggests that the question of the visions of the environment alternative to the dominant paradigm of economic development has a geographical element that is tied to territorial identity, which was also reflected in some of the interviews:

'If you look around, it is all small fields, small farmers. A big farmer coming in will take all the wee farmers [out of business]. In my opinion, it will ruin the culture of NI' (COM005).

'Whenever the proposal came to take thirty acres and turn it into a big factory – it was phenomenal. It is unacceptable to say that something like that is worth keeping in the countryside. The whole thing is horrendous' (COM006).

'Traditionally there have always been small family farms in the whole of Ireland; that has been the backbone of the rural community. If it has to go, it will certainly change the landscape – all small fields will have to change into large fields' (COM007).

It is evident that the respondents' idea of how farming should be organised in the area was premised on a small-scale model of farming dominated by family farms. This idea was grounded in the distinct agricultural identity of Northern Ireland as a country and the need to support small local farmers jeopardised by the recent trend in intensification. Therefore, what was seen by the farming industry as a structural impediment in their achievement of the goals of profit-making and efficient professionalised farming, was considered instrumental for the community's vision of the environment they would like to live in. To sum up, the respondents' ideas of living in and with the environment focused on intergenerational equity (White and Kramer, 2015), environmental rights (Eckersley, 1996; May and Daly, 2009), and tried to resist the process where the natural environment becomes embedded in the forces of production that shape accumulation strategies (Swyngedouw, 1992).

However, there was a lack of recognition of the views that depart from the dominant political economic ideology. The respondents brought up the issue of a moratorium on the planning applications for intensive farms: 'The Government had 4,326 emails from the public calling for a moratorium' (NGO002)¹⁹. Yet, despite these concerns, they suggested that the government agencies were reluctant to address them:

'We talked to the NIEA and asked all stakeholders for a moratorium on such applications. NIEA was admitting that the slurry from these farms were impacting environmentally sensitive areas, ninety percent of them were being impacted by the nitrates. They never got round to tell us why they would not put a moratorium' (COM007).

Rather than heeding public concerns over farming intensification, the government dismissed those expressing the views against economic growth being beneficial for the collective good (Gould, 1991, 1992) as 'anti-economy':

¹⁹ Currently the petition from Friends of the Earth Northern Ireland calling for a moratorium is at 5,170 emails. Moreover, on November 16, 2020 a briefing paper was presented to the Northern Ireland Assembly in response to a Green Party motion to place a moratorium on planning for new intensive farms (Brennan et al, 2020).

'There is a backlash against us coming through from the government. <...> We try to separate it out – we are not against farms. <...> But when you have the GfG programme and it states that it will reduce 26,000 family farms to 6,000. In a country where farming is the main industry! It is unbelievable. But we have been accused of interfering with the Northern Irish economy and civil service policies' (COM008).

These comments demonstrate the imbalance of power between the state and members of the public that stems from the state-farming industry symbiosis discussed in the previous chapter. State actors, in symbiosis with the economic interests, have the power to reinforce predominant values of the neoliberal capitalism (Tombs and Whyte, 2010; Walters and Martin, 2013) and pre-empt conflicts of interest by excluding the environmental harm from farming intensification from the political process. The imbalance of power was also visible on the local council level:

'I do not think [the council] recognises the views and concerns of people – they just let everything happen. Even though they know that there is quite a big opposition, they are not making any effort to put checks in place, they are not treating it like an ongoing issue. They are not taking it seriously and they are not dealing with it' (COM003).

The latter was exacerbated by the fact that the government agencies responsible for the oversight of the new planning applications were reported to ignore the potential impacts of farming intensification:

'We were challenging them on the fact that all our statutory agencies had written back to the planning department on the largest pig factory farm in the UK that they had no concerns. Public health – no concerns, veterinary – no concerns, NIEA – no concerns' (COM008).

'But if you look at most application <...> – roads never seem to have an issue, environment and water never seem to have an issue. If anybody in their right mind looked at those applications, they would have an issue with them' (COU002).

Non-recognition of the views of opposition to farming intensification is linked to the previously discussed idea of the consensus around growth- and profit-driven neoliberal capitalist system, which links the micro level activities and the macro level political economic climate (Hillyard et al, 2004). In this case, institutions of governance embrace and act according to the goals of accumulation (Michalowski, 2010), which compromises their ability to act as a mechanism of control for farming intensification. Such non-recognition ensures that the economy remains bonded to the profit motive (Winlow et al, 2015). Moreover, non-recognition was also coupled with disrespect (Fraser, 1998):

'There was a predetermination meeting and a decision-making meeting. Were the concerns taken into account? They were not. Even when I went down the line of planning, it was still not believed and ridiculed' (COU002).

Fraser (1995) conceptualises disrespect as the state of being disparaged in everyday life interactions and regards such demeaning representations to be the root of injustice. In my case, it was the ideas of opposition to farming intensification that were disparaged, which, along with their non-recognition, is the first marker of recognitional injustice. Recognition of difference, thus, did not take place. The reasons for non-recognition are rooted in the previously discussed hegemony of neoliberal capitalism constituted through power relations that reject the possibility of alternatives to it. Alternative ideas are included as long as they do not question the integrity of the neoliberal political

economy (Swyngedouw, 2011). Such alternative ideas should accept the existing distribution of environmental harm, but once the reasons behind such distribution are questioned, these ideas are excluded. In my case, the residents questioned the political economic rationale behind farming intensification, which led to their views being dismissed.

Furthermore, the architecture of and the relations within the planning system also safeguard the hegemony of the dominant capitalist order and reinforce power disequilibriums between individuals and communities and the farming industry. Struggles for the recognition of ideas are rooted in what Fraser (2000) calls institutionalised misrecognition. The latter was reflected in the interviews:

‘Although you might get a thousand objection letters, it is a very small number of those objections that consider a planning issue and can be addressed by the council. People’s reasons for opposing something are perfectly valid but not relevant to the planning so they cannot be addressed’ (COU001).

‘Government departments produced initiatives from a decade or more ago which were allowed to run because there is no process for challenging them against the environmental need of local people, local residents’ (MLA002).

As Novek (2003) points out, it is harder to argue against a proposal that is compliant with legally established standards, which was also suggested by one interviewee:

‘I think planning legislation is set up in a way that restrictions cannot be put upon these developments, proliferation of these developments is not a planning consideration in terms of objections to these. Planners would point to the fact that they are operating within the existing planning legislation’ (MLA002).

The legitimisation on the institutional level further reinforces lack of recognition of ideas against farming intensification. As power of the economic capital is reinforced in the institutional sphere, it also works to ‘reduce the cognitive area of those subjected to it’ (Ruggiero, 2018, p. 62). The interviewees pointed out that the structure of decision-making forums obscures the concerns beyond the economic rationale:

‘We have no role or ability to look at ethical issues or any other kind of issues – animal welfare, issues beyond the planning scope. That restricts our ability to look at all the possible consequences. We cannot ask for expert advice on health, animal health, waste management. It is very limited. <...> The legislation sets out Conduct and Guidance for planners specifying what evidence they can look at – it is very restrictive in terms of what it allows us to do. It is concerned with us going off on a tangent and looking at things we should not look at. It is possible but that fear does not allow us to look at things we should be looking at to make a more informed choice’ (COU001).

The economic dimension, on the other hand, was put forward in the decision-making forums:

‘There’s so much emphasis in the planning applications on economic supremacy. If they are bringing in some pounds, it seems to be the real frontrunner that makes them [decision-makers] go – this is a good thing. Economic supremacy is used time and again as a justification for quite poor decisions’ (NGO002).

Several respondents stressed that concerns such as profitability, efficiency, and economic growth displaced other ideas and interests, such as environmental and ethical concerns (COU001, COU002, MLA002):

‘They have to have greater goals towards the community need and the environmental need for the wider area where you’re dealing with the quality of life for a large number of the local people. That is not a field in the planning legislation’ (MLA002).

This idea resonates with Lukes’ (1974) second dimension of power, namely control of the agenda. To safeguard the hegemony of capitalism, certain issues and ideas are unwittingly neglected or consciously excluded from the agenda; power is exercised through non-decision making (Bachrach and Baratz, 1970; Ruggiero, 2018).

To conclude, non-recognition and disrespect of the ideas of opposition to farming intensification are the first marker of recognitional injustice. They originate in the hegemony of the growth- and profit-driven neoliberal capitalist system constituted through power relations between the state and corporate actors in the farming industry that reject the possibility of alternatives to it. The hegemony becomes ‘an organic and relational whole, embedded in institutions and apparatuses’ (Laclau and Mouffe, 2001, p. 67). It is reproduced through the micro level relations in planning, which compromises the ability of the latter to act as a mechanism of control for farming intensification. Therefore, environmental decision-making activities within the realm of planning act as a catalyst for harm. Fraser (2001) suggests that norms reproduced on the institutional level may deny some people the status of full partners in interaction. In my case, norms reproduced on the institutional level protect the dominant capitalist order, which favours intensification of farming, ensuring that any ideas that seek to challenge this order are depreciated or ignored.

6.3.2 Non-recognition of non-expert voices in the decision-making process

Environmental justice movement is characterised by scepticism towards professional experts and instead prefers to rely on situated knowledge of communities (Schlosberg, 2002). Situated knowledge is theorised as a particular knowledge that arises from the experience of a particular social position, which, in turn, influences what interests and assumptions are voiced (Haraway, 1991). Even the most technical decisions involve value judgments and may raise political questions beyond the experts’ field of knowledge (Gauna, 1998), thus making situated knowledge of communities more important. The importance of situated knowledge was also expressed in some of my interviews:

‘I can only judge an application by what has been given to me. Without the relevant information, it is very difficult to make a judgement. As local representatives, we know the area; I was brought up here. I can see the problems arising but sometimes you read the reports [and it seems like] nobody actually knows the area, no one’s been out here to have a look. I don’t think someone comes out to the sight to have a look; that is my perception’ (COU002).

Situated knowledges emerge not from a formal study, but from intimacy with social and physical environments over time (Gauna, 1998). While the government agencies that provide input into decision-making may lack the knowledge of the local area specificities, knowledge that fills those gaps was nevertheless ignored in the decision-making process, according to some of the respondents:

‘The only letters they were paid any attention to were the letters that came from expert engineers. They paid attention to that because it came from experts. Another one was from

an MBA in planning because they saw a specialist planner. This whole idea that local people will be listened to – nobody paid any attention at all' (COM006).

Hunold and Young (1998) suggest that those wanting to partake in the decision-making process must be able to express their views and needs in their own way, and not be dismissed because they lack expertise. If this condition is missing, the procedure cannot be deemed just. Another marker of recognitional injustice, therefore, is non-recognition of non-expert voices in the decision-making process (Walker, 2012). The quote above also suggests the importance of an appeal to experts to legitimise the decisions made. Masked in technical jargon, the decisions around new farms can be framed in the terms favourable to those benefitting from them (Forester, 1986):

'[They] do not read environmental impact assessments, the applicant puts something in and they go – great, we have got it. They accept it because those people have 'PhD' or 'expert' next to their name' (COM002).

Although some of the interviewed community members acquired impressive levels of technical and legal expertise related to planning around farm applications, they, as Hunold and Young (1998) articulate it, were disadvantaged at the outset:

'What we found was that the applicant was very economical with the truth. We started to dissect the planning application and saying that the figures were not right. And nobody really was listening to us, nor wanted to listen to us' (COM008).

The disadvantage mentioned above is related to power disequilibrium between members of the public and the farming industry. Michalowski (2018) states that power resides in the ability to organise the relevant resources, including the economic ones, and the issue of power disequilibrium was reflected in the interviews: 'They have big money, they can afford specialists' (COM006). Power deriving from the possession of resources (Ruggiero, 2018) is organised around the mandate to facilitate capital accumulation (Michalowski, 2018). The existing economic structures underpinned by inequality deprive local residents of the resources needed for full participation. That was linked to their views and ideas and situated knowledge not being recognised:

'We did what we could to prevent it but there is a lot of money behind it and a lot of paid-for expertise that helped them to deal with objections that might have risen. People opposing it are local people who did not have resources and were dependent on friendly advice from universities and other parties' (COU001).

Subordination of the ideas that challenge the existing political economic regime of meat production, thus, is directly related to economic disadvantages experienced by those expressing such ideas.

6.3.3 Summary

This section discussed several markers of recognitional injustice in decision-making in the context of farming intensification. First, it identified non-recognition of the views of opposition to farming intensification. I suggest that this facet of recognitional injustice reflects the idea of common sense in farming developed in the previous chapter, which is embedded in the consensus around growth- and profit-driven neoliberal capitalist system. The architecture of and the relations within the

planning system also reinforce the hegemony of the dominant capitalist order and exacerbate power disequilibriums between members of the public and the farming industry. The planning system, thus, serves to legitimise the existing structures of economic power and seeks to prevent conflict that might lead to power redistribution (Gaventa, 1980). While planners have power over decision-making, this power serves ‘to keep people in their place, to protect existing power’ (Forester, 1982, p. 69). As a result, it becomes more challenging for individuals and communities to defend alternative ideas and views, and to express the ideas of opposition to farming intensification. The first marker of recognitional injustice also compromises the ability of the realm of planning to act as a mechanism of regulatory control for farming intensification discussed in Chapter 5, which catalyses harm. Non-recognition of the views opposing farming intensification further perpetuates the dominant mode of meat production and precludes a political-economic change necessary for preventing environmental harm.

Second, this section considered non-recognition of non-expert voices in the decision-making process. In this case, hegemony of capitalism is safeguarded through privileging the voices of ‘experts’ to the situated knowledges of non-expert community members. It reinforces the power imbalance between members of the public and the farming industry on the micro level, where the latter uses its power to sway the planning process for desired outcomes (Walters, 2011). The power imbalance may lead to depoliticisation whereby members of the public transfer the responsibility over the issues affecting their lives to experts, deeming the issues of planning too complex (Young, 1990). The discussion of recognitional injustice also demonstrates how the ‘normal’ exercise of hegemony of neoliberal capitalism (Gramsci, 1971) reconfigures the political process of environmental decision-making. As power relations work to exclude the alternatives to the growth-and profit-driven political economic system, they also reinforce consensus-based technocratic decision-making (Mouffe, 2005; Swyngedouw, 2007). As my respondents were unable to ‘counter argue the prevailing consensuses that sustain their situation’ (Bustos et al, 2017, p. 292), the decision-making process became largely depoliticised. Having identified several markers of recognitional injustice in decision-making in the context of farming intensification, the next section analyses the procedural dimension of environmental decision-making regarding new intensive pig farms.

6.4 Pig farming intensification and procedural injustice

Brisman (2013, p. 291) states that ‘the extent to which harm or potential harm to the environment (its natural resources, living beings, and their ecosystems) is identified, resisted, mitigated, or prevented’ might be linked to public access to information, participation in decision-making over environmental matters and access to justice. Those aspects, grounded in the Aarhus convention as described in Chapter 2, are known as procedural environmental rights (Gellers and Jeffords, 2018) and are a subject of justice in their own right (Walker, 2012). This section analyses the three aspects of the procedure of decision-making in relation to farming intensification and discusses the dynamics of power in it.

6.4.1 Public access to information

The availability of environmental information is a necessary condition for effective participation in decision-making processes (Walker, 2012) as well as for safeguarding human rights and protecting the environment (Brisman, 2013). To reiterate, the right of access to environmental information is enshrined in the Aarhus Convention discussed in Chapter 2 and includes three aspects of this right: information on the state of the environment, on the factors affecting the environment and on the effect that changes in the environment may have. The right of access to environmental information is divided between the passive and active right. It is developed from the perspective of a public authority and includes the authorities' obligations to respond to requests for environmental information from members of the public (passive right) and the authorities' obligations to proactively disclose environmental information without receiving a request from the public (active right) (Whittaker et al, 2019).

Dissemination of environmental information is often organised through putting a public notice in the local press. The chosen press should be distributed in the area where potential effects of the proposed development will be experienced and should reach members of the public who are likely to be affected (Rachynska, 2017). However, one of the interviewees pointed out that some public notices were circulated in what were considered to be unpopular newspapers:

'[The applicants] were talking about putting planning application notifications in certain newspapers. They put it into Belfast Gazette – nobody even knows what it is. It is not Belfast Telegraph, the Irish News and the Newsletter which are three most common NI national newspapers' (NGO002).

The website of the newspaper states that The Gazette is an official journal of record and 'provides a permanent, official public record of important statutory and non-statutory notices that can be used to support legal and other processes, and act as a means of advertising public notices' (The Gazette, n.d.). Nevertheless, the notice might not reach the affected populations due to the limited readership of the newspaper and, as a result, it does not transmit information about the proposed development effectively. Therefore, members of the public may not possess sufficient information about the changes in their local area.

Public access to information also includes information on the state of the environment (such as air and atmosphere, water, soil, land, landscape and natural sites, biological diversity, etc.). Some respondents pointed out that obtaining information about air quality in the areas with the existing farms can be challenging:

'For the last week, the wind has been coming from the south and it has been smelling every day in our house. I called the council and said – I want to know what is in that air. I am not an expert; we need them out to sample that air. If the smell is coming from the slurry spread on the fields, it is the responsibility of the council. If the smell is coming from the farm, it is the responsibility of the environment agency. One keeps pushing it back and forward to the other' (COM006).

The above quote is an example of a passive right of requesting access to environmental information, which refers to the obligation of an authority to provide environmental information if the latter is requested by the public (Whittaker et al, 2019). Limitations of the passive right to environmental

information in the context of farming intensification may result in local residents having limited information about the impact of intensification on the state of the environment. In addition to limiting their capacity to participate in environmental decision-making, it will create further health-related concerns.

Public access to information also includes information on the factors affecting or likely to affect the environment (such as substances, energy, noise, etc.) (UNECE, 1998; Brisman, 2013). Some respondents pointed out that information about the potential effects of farming intensification might not be available beyond the communities that will be immediately impacted:

‘The council is not engaged in raising awareness about such issues, it is not their job. The way planning legislation works is that you only need to tell people [residing] in that certain area. It is all down to community telling people that it [the farm] is coming down the tracks. And then it will be dealing with the aftermath because it will be – we cannot do anything because it [the farm] is built’ (COU002).

As noted in Chapter 3, the council is obliged to notify people who occupy buildings on land adjoining the application site boundary, and those within 90 metres of it, and ask for their comments (nidirect, 2019). However, the impact of farming intensification is far-reaching and environmental harms travel across borders, transported by humans or nature itself (Dybing, 2012; White, 2018). It means that the rest of the population will lack the awareness about the factors that are likely to affect the environment as a result of farming intensification. The comments above call into question an active right to environmental information, which refers to the obligation of an authority to be proactive in dissemination of environmental information without receiving a request from the public (Whittaker et al, 2019). It appears that Northern Irish local authorities did not exercise the active right to environmental information. The latter contributes to depoliticisation of environmental decision-making by removing the potential for deliberation around farming intensification and reinforces the hegemony of capitalism.

Finally, public access to information includes the information pertaining to ‘the state of human health and safety, conditions of human life, and cultural sites and built structures, inasmuch as they are or may be affected by the state of elements of the environment’ (Brisman, 2013, p. 293). Some interviewees complained that information about the impacts of intensification on human health was not widely available:

‘We have kids walking to school and stuff, we have pensioners, people with lung disease. What effect is [the smell] having on these people? Nobody seems to want to tell us’ (COM004).

To conclude, Antrim and Newtownabbey district residents’ access to environmental information about farming intensification was reported to be limited. The aspects of environmental information that have a human dimension are important for environmental justice (Collin and Collin, 2015), and limited availability of such information is the first marker of procedural injustice. The limited access to environmental information also demonstrates the workings of power relations that support and reinforce farming intensification in Northern Ireland. The planning regulations on the subject of

environmental information benefit the farming industry over Antrim and Newtownabbey district residents affected by the intensification, meaning that the latter are less likely to raise their concerns and defend their interests. It is indicative of the second dimension of power (Bachrach and Baratz, 1970; Lukes, 1974; Tombs and Whyte, 2010) and serves to solidify the hegemony of capitalism by narrowing the decision-making agenda, further reducing the ability of the realm of planning to serve as a mechanism of regulatory control. Limited access to environmental information also prevents a conflict between the powerful and the powerless from emerging (and, therefore, requiring resolution), leading to depoliticisation of environmental decision-making around farming intensification. The intricacies of participation in the context of limited availability of environmental information will be examined in the next section.

6.4.2 Participation in decision-making

In line with the right to public participation in environmental decision-making, members of the public should be provided with the opportunities to comment on the planning applications that will affect the environment they live in, their comments must be taken into account and the rationale for the decision made should be provided. From my interviews, it was clear that members of the public were formally included in the process of decision-making. Yet, Chapter 3 demonstrated the problematic nature of formal inclusion and public participation in Northern Ireland due to its safeguarding of the existing power balance and turning into an empty ritual of participation (Arnstein, 1969). The latter was aptly summarised by one of the respondents:

‘Whenever we went to a predetermination meeting, it was a matter of going through the hoops of a meeting so that they could say that local people have participated. But we did not! We were each given three minutes to speak’ (COM006).

Rowe and Frewer (2000) claim that participation methods such as public hearings see public engagement as an end in itself rather than a means towards an end. Thus, they are organised merely to meet the need to involve the public in some way and, as noted in Chapter 3, do little to share power and involve citizens meaningfully (Walker et al, 2006). Other factors also contribute to an impotent participation of the public. It was stressed that members of the public have little time to get acquainted with a new development in their area:

‘And people are given only two weeks to respond [provide comments on the planned development]. All campaigners had to start from somewhere so two weeks to learn the planning system, waste licensing system, the pollution prevention control, potential effects of having a massive farm on your doorstep, health implications – it is an explosion of information. To get your head around something like that to be able to object within two weeks is completely impossible’ (NGO002).

The emphasis on the complexity of new farm developments provides a further illustration of the previously discussed prioritisation of expert opinion over the situated knowledge of the public. The appeal to experts serves to legitimise decisions that are deemed too complex for ordinary citizens (Sloterdijk, 2005) and the use of jargon is designed to exclude (Ellis, 2000). The above-described non-recognition of non-expert voices resulted in the limited participation:

‘[when it comes to participation in decision-making], you are given three minutes to speak if you are an objector [at a meeting to make a verbal submission to the council]. Three minutes when you are looking at a huge list of things that potentially could impact – environmental pollution, health, the size, etc. You have to somehow work out what the key points are – you need to know how to sway people. It is an absolute minefield and to be given just three minutes for that’ (NGO002).

The comment above reveals power disequilibriums in the decision-making forums. Yet, Swyngedouw (2009) suggests that justice enters the space of the political under the name of equality. Moreover, a proper democratic space of public participation, according to Oosterlynck and Swyngedouw (2010), allows expression of diverse opinions under the unconditional presumption of equality. The account below demonstrates that members of the public were not considered to be full members in a social interaction (Fraser, 1996) and their demands were seen as unjustified or irrelevant:

‘We still have a culture that is carried over from the way things used to be – you have a central planning authority that is distant and aloof, they saw the public as a nuisance that had to be kept in their place. Since planning powers transferred to the local authority, that culture has been retained. While the aspiration of the Department for Infrastructure who are still responsible for strategic planning would be that we have a planning system with community involvement as much as possible. So rather than a central authority dictating what the plan should be, councils are devising their own plans with community involvement. That is the aspiration but the culture of treating the public as if they were a nuisance persists. They pay lip service to democratisation’ (NGO003).

The above can be interpreted as an illustration of internal exclusion (Young, 2000), whereby the claims made by the public are not treated with equal respect and are not taken seriously. Perceiving members of the public as a nuisance also serves to legitimise a belief that situated knowledges lack validity, which perpetuates the cycle of limited recognition resulting in limited participation. Power inequalities facilitate the pursuit of the goals of the farming industry on the meso level, ultimately enabling realisation of the dominant goals in capitalism, those of profit and growth (Pearce, 1976).

Power inequalities in participation also lead to public displeasure. Senecah (2004) suggests that the emotional response from the members of the public often results from decision-making bodies not giving sufficient consideration to their concerns. The boundary between rationality and emotion is worth exploring further, in light of the comment made by one of the GfG strategy authors in relation to the local residents who opposed farming intensification:

‘Our industry is often vilified, and I keep saying – get your facts right. We need to look at evidence-based policy. What drives policy at the moment is emotion. It is in vogue to be concerned about the environment, to protest against big farms’ (AFSB001).

This comment juxtaposes rationality and emotion (Young, 1990; Knight and Johnson, 1997), which was discussed earlier in Chapter 2, and demonstrates that decision-making forums favour the unemotional, dispassionate argument. The inferior role of emotion in politics and knowledge production can reinforce the hegemonic position of reason and rationality (Harding and Pribram, 2006), traditionally associated with technocratic policy-making. Emotional expression during

environmental decision-making in relation to farming intensification invalidates the assertions made by those concerned about the changing face of farming in the country. Yet, it is also suggested that discourses that subordinate the role of emotion in the public sphere have an ideological function whereby certain groups that are associated with emotion (in this case, those opposing farming intensification) are also subordinated (Young, 1990). Subordination of emotion in the public sphere serves to preserve the consensus around the inevitability of neoliberal capitalism (Mouffe, 2005) and does not allow challenging power relations that sustain it.

Furthermore, as suggested above, another element of just participation is making sure that public ideas matter (Walker et al, 2006) and have influence over the result of environmental decisions. Limited influence where public input is not taken into consideration in the decision-making and does not have a genuine impact on the outcome (Rowe and Frewer, 2000) is a marker of procedural injustice. The comment below evidences such limited influence:

‘We had a meeting with a head planner, and he encouraged us to write to the planners and let our views be known because they were interested in listening to the views and expertise and local knowledge that [we] would have. But it was all ignored! The letters that I wrote – I put information about different mistakes, mistakes in the drainage, different aspects of it, nobody paid any attention’ (COM006).

The imbalance of power resurfaces again; participation equals power and participation without power redistribution is futile (Arnstein, 1969). The comment above displays the sentiment of disempowerment of the public, as expressed in another comment: ‘The general public is getting frustrated, they put in a complaint and nothing happens’ (COM005). While members of the public could have access to decision-making forums, simply having access did not mean that their contribution was valued (Senecaah, 2004). A skewed balance of power allowed the decision-makers to acknowledge community participation, but without the community benefitting from that participation (Arnstein, 1969). The latter is emblematic of the exercise of hegemony of neoliberal capitalism, whereby democratic decision-making becomes a façade of economic power (Pearce, 1976; Swyngedouw, 2011).

Power imbalance in environmental decision-making participation around new intensive farms can also be scrutinised through the lens of political capability. As stated above, for both Sen (1999) and Nussbaum (1997), control over one’s environment through political participation is integral to justice. Political capability can be understood as political power to shape decisions (Holland, 2017). An ability to voice one’s concerns in participatory forums is not sufficient; rather, an ability to put political pressure within the decision-making processes to steer decisions in a particular direction (Holland, 2017) is needed for making just decisions. Schlosberg (2012) also suggests that having the political capability to determine the range of other capabilities essential for people to live meaningful lives is part of a just procedure. The latter is fulfilled if decision-makers work on improving the relations between those taking part in decision-making and promote collaborative learning to ultimately guarantee that governing organisations ‘are ‘owned’ by the community and other stakeholders’ (George and Reed, 2017, p. 162). Ultimately, a capability-based approach is also essential for political equality (Bohman, 1997). On the contrary, as it was noted in

the respondents' comments, the idea of creating infrastructures for democratic participation of the public does not find acceptance in Northern Ireland. The latter echoes the conclusions drawn in Chapter 3; building individuals' capabilities for participation in environmental decision-making only finds a formal acknowledgement and does not translate into practice. The recent administrative reforms did not extend beyond the tokenistic gesture of formal community involvement. As a result, one's political capability is not exercised fully.

To conclude, in Northern Ireland environmental decision-making forums reinforce empty rituals of participation where participants start from an unequal position in terms of recognition, and the latter translates into an unequal position in participation. Participation without redistribution of power is the second marker of procedural injustice (George and Reed, 2017), whereby formal inclusion does not translate into a genuine impact on the decision-making outcome. Power disequilibriums in the environmental decision-making forums stem from state-corporate farming industry relations epitomised by the GfG strategy; these relations support and reinforce the intensive farming model discussed in the previous chapter and subsequently preserve the hegemony of neoliberal capitalism. Equality of material resources is crucial to convert formal rights to participate into real rights to participate (Sen, 1985). Yet, the common sense ideology of neoliberal capitalism has been negotiated by unequal forces (Rothe and Collins, 2018) and its maintenance is organised, along with intellectual leadership, through material power (Pearce and Tombs, 1998; Tombs, 2017). The previous section demonstrated inequality of material resources in the process of environmental decision-making; individual farmers supported by corporate farming industry actors had a significant advantage over those opposing farming intensification. Moreover, equality in political influence is also important for converting formal rights into real rights to participate. The previous chapter revealed the adherence to the shared goals of economic success within the state-corporate symbiosis (Michałowski and Kramer, 2006), which empowers the farming industry to perform purposive action for the achievement of their goals (Ruggiero, 2018). Differentiated political influence impedes the exercise of political capabilities of individuals and communities. Procedural injustice in participation also demonstrates that the 'capitalist's loyalty to democracy is only provisional' (Pearce, 1976, p. 60), which further proves that institutions of planning catalyse, rather than control harm. The pursuit of the dominant goals of capitalism - that of profit and growth - within the political economy of meat production means that democratic principles can be sacrificed if they interfere with the interests of the powerful. As a result, the unquestionable nature of capitalism as the foundation of political economic and social order is solidified.

6.4.3 Access to justice

Access to justice constitutes another pillar of procedural environmental justice. It implies that third parties possess a set of guarantees that allows them to challenge the legality of decisions, acts or omissions before an independent body established by law, if such decisions were made without the considerations of the fair procedure principles outlined above (UNECE, 1998; Brisman, 2013).

During the interviews, it emerged that access to justice of those objecting to farming intensification was limited since Northern Ireland has no third-party right of appeal. While the earlier described Aarhus convention does not directly advance the third-party right of appeal, it nevertheless helps to focus on how objectors should be involved in the decision-making process (Green Balance et al, 2002). Moreover, Ellis (2002) states that regardless of the direct consequences of the Aarhus convention, the absence of the third-party right of appeal goes against the spirit of greater public involvement in planning. In particular, the applications accompanied by Environmental Impact Assessments (which is the case for farms housing over 2,000 animals) that are likely to have significant impact on the environment are deemed to deserve to have the right of appeal (Green Balance et al, 2002).

If a third-party right of appeal is absent, members of the public do not possess ‘a public space within which citizens associate and confront the state’ (Dryzek, 1990, p. 43), which was expressed by several interviewees:

‘They [members of the community] are massively restricted by the fact that there is no third-party right of appeal so if they do not convince the planning process, they cannot appeal further. So they are restricted by our planning process in terms of securing results’ (MLA002).

‘In NI if an applicant is refused, they have a right of appeal to the planning appeals commission. Whereas if an objector to a planning application is not successful at the local level, they have no further rights of appeal other than a judicial review. The UK doesn’t have any appetite for the third-party right of appeal, I cannot understand how in our democracy which for so many other things builds checks and balances, we failed to build something like that in planning’ (MLA001).

As I suggested above, the planning apparatus makes restricted decisions within the boundaries of the consensus around neoliberal capitalism, where the balance of power is tilted towards those pursuing the dominant goals of the capitalist system. The failure to establish the framework for the third-party right of appeal is a further reflection of how the planning process legitimises the interests of economic power in society (Ellis, 2000) and fails to act as a mechanism of control for farming intensification, once again serving as a catalyst for harm:

‘There is an imbalance in a way in which the law treats people when it comes to planning applications. Every planning application comes with a presumption to approve. And only then you have to say why you cannot approve it’ (MLA001).

The quote above evidences the presumption in favour of development, discussed in Chapter 3. While not being a legal presumption, it still implies that ‘permission should be refused only if it could be shown that the development would cause ‘demonstrable harm to interests of acknowledged importance’’ (Green Balance et al, 2002, p. 23). The interviewees pointed out that the attempts to challenge the absence of the third-party right of appeal in Northern Ireland were stifled:

‘Every time the debate around third-party right of appeal was raised, ministers said that it is anti-development, and they would not have it. I think they are looking predominantly through housing development eyes, but I cannot see the justice of not having third-party right of appeal, with appropriate protections for applicants. However, there is a massive imbalance in planning process. People have the rights to challenge [the applicant not complying with

the rules set out in the application] but it is weighted against the objector. But in the end, it all boils down to a legal challenge and those are very expensive' (MLA001).

'The public can take them to the judicial review, but no one can afford it. But the applicant can take them [the planning department] to court straight away. <...> It just seems to be that one rule for a corporate is a different rule for an individual' (COM008).

This quote demonstrates the power imbalance between individuals and individual farmers deciding to intensify their production; this particular instance of an imbalance in material power (Pearce and Tombs, 1998) exacerbates disempowerment of those individuals confronting farming intensification in Northern Ireland. Lee and Abbot (2003) suggest that industry actors can access justice provisions not only because of the resources available to them, but also because high costs of accessing justice provisions can be set off against the economic benefits from the granting of regulatory permission.

The status quo of the absence of the third-party right of appeal has been labelled 'inadequate in a democratic society' (Green Balance et al, 2002, p. 6). It is suggested that the introduction of third-party rights would help to challenge the unequal distribution of power in the planning process (Ellis, 2000), expand the range of opportunities for participation and establish a system of checks and balances within the planning process (Ellis, 2000, 2002). It can present an example of countervailing power for empowered participatory governance (Fung and Wright, 2003), without which any institutional tweaks to encourage participatory governance are likely to fail.

To conclude, currently limited access to justice underpinned by the structural and material inequalities is another marker of procedural injustice. Limited access to justice also serves as a catalyst for harm due to the failure to act as a mechanism of control for farming intensification. Brisman (2013) suggests that once members of the public see the attempts to use their voice as futile, then procedural rights lose their meaning and become little more than lip service. The 'culture of participation' is then replaced with a 'culture of silence' where public apathy does not allow for challenging of environmental harms (Brisman, 2013). The futility of challenging the planning applications for intensive farms was expressed by one of the respondents:

'You try to use your voice as best as you can, you try to write to the planners to listen to you, you try to write to the council. When you go to the ombudsman, they will defend the council. We have really nowhere to go' (COM006).

The comment above illustrates how depoliticisation takes place as the contingency of a choice and 'capacity for agency' (Hay, 2007, p. 66) are denied, as the interviewees function in a political space where alternatives to neoliberal capitalism are dismissed.

The rise of neoliberalism also portended the shift of responsibility from governments to communities (Novek, 2003) and the recent planning reform is an example of that, as I demonstrated in Chapter 3. Yet, during the interviews it emerged that the decision-makers were not prepared to deal with the farm applications after the reform and the respondents mentioned the issue of the decision-making process being open to manipulation:

'The councils themselves are failing because a lot of decisions are being overturned – the planners make recommendations, but councils do not have to accept those recommendations. You suppose they have a planning reason for overturning but a lot of them are overturned by lobbying of planning applicants. And the scrutiny role where the Department for

Infrastructure would step in and say – you cannot do what you are currently doing – they do not exercise that scrutiny role. <...>The official line would be allowing councils to find their own way and gain their own experience' (CIT001).

The comments above continue the discussion developed in the previous chapter, demonstrating how farming industry actors influence the regulatory arenas and shape the ability of citizens to participate in decision-making (Weinberg and Gould, 1993). The micro level of environmental decision-making exemplifies the previously described regulatory and cognitive capture (Pearce and Tombs, 1998; Barak, 2017) of the regulators. Capture is achieved through lobbying (Whyte, 2004). Several respondents described pro-industry lobbying within the parameters of GfG, both on the part of the political party representing farming interests and the industry itself:

'Unofficially it is probably political pressure on the department. Even though we do not have a functioning government, we still have a relationship between politicians and MLAs who are involved in planning and will lobby for planning. I think planners within the department are wary of the role they play, and they do not want to upset the politicians. They are almost politically captured. There is such a culture of being politically captured, of those politicians exercising that power and abusing that power that our civil servants are very scared of stepping out of line. <...> the industry has significant influence over both [civil servants and politicians], the GfG is the classic example of that. We are exceeding our ammonia levels fourfold, civil servants are still driving the [GfG] strategy' (CIT001).

'Political pressure is being put on through people lobbying on behalf of [farm] factories. NIEA said they were not doing anything about it, they were allowing it to get worse. That is what we are up against – against big money and the power that comes with big money. Soon there will be more pigs in NI than people and it is not going to be good for anyone' (COM007).

'Big business is powerful as we know and there are so many people in their pockets. Even people in decision-making jobs do not face them up. <...> If you have a government plan [GfG], I think [the industry influence] would have come into play when reading the application and I would have thought that there would be external influences put on people. I believe that there was some external pressure put on either the planners or members of the planning committee' (COU002).

These quotes continue illustrating the imbalance of power between corporate actors in the farming industry and the individuals opposing farming intensification. Here, power operates through observable conflicts of interest and their resolution in decision-making processes, ensuring that economic interests predominate (Tombs and Whyte, 2010). As long as the conditions for politics are formulated in private by interaction between the state and corporate farming industry elites (which they were in the context of GfG), little space is left for the concerns of those who oppose environmentally and socially harmful process of farming intensification. Moreover, under these conditions power redistribution will not take place: 'there is little hope for an agenda of strong egalitarian policies for the redistribution of power and wealth, or for the restraint of powerful interests' (Crouch, 2004, p. 4).

6.5 Conclusion

This chapter demonstrated the existing maldistribution of harms from farming in the Antrim and Newtownabbey district. The residents living in close proximity to the farms are exposed to a disproportionate amount of harm from animal waste disposal, which leads to water and air pollution and loss of biodiversity. Environmental harms from farming have a negative effect on the meta-capability of sustainable ecological capacity, which compromises the capabilities dependent on it, such as bodily health, play, affiliation, and other species. As pig farming intensification in Northern Ireland takes place to fulfil the dominant motivation of the capitalist organisation of meat production, inequitable distribution of harm will be exacerbated and the meta-capability of sustainable ecological capacity and the associated capabilities will be further compromised because the possibilities afforded to individuals and communities to prevent such harms are limited (Walker and Bulkeley, 2006). I demonstrated the latter by analysing the process of environmental decision-making around pig farming intensification and power dynamics within it.

I identified that the process of environmental decision-making in Northern Ireland is marked by recognitional and procedural injustices. Non-recognition and disrespect of the ideas of opposition to farming intensification are the first marker of recognitional injustice. Non-recognition of non-expert voices in the decision-making process is the second marker of recognitional injustice. These markers of recognitional injustice are rooted in the consensus around a growth- and profit-driven neoliberal capitalist system, reinforced by the symbiotic relations between farming industry actors and the state actors in Northern Ireland. The consensus results in a depoliticised model of environmental decision-making, where alternatives to the growth- and profit-driven political economic system are excluded. The consensus is reproduced and reinforced in planning. The structure of decision-making forums neglects the concerns beyond the economic rationale and privileges voices of the ‘experts’ to the situated knowledges of non-expert community members. The relations within the decision-making forums reinforce power disequilibriums between individuals and communities and the farming industry, seeking to prevent conflict that might lead to power redistribution.

I also identified several markers of procedural injustice in the process of environmental decision-making in regard to farming intensification. First, Antrim and Newtownabbey district residents’ access to environmental information in regard to the impact of intensification on the state of the environment, the factors that are likely to affect the natural environment, and the impacts of intensification on human health was identified to be limited. The limited access further reveals the power disequilibriums pertaining to environmental decision-making, serves to depoliticise it and also contributes to inequitable distribution of environmental benefits and burdens (Gellers and Jeffords, 2018). Second, participation without redistribution of power is the second marker of procedural injustice. I showed that the residents that are or will be affected by farming intensification in the future, while having a formal access to the decision-making forums, participate from the position of inequality and their contributions do not have a genuine impact on the decision-making outcome.

Inequality in material resources and political influence both impede the exercise of the political dimension of the capability to control one's environment. Formal mechanisms of participation exemplify an imaginary capitalist social order (Pearce, 1976), because such mechanisms are designed to conceal a decision-making process dominated by corporate elite interests (Seneca, 2004) behind farming intensification. The domination becomes possible because institutional structures of decision-making are vulnerable to market forces (Swyngedouw, 2005) in the form of industry lobbying; the previously discussed regulatory and cognitive capture of the regulators by corporate farming industry actors resurfaces. Therefore, formally democratic political processes that underpin environmental decision-making become a form of organising consent to capitalist leadership within the economy (Gramsci, 1971), rather than a site of contestation. Finally, this chapter analysed the third marker of procedural injustice - limited access to justice. The absence of a third-party right of appeal for the objectors of planning decisions is underpinned by the structural and material inequalities between the members of the public and the farming industry.

Overall, recognitional and procedural injustices in environmental decision-making consolidate the inevitability of growth- and profit-oriented capitalist economy in meat production and demonstrate the provisional nature of democracy under capitalism (Pearce, 1976). The injustices further weaken the previously discussed limited ability of the planning frameworks to act as a regulatory instrument, which catalyses harm from farming intensification. The latter will result in injustice in the distribution of environmental harms from pig farming intensification in the future and continue have an adverse effect in the realm of capabilities.

Chapter 7 - Discussion and Conclusion

The final chapter first provides a summary of the aims of my study. Second, it summarises the information presented in this thesis, detailing the role of each chapter in answering the main research question; it outlines the context of my research by summarising the first four chapters and discusses Chapters 5 and 6 – the findings chapters – advancing my analysis further. The sections dedicated to Chapters 5 and 6 also outline the main contributions to knowledge that resulted from my study. This chapter proceeds to provide an answer to the main research question to establish how the process of pig farming intensification leads to environmental injustice in Northern Ireland. Following that, this chapter develops a discussion intersecting the ideology of neoliberal capitalism that underpins the process of farming intensification, and environmental justice to debate their compatibility. Finally, it considers the future of both meat production and environmental justice in Northern Ireland and suggests how the challenges identified in my research can be addressed. The chapter concludes with a brief section suggesting directions for future research.

7.1. Aims of the study

Using the context of intensification of pig meat production in Northern Ireland, my qualitative green criminological study analysed the links between harm, power, and justice. In accordance with the research sub-questions, I:

1. *provided a detailed analysis of the workings of power in the context of meat production by examining the relations that create, support, and reinforce political economy of legal yet harmful practice of intensive farming on the three levels of inquiry: macro (global), meso (national) and micro (local).*
2. *considered the current distribution of harms from farming in the studied area and scrutinised its effect in the realm of capabilities.*
3. *analysed power dynamics in the processes of environmental decision-making between individuals and communities and the farming industry through the study of recognition, decision-making procedure, and the ability to have the capability to control one's environment to ultimately question how such power dynamics affect the distribution of future harms associated with farming intensification.*

My study addressed the need to understand how power relations that are driving a legal yet harmful intensive pig meat production practice on the three levels of inquiry affect the context of environmental decision-making around the new farms, the realm of capabilities, and the present and future distribution of environmental harms in the context of intensive farms. The three questions outlined above helped to answer the main question of my research: *how does the process of pig farming intensification in Northern Ireland lead to environmental injustice?*

7.2 Research context overview, findings, and knowledge contributions

This section first provides short summaries of the first four chapters, reconstructing the research context. It proceeds to develop longer discussions of both findings chapters (Chapter 5 and Chapter 6) and outline knowledge contributions that each of the chapters brings.

7.2.1 Research context overview

7.2.1.1 Chapter 1

Chapter 1 demonstrated how a study of a legal yet harmful intensive pig meat production practice in Northern Ireland can advance criminological frontiers. It reviewed the effects of intensive farming for non-human animals, the environment, and society as well as its political economic implications, outlining the harmful prospects of choosing this mode of meat production. I explained that intensive farming falls under the umbrella of ‘lawful but awful’ (Passas, 2005; Wyatt and Brisman, 2017) harms and can be seen as an ‘ordinary act that contributes to ecocide’ (Agnew, 2013). Such claims necessitated a deeper understanding of power relations that underlie farming intensification in Northern Ireland. Moreover, Chapter 1 emphasised that analysis of power raises concerns around injustice. I demonstrated the dearth of research that bridges intensive farming and environmental justice, especially in the field of green criminology. While harms from intensive farming have been researched in terms of their distribution, less attention has been paid to the dimensions of recognition and procedure in environmental justice. Moreover, most environmental justice research focused on the discriminated populations, which posed the question of whether non-minority communities can also be victims of environmental injustice. Considering the evidence of marginalisation of individuals and communities in the processes of environmental decision-making (Laurian, 2004; Seneca, 2004), in particular due to power inequalities (Arnstein, 1969), I demonstrated that my research analysing the processes of environmental decision-making in relation to farming intensification in a non-minority community is timely and relevant. I proceeded to introduce the context of Northern Ireland, demonstrating its suitability for my research intersecting harm, power, and justice: while farming intensification is becoming a pressing issue, especially after the adoption of the GfG strategy, the farming industry enjoys a privileged position in the country, and public participation in decision-making is reported to be flawed. Chapter 1 brought these insights together by outlining my research questions.

7.2.1.2 Chapter 2

Chapter 2 developed an integrative theoretical framework for my research. It first identified the suitability of the field of green criminology. A socio-legal approach within it allowed to develop an understanding of the ‘ordinary harm’ of intensive meat production and consider the role of the powerful in it. The integrative theoretical framework also incorporated the literature on crimes of the powerful. The framework of state-corporate crime was discussed in depth and its relevance for

analysing the relations of power that catalyse harm on the three levels of inquiry in the context of meat production was justified. It allowed considering the relations between state and corporate farming industry actors in the context of the GfG agri-food strategy and beyond through the analysis of three catalysts for environmentally harmful farming intensification – motivation, opportunity structure and operability of control. The chosen integrative framework also allowed analysing the role of power in securing the ideological hegemony, which rules out the alternative ways of social, political, and economic organisation, and normalises environmental harm. Finally, the environmental justice paradigm was included into the integrative theoretical framework to examine the convergence of harm and power emanating from the state and corporate farming industry actors. The theorisation of environmental justice allowed exploring both the maldistribution of environmental harms from the ongoing pig farming intensification in Northern Ireland and its effect in the realm of capabilities, and the reasons for it through examinations of recognition and decision-making procedure. The integrative theoretical framework connected power relations that support and reinforce pig farming intensification on the three levels of inquiry to the micro level process of environmental decision-making; the analysis of the latter enabled understanding whether the realm of planning serves as a mechanism of control or a catalyst for harm from farming intensification. This integrative theoretical framework provided a foundation for my research and, on a more practical level, was essential for collecting, organising, and presenting research data.

7.2.1.3 Chapter 3

Chapter 3 introduced background information about the context of Northern Ireland and discussed the macro and meso level conditions that furnish opportunities for environmental harm in the country. The legacy of the Troubles was shown to influence the political economy and social development. In regard to the latter, an examination of the current administrative landscape and the planning framework in the country showed the challenges associated with the efforts to increase public participation and access to justice, both in the light of the Troubles and the country's embeddedness in the political economy of capitalism. The chapter, thus, initiated the discussion on the elimination of the political under neoliberal capitalism. Chapter 3 also analysed farm concentration and production intensification in pig farming and revealed the current environmental impact of farming, suggesting that the process of intensification would exacerbate the already existing environmental harms and expose the communities living in close proximity to such farms to a disproportionate amount of environmental burdens. Furthermore, Chapter 3 revealed the flaws in environmental regulation in Northern Ireland. It provided information on environmental governance in the country, linking it to the global trajectories and national socio-political background, and setting the context for the future analysis of power relations in the realms of environmental and planning regulation of farming. This analysis revealed how the broader political economy of neoliberal capitalism with its emphasis on growth and deregulation intermeshes with power relations between state and economic actors on the national level. The chapter introduced 'state-corporate symbiosis in which economic

power is linked to and dependent on both the executive power of the political state and the ideological power' (Michałowski, 2018, p. 107) by discussing the GfG agri-food strategy in more detail and evidencing compromised environmental regulation of farming and a presumption in favour of development in planning. Finally, Chapter 3 discussed the negative Brexit implications for both farming and environmental governance in Northern Ireland.

7.2.1.4 Chapter 4

Chapter 4 detailed the ontological and epistemological assumptions that underpin my research – critical realism and interpretivism. It explained why the case study method was suitable as the methodological approach in the context of my epistemological assumptions and for green criminological research in general. Following that, this chapter described the literature review process (primary and grey literature, including policy documents, documents related to environmental regulation, planning documents, and planning legislation) that preceded data collection. The chapter also elaborated on the techniques used for data collection; Antrim and Newtownabbey district as well as Belfast were selected as research contexts and four participant categories were identified. Twenty-nine semi-structured interviews were conducted, and official statistics related to farming and agriculture in Northern Ireland as well as media data were used in this research. The data were analysed through thematic and comparative analysis. The chapter also outlined ethical issues and limitations pertaining to my research.

7.2.2 Findings and knowledge contributions

7.2.2.1 Chapter 5

Chapter 5 built an argument to answer the first research question. It analysed the process of pig farming intensification in Northern Ireland and used the integrative theoretical framework to examine power relations that create, support, and reinforce this phenomenon on the three levels of inquiry: macro (global), meso (national) and micro (local).

7.2.2.1.1 Macro level

Barak (2017) suggests that the globalised capitalist economy works to enable rather than prevent crimes and harms. My findings indicated that macro level political economic arrangements in relation to meat production operate through the protection and reproduction of what Passas (1990) labels as the triad of profit-growth-efficiency, which subsequently influences meso level developments in Northern Ireland. Profit generation in the capitalist economy is the ultimate incentive for any change in the market (Damron, 2009); being embedded in the profit-driven globalised capitalist economy creates pressure to increase national level production in order to compete internationally. My interviewees emphasised the predominance of small-scale farming in Northern Ireland, which does not allow them to fulfil the overarching goal of economic success within the global political

economic arrangements in relation to meat production. The discrepancy between the global goals for meat production and the structural opportunities that exist to meet them in Northern Ireland led to a strain (Merton, 1938). The GfG strategy, focused on growth through intensification, consolidated the ambition of growth and served to address this discrepancy. Led by the major corporate actors in the farming industry, it fulfilled the goal of profit-making prescribed by the global market rule. It also allowed Northern Ireland to be competitive on the global scale and identify new export markets to maximise financial returns. Yet, the response to the strain in the form of intensifying meat production also results in harms outlined in Chapter 1.

Furthermore, Chapter 5 demonstrated that pig farming intensification in Northern Ireland is not simply an economic matter of making profit; it is also a political project that uses human imagination towards preserving capitalist values (Blanchette, 2020). The discourses propagated on the macro level are used as an instrument in the struggle for hegemony of neoliberal capitalism (Pearce and Tombs, 1998; Whyte, 2016) by the authors of the GfG strategy. The discourse of market rationality in relation to an increasing global demand for pork that needs to be met is presented as common sense and the ensuing harms are framed as inevitable and ordinary. Dissemination of common sense in farming rules out alternatives to neoliberal capitalism (Pearce and Tombs, 1998), thus reinforcing its domination as the only viable way of organising production. It also masks the power of meat producers over demand manipulation. Crimes of the powerful theorists maintain that through consumption, broader ideologies and structures are perpetuated and reinforced (Rothe and Collins, 2017). Within GfG, consumer demand is influenced by using the image of environmentally friendly production and the meat quality associated with it to increase profits on the global market. Manipulation of consumer demand guarantees the perpetuation of the current capitalist model of meat production based on profit accumulation, thus proving White's (2018) point that the origins of ordinary harms are related to the dominant mode of production, over which the participants have little or no direct control.

7.2.2.1.2 Meso level

For the meso level, the chapter analysed how a ‘regime of permission’ (Bernat and Whyte, 2017, p. 71) for intensification was and continues to be established by analysing the catalysts for harm – motivation, opportunity structures and operability of control. Goals are crucial components of the decision-making process (Kauzlarich and Kramer, 1998). I demonstrated that the pursuit of the underlying motivation of profit-making in meat production in Northern Ireland leads to environmental harm from intensification. The goals formulated by the AFSB within the GfG strategy were to drive efficiency of the farming industry as well as professionalise it, with the latter associating professionalism with profitability and the ability to respond to the needs of the market. The chosen goals reflect the ethos of the dominant political economic system (Pearce, 1976).

As goals are pursued, institutional structures develop to provide further support for them (Kauzlarich and Kramer, 1998), embodying the second catalyst for harm. The opportunity structure

to achieve the goal of efficiency relies on the promulgation of the discourse against small-scale farms and provision of material support for technological innovation and research into efficient production. The opportunity structure to achieve the goal of farmer professionalism includes education of farmers and organisation of business development groups. Both opportunity structures present an amalgamation of material and ideological support for farming intensification developed at the state-corporate nexus. Material support refers to the resources directed towards fulfilling the nationally set goals within the framework of GfG and beyond. Ideological support is exemplified by the power in the production of consciousness regarding a harmful act (Michalowski, 2018) of farming intensification, and enables the dominant ideas of production organisation to be normalised and treated as common sense. Both opportunity structures ultimately serve the purpose of fostering the conditions that respond to the global ambitions of meat production and enable profit accumulation through more intensive production. Simultaneously, fostering the conditions for intensification also reinforces the hegemony of neoliberal capitalism in meat production.

Finally, state-corporate crime theorists suggest that the chosen opportunity structures are most effective in the absence of strong controls (Kauzlarich and Kramer, 1998). The analysis of the regulatory controls experienced by the farming industry actors in their ambition to intensify continued the discussion of environmental and planning regulatory frameworks deficiencies developed in Chapter 3, demonstrating how the latter become the third catalyst for harm. Major corporate actors in the farming industry influence the regulatory forums by moulding the existing environmental and planning regulation in their favour and protecting their vested interests in profit accumulation. Thus, my research confirms that in the context of neoliberal capitalism where capital accumulation is the main imperative, regulatory agencies are vulnerable to regulatory (Pearce and Tombs, 1998; Whyte, 2004) and cognitive (Barak, 2017) capture. As a result, efficient, growth-oriented meat production is consolidated in regulatory relationships, which further reinforces the hegemony of the dominant capitalist order and implies that alternatives to it are excluded.

7.2.2.1.3 Micro level

Chapter 5 also demonstrated how both global and national catalysts for environmentally harmful intensification influence the happenings on the local level. In relation to the goal of producing efficiently, the empirical evidence suggested that in order to stay financially viable, individual farmers needed to organise their production according to the market rule ideology. The goal of profit is continually reinforced within the meat supply chain; success is measured in financial achievement (Passas, 1990). A strong emphasis on goal attainment can encourage harmful behaviour (Kauzlarich and Kramer, 1998), and the goal of profit has been identified to produce more strain than other types of goals (Benson and Simpson, 2009). As individual farmers experience strain, they respond to it by making production more efficient (and more intensive) through benefitting from the opportunity structures created on the national level. This situation once again is emblematic of the harm

associated with a response to a strain (Merton, 1938), as intensification leads to environmental and social harm.

The pursuit of the goal of farmer professionalism on the micro level further reinforces the ideological hegemony of the capitalist order and normalises environmental and social harm from pig farming intensification. Professionalising farming industry results in a business-like environment where individual farmers have limited control over production decisions. Furthermore, certain practices associated with professionalism in farming (such as vertical integration actively promoted by the GfG authors) result in further disempowerment of farmers and encourage environmentally harmful intensification. Vertical integration consolidates power within meat supply chain, whereby retailers and processors, driven by the ambition to accumulate capital in line with the political economy of neoliberal capitalism, put pressure down the supply chain encouraging pig farmers to expand their production. This pressure once again creates a strain where farmers have to resort to intensification at the expense of the environment to meet the goals dominant in the political economy of neoliberal capitalism.

The goals of creating a professional farming industry that responds to the needs of the market to stay profitable and organises its production efficiently contribute to a demise of small-scale farming on the local level because a more intensive mode of farming is beneficial for the achievement of these goals. While benefitting from opportunity structures created on the national level, the farmers who decide to intensify production also reinforce these opportunity structures, further marginalising small-scale producers and blocking the alternatives to the prevailing mode of production.

7.2.2.1.4 Relations of power

As Bourdieu (1990) articulates it, the conversion of different forms of capital requires making and maintaining relations. Authors theorising crimes of the powerful also view crime as a process of interconnected relations working to maximise profit (Findlay, 1999). Building on the findings of Chapter 5, I continue analysing the operation of power relations that ultimately create, support, and reinforce the political economy of meat production that leads to farming intensification in Northern Ireland.

Expansion of the farming sector epitomised by the GfG strategy in Northern Ireland is seen by the political actors as a pathway towards maintaining economic growth on the national level, and corporate farming industry actors behind the strategy benefit from it by realising their goals to grow and increase profits with the support from the state. The goals for meat production are realised thanks to opportunity structures constructed by both the political and farming industry actors. The opportunity structures exemplify the power that emanates from the social relations that centre on economic growth, which guarantee that profit-oriented, efficient meat production prevails and those not fitting within its parameters are excluded. Such opportunity structures demonstrate the vital importance of state power for maintaining the functioning of the neoliberal capitalist regime of meat

production. The state, being a facilitator for market mechanisms (Tombs, 2017; Bittle et al, 2018), determines the context within which neoliberal ideology flourishes (White, 2018). The opportunity structures also reveal that the expansion of the farming industry benefits the state as the latter responds to the demands of economic growth necessitated in the context of the political economy of capitalism. It is, thus, in the interest of both the state and corporate farming industry actors to continue creating and reinforcing conditions that safeguard the hegemony of the neoliberal capitalist order. As Wilks (2013, p. 115) articulates it, ‘the alliance with the political elite is of paramount importance. Corporate elite enjoys power, status, and wealth; the political elite enjoys power, status, and election. Both have high stakes in a system that generates income, wealth, and the material benefits of economic growth’. This arrangement resonates with the earlier mentioned Michalowski’s (2018) characterisation of the neoliberal state as state-corporate symbiosis or a ‘regime of permission’ (Whyte, 2014, p. 244) in which economic power links to and depends on the power of the state.

It is not only the opportunity structures created to meet the goals of efficient production and professionalism that exclude the alternatives to a market-oriented, profit-driven model of farming. The latter is also reinforced through the relations in the Northern Irish meat supply chain. Pressure for attainment of the goals of profit-making on the retail level increases pressure on individual farmers, incentivising them to increase their production. Moreover, actions of large meat processing companies (some of whom are responsible for the development of GfG) also encourage larger units of production and reinforce the idea of profit-growth-efficiency as common sense in farming. Relations of power operate to ensure that individual farmers willingly embrace market rule ideology, see it as common sense and associate it with the collective good. Through that, neoliberal capitalism becomes a moral discourse (Datta, 2018) and the goals of growth and accumulation are embraced as their own (Chambliss et al, 2010) by the farmers.

Furthermore, regulatory contexts in Northern Ireland present an insight into the institutional expressions of economic and political power (Kramer et al, 2002). Relations between state and corporate farming actors in environmental regulation work to promote a consensus perspective in regulation (Whyte, 2004), where advice is preferred over punishment and close collaboration with the regulators is developed. A neoliberal perspective in regulation (Whyte, 2004) is also present: Chapter 5 showed the relational aspect of power in regard to blocking the creation of an independent environmental protection agency in Northern Ireland and analysed how relations of power work to interfere with the existing environmental and planning regulation, both within the context of GfG and beyond. The latter results in a regulatory and cognitive capture where regulatory agencies reproduce the social conditions necessary to sustain the capitalist political economic order (Tombs, 2017).

Relations of power, thus, are essential for realising the goals of meat production embedded in the political economy of capitalism; this ability to produce the intended effects is what, according to Ruggiero (2018), distinguishes the powerful from the powerless. Additionally, while state-corporate relations create, support, and reinforce the political economy of meat production that leads to farming intensification, they also preserve the hegemony of neoliberal capitalism and exclude

alternatives to it, ensuring that the environmentally harmful but profitable status quo remains unchanged.

7.2.2.1.5 Knowledge contributions

Chapter 5 brought about some of the key knowledge contributions of my research. My study engaged with the issues around food production and advanced the frontier of food crime and harm research in green criminology. More specifically, it engaged with the under-researched food production practice of intensive farming in an interdisciplinary fashion. Through a detailed analysis of the workings of power in the context of intensive farming and the state-corporate relations that underlie this legal yet harmful practice, my study analysed the role of power in legitimisation, normalisation, and regulation of harm. My research expanded the knowledge of complex relationships between political and economic actors from a green criminological perspective and demonstrated how, within those relationships, power is exercised, maintained, and ultimately directed to preserve the status quo of neoliberal capitalism. In Chapter 5, I applied my integrative theoretical framework innovatively to analyse a ‘lawful but awful’ practice of intensive farming. It allowed advancing the agenda of ‘greening’ of state-corporate crime (Bradshaw, 2014, p. 166). My research addressed one of the criticisms of the integrated framework of state-corporate crime, namely its immediate focus on specific incidents, institutional flaws, and ‘moments of rupture’ (Bernat and Whyte, 2017, p. 71). I embedded my analysis of political economy of pig farming intensification in Northern Ireland in a broader system of production, underpinned by enduring and ongoing relationships, thus demonstrating that it constitutes a process rather than a single event. Furthermore, the application of the integrative theoretical framework allowed extending the critique of ideology developed within the research on crimes of the powerful. My research revealed the significance of cultural power – understood as ‘the organisation of consciousness’ (Michałowski, 2018, p. 109) in accordance with the ideology of neoliberal capitalism – in creating, supporting, and reinforcing legal yet harmful practices, such as that of intensive farming.

7.2.2.2 Chapter 6

Chapter 6 provided an in-depth answer to the second and the third research questions, analysing the existing distribution of harms from farming intensification in the area and its effect in the realm of capabilities, and linking this distribution to the power dynamics in environmental decision-making through the analysis of recognition and decision-making procedure.

7.2.2.2.1 Distributional injustice and pig farming intensification

The maldistribution of environmental harms is a product of the political economic organisation of capitalism (Lynch, 2016). Chapter 6 first revealed an already disproportionate exposure of the studied community to environmental harms from farming that may be amplified in the future as more intensive farms appear in the area. Disposal of animal manure presented a serious challenge, as the

respondents shared their concerns about the past episodes of water and air pollution. Another environmental harm discussed in Chapter 6 concerned the loss of biodiversity in the area as a result of the existing farming practices. Connections between environmental and social harm were made, and the chapter elaborated on how the distribution of environmental harm from farming affects the community and their wellbeing. The main argument of Sen's and Nussbaum's capabilities approach is that it is not sufficient to look at the distribution alone, but also at how the distributive arrangements affect one's wellbeing. It was shown that as the meta-capability of sustainable ecological capacity is compromised, it has negative implications for other capabilities such as bodily health, play, affiliation, other species. Considering this and following Lake's (1996) thinking, the community in question should not have yet another environmentally burdensome development such as an intensive farm in the area since it is already unfairly burdened by environmental problems. This brought up the question of what can be done through the decision-making forums to prevent environmental harms from farming.

The remainder of Chapter 6 analysed power disequilibriums between the communities and 'the institutional structures creating the burdens to be distributed' (Lake, 1996, p.170) and linked them to the power relations behind pig farming intensification in Northern Ireland. The institutional context can be examined on a wider scale than the mode of production (Young, 1990) and, therefore, allows for a broader understanding of injustice beyond its distributional element.

7.2.2.2 Recognitional injustice and pig farming intensification

First, Chapter 6 demonstrated that the respondents' idea of living in and with the environment centred around intergenerational equity, human right to inhabit a clean and healthy environment, and resisted the process where the environment becomes a source of profit accumulation. It subsequently turned to analyse non-recognition of the ideas of opposition to farming intensification in the decision-making process, linking it to the consensus around growth- and profit-driven neoliberal capitalist system in farming.

Once the right to determine the future of one's environment is invoked, it ruptures the fabric of the dominant ideological consensus (Oosterlynck and Swyngedouw, 2010). The ideology of the free-market economy dominates institutional structures of planning and shapes the path taken by decision-makers, leading to non-recognition and even disparagement of the environmental and social concerns related to farming intensification. This ideology is constituted by the symbiotic relations between corporate farming industry and the state actors in Northern Ireland. The structure of decision-making forums is such that it obscures public concerns beyond the economic rationale and thus becomes a form of legitimization of the dominant consensus. The problematic nature of consensus is that under it a questioning of the existing order becomes nearly impossible. The community that questions the fundamental idea of what they are being consulted upon (in my case, construction of intensive farms in the area) 'find themselves excluded from the post-democratic apparatus of consensual governance' (Haughton, et al, 2016, p. 477). Young (2000) labels such phenomenon

internal exclusion, meaning that the discourse of nominally democratic decision-making makes assumptions that some do not share. In my case, such assumptions embedded in the processes of environmental decision-making are those of the primacy of economic growth, and they are not shared by local residents opposing intensification. The ideas of the community participating in environmental decision-making find little recognition at the institutional level on the merits of being outside the reigning consensus, thus leaving the community members feeling disempowered.

Furthermore, Chapter 6 showed that non-recognition manifests through the dismissal of non-expert voices and community members' situated knowledge. 'Unauthorised actors' (Beck, 1997) such as experts and consultants are privileged over citizen knowledge. Decisions around farms were seen as complex and technical, and it was concluded that members of the public can contribute little to them (Lee and Abbot, 2003). Expert opinion served to legitimise the process of intensification and protect the reigning consensus around the manner in which meat production should be organised, thus further reinforcing power imbalance between members of the public and the farming industry. The chapter also showed that even when community members acquired all the necessary expertise related to planning around farm applications, they were, nevertheless, in a disadvantaged position due to the lack of material resources necessary to prevail in the negotiations. Ultimately, non-recognition of ideas that challenge the hegemony of capitalism overlapped with economic subordination (Young, 1997).

Therefore, both markers of recognitional injustice consolidate the inevitability of a growth-and profit-oriented capitalist economy in meat production. They further compromise the ability of planning institutions to act as a mechanism of control discussed in Chapter 5, catalysing harm from farming intensification. As environmental decision-making process favours economic interests while marginalising alternatives to the dominant order, it becomes depoliticised because 'contradictions are reduced to policy problems to be managed by experts and legitimated through participatory processes in which the scope of possible outcomes is narrowly defined in advance' (Wilson and Swyngedouw, 2014, p.6).

7.2.2.2.3 Procedural injustice and pig farming intensification

Chapter 6 also analysed how the procedure of environmental decision-making bears several markers of injustice, as the majority of the interviewed community members were not satisfied with their interaction with what Fraser (1997) calls formally inclusive public arenas. The scope of environmental information in regard to the impact of intensification on the state of the environment, the factors that are likely to affect the natural environment, and the impacts of intensification on human health were identified to be limited. This limitation contributed to the consolidation of the hegemony of capitalism by narrowing the decision-making agenda. Additionally, limited environmental information made it more challenging for the respondents to raise their concerns and defend their interests, thus serving to reinforce a depoliticised, consensus-based model of decision-making. Moreover, limited access to justice of individuals and communities expressed through the

lack of third-party right of appeal for those opposing planning decisions was identified to be another marker of procedural injustice. The failure to establish the framework for the third-party right of appeal further reinforced the interests of economic power in the planning process. Furthermore, it demonstrated the power imbalance between community members and the farming industry, where the former lacked financial resources to access a costly judicial review – the only avenue of justice available to them in the light of absence of the third-party right of appeal.

Chapter 6 analysed another marker of procedural justice related to participation in environmental decision-making. It showed that participation was reduced to an empty ritual, where formal inclusion did not translate into a genuine impact on the decision-making outcome. Non-recognition, thus, constructed barriers for meaningful participation – the views of opposition to farming intensification not recognised within the reigning political economic consensus found little influence in the participatory arena. Additionally, I revealed power disequilibriums in the environmental decision-making related to both inequality of material resources and political influence, which reinforced the status quo of participation without power redistribution.

It would be easy to assume that environmental decision-making in a Western democracy such as Northern Ireland recognises the value of participatory elements – indeed, Chapter 3 demonstrated that the element of community participation underpins planning. This evokes the doing versus having dilemma outlined by Young (1990): the opportunity to participate in my case can be conceptualised as a possession rather than an instrument of enablement. The community, thus, presented an example of what Fraser (1990, p. 75) calls ‘weak publics’: the publics whose participation consists of forming an opinion, but does not encompass decision-making. While the instruments of participation can be seen as a concession that runs against the interest of state and industry elites, it can be suggested that their power appears stronger when instruments of participation rather than exclusion are employed (Parenti, 1978). Participation in environmental decision-making without power redistribution is essential for securing capitalist hegemony (Kamat, 2014) and becomes part of the imaginary social order projected by capitalism (Pearce, 1976).

Instruments of participation become a means of serving the operations of capitalism, stifling disputes around the neoliberal growth agenda, and consequently leading to the elimination of the political under neoliberal capitalism (Mouffe, 2005; Swyngedouw, 2007; Wilson and Swyngedouw, 2014). Disagreements can exist, but decision-making forums operate ‘within an overall model of elite consensus and agreement, subordinated to a managerial-technocratic regime’ (Swyngedouw, 2009, p. 610). Demands and concerns related to the sphere of meat production and inequalities through which environmental harms from it are produced and reproduced are positioned outside the arena of disagreement (Beck, 1997). It creates a situation in which, while power of individuals and communities is widely circulated, relationships in decision-making are still marked by injustice (Young, 1990) and hegemony of neoliberal capitalism ‘based on the decisive function exercised by the leading group in the decisive nucleus of economic activity’ (Gramsci, 1971, p. 46) is not challenged. Procedural injustice, thus, once again demonstrates that harm is catalysed rather than controlled within the realm of planning.

7.2.2.4 Converging injustices and capabilities

To summarise, recognitional and procedural injustices further weaken regulatory controls in planning discussed in Chapter 5, which catalyses harm from farming intensification. Consequently, the disproportional exposure to environmental harm of the studied community will be exacerbated as farming intensification progresses. The issues of distributive justice are closely linked with the notion of capabilities, as ‘justice is not about achieving an appropriate distribution of things between people, but rather about people being able to live lives that they consider worthwhile’ (Edwards et al., 2016, p. 755). Consideration of capabilities in Chapter 6 allowed me to connect distributive and procedural injustices in regard to farming intensification. I showed that the existing concentration of environmental harms already affects sustainable ecological capacity as a meta-capability and the capabilities dependent on it – bodily health, play, affiliation, and other species. Yet, the prospects of preventing future harms were poor. The capability to control one’s environment was compromised as a result of the participatory arrangements that only create a façade of participation and do not address the structural inequalities inherent in capitalism that play a role in individual and community disempowerment. The compromised capability also means that those who choose not to participate in environmental decision-making because they feel powerless are not developing the skills needed for effective participation in the future; thus, the vicious cycle continues.

Different areas of environmental injustice are interlinked. The manner in which environmental decision-making is organised ultimately exacerbates maldistribution of environmental harms in the future and negatively affects the realm of capabilities. Thus, recognitional and procedural injustices on the micro level of planning catalyse harm and lead to distributional injustice, as harms from farming intensification persist. The markers of recognitional and procedural injustice described in Chapter 6 underlie the planning system that reinforces powerlessness in public participation (Deacon and Baxter, 2013). The institutions of public participation ignore the fact that imbalances of power are vital for the existence of the neoliberal consensus.

In summary, relations that underpin environmental decision-making processes on the micro level of planning in Northern Ireland act as a tool of hegemony that seeks to perpetuate the prevailing socio-political order (Tang et al, 2012). The prevailing socio-political order is constituted by symbiotic relations between the state and corporate farming industry actors that devalue the interests of the environment and society when contrasted with the interests of economic growth and profit.

7.2.2.5 Knowledge contributions

Chapter 6 also resulted in further knowledge contributions of my research. It is evident that the environmental justice paradigm illuminates the aspect of distribution of environmental harms in relation to farming intensification. My research advanced the idea that the populations that are not considered minority and do not experience discrimination can also face environmental injustice. While Chapter 2 listed the evidence that the brunt of environmental injustice is borne by minority groups, I advanced the idea that rural populations residing in a country where agriculture and farming

are the backbone of the national economy (such as Northern Ireland) are exposed to the harms from intensive pig meat production, regardless of their social status. The results of my study advance environmental justice research in criminology by linking intensive farming and environmental justice, suggesting that further examination of the non-minority populations as victims of environmental injustice is needed.

The claim that non-minority groups can be victims of environmental injustice is made on the grounds of such populations experiencing disenfranchisement in the processes of environmental decision-making. The environmental justice paradigm in my research illuminated the reasons behind the maldistribution of environmental harms by examining individual and community recognition and procedure of decision-making in relation to farming intensification. Therefore, another knowledge contribution of my thesis was to push the frontier of an under-researched area of recognitional and procedural environmental justice in green criminology. An analysis of recognitional and procedural injustice in the context of pig farming intensification in Northern Ireland also contributed to the existing knowledge through a close examination of the relationship between the capitalist economy and democratic politics, demonstrating that environmental affairs oftentimes serve as an arena where ‘the hegemony of the neoliberal thought becomes entrenched’ (Bluhdorn, 2014, p. 147). My research examined how a democratic deficit (Swyngedouw, 2000) is growing despite celebration of individual and community political empowerment through participation, by linking recognitional and procedural injustice to state-corporate symbiotic relations that reinforce hegemony of neoliberal capitalism and exclude alternatives to it.

Finally, another contribution of my research was to expand on the insufficiently discussed concept of capabilities in environmental justice. My research innovatively applied the concept of the meta-capability of sustainable ecological capacity to demonstrate that this meta-capability enables other human capabilities, such as bodily health, play, affiliation, other species. I also demonstrated the relevance of capabilities in relation to procedural justice through the consideration of political capabilities and stressed the importance of capabilities-related research in green criminology.

7.3 Answering the research question

The main question posed in my study asked how the process of pig farming intensification in Northern Ireland leads to environmental injustice. It aimed to establish how power relations that are driving the process of intensification on the three levels of inquiry may affect the context of environmental decision-making on the micro level, and ultimately influence the distribution of environmental harms from farming intensification and the realm of capabilities.

The study of intensification on the international, national, and local levels revealed the workings of the political economy of neoliberal capitalism in meat production. Moreover, it demonstrated how power relations between the corporate farming industry actors and the state operate to secure and perpetuate a growth- and efficiency-driven model of meat production to pursue an overarching motivation of capital accumulation (Kramer, 2002). The adoption of the GfG agri-

food strategy in 2012 consolidated this motivation and my analysis of the relations underpinning it demonstrates why pig farming intensification is taking place in Northern Ireland. The workings of state-corporate relations subsequently exclude alternatives to the capitalist order, thus reinforcing its hegemony. The fatalistic idea of ‘capitalist realism’ (Fisher, 2009) underlies it, whereby neoliberal capitalism is accepted as the only viable political economic system and a future beyond capitalism is unimaginable. The latter can also be seen as the ‘maturation of humanity’ (Zizek, 2000, p. 324): acceptance of neoliberal values relating to the efficiency of markets and excluding the possibilities of fundamental social change. Success – for those in power - is tantamount to the generation of consensus around the hegemony of economic growth (Kadlec and Friedman, 2007), rather than addressing the environmental and social harms associated with intensification. As part of the consensus, the capitalist order is accepted as a given, even though this very system is to blame for the existing ecological crisis on the macro level (Fougere and Bond, 2016) and the negative externalities associated with farming intensification specifically. The hegemonic nature of neoliberal capitalism lies precisely in it being accepted as a given, as an inevitability, simultaneously with the awareness of it being responsible for the existing harms from intensification. Coexistence of acceptance and awareness is emblematic of the idea of fetishistic disavowal, where one is aware of the consequences of their action but nevertheless continues with that action; knowledge of the action’s impact, thus, does not lead to a change of direction (Zizek, 2008).

State-corporate relations safeguarding the consensus around neoliberal capitalism on the three levels of inquiry affect the processes of environmental decision-making on the micro level. The processes of environmental decision-making also consolidate the inevitability of growth- and profit-oriented capitalist economy in meat production. Challenging this status quo becomes increasingly difficult because of power relations that protect the consensus around neoliberal capitalist model of meat production and work to exclude the alternatives to it. The consensus is generated both through the relations in decision-making forums and the structure of the planning system itself, thus leading to a depoliticised model of environmental decision-making. As a result, the process of environmental decision-making is marked by recognitional and procedural injustices, which are rooted in an imbalance of power between those protecting and reinforcing the neoliberal political economy and those seeking to challenge it. Recognitional and procedural injustices in the process of environmental decision-making prove that capitalist production is dependent on injustice (Fraser and Jaeggi, 2018). Moreover, they reveal the pseudo-democratic nature of capitalism (Pearce, 1976), a so-called ‘simulacrum of democracy’ (Seymour, 2010, p. 16), whereby the wellbeing of both the environment and society takes a back seat in the interest of capital (Pearce and Tombs, 1998). The creation of processes based on quasi-democratic mechanisms of participation in environmental decision-making ‘gives the superficial appearance of engagement and legitimacy, whilst focusing on delivering growth expedited through some carefully choreographed processes for participation which minimise the potential for those with conflicting views to be given a meaningful hearing’ (Allmendinger and Haughton, 2012, p. 90). Processes of participation in decision-making become separated from politics expressed as pluralistic struggles and contestation, from the power to influence the decision-

making process, resulting in what Brown (2015, p. 128) calls ‘the language of democracy used against the demos’.

Discussions around power and injustice are closely intertwined with the discussion around harm. In my research, the unevenness of environmental harm distribution is not underpinned by one’s minority status; rather, it originates from the recognitional and procedural injustices in environmental decision-making forums experienced by the studied community challenging state-corporate symbiotic relations that protect growth- and profit-oriented capitalist economy in meat production. Recognitional and procedural injustices in the processes of environmental decision-making regarding the construction of new pig farms in Northern Ireland weaken the ability of planning frameworks to act as a mechanism of regulatory control, which catalyses harm from farming intensification. The latter guarantees that the studied community will be exposed to a disproportionate amount of harms from farming intensification in the future. The uneven distribution will negatively affect the meta-capability of sustainable ecological capacity and compromise other capabilities such as bodily health, play, affiliation, and other species. My research showed that the latter are already affected by the existing harms from farming in the studied area. Future proliferation of intensive farms will continue to have a negative effect on both the meta-capability and the dependent capabilities. Additionally, the capability to control one’s environment will also continue to be compromised as a result of power disparity in environmental decision-making forums, thus entrenching community disempowerment.

To summarise, recognitional and procedural injustices in the processes of environmental decision-making observed on the local level in Northern Ireland stem from the state-corporate power symbiosis that works to secure the hegemony of neoliberal capitalism on the international, national, and local levels of pig meat production; recognitional and procedural injustices will result in distributional injustices and negatively affect the realm of capabilities in the future. The answer to the main research question can be visualised as follows:

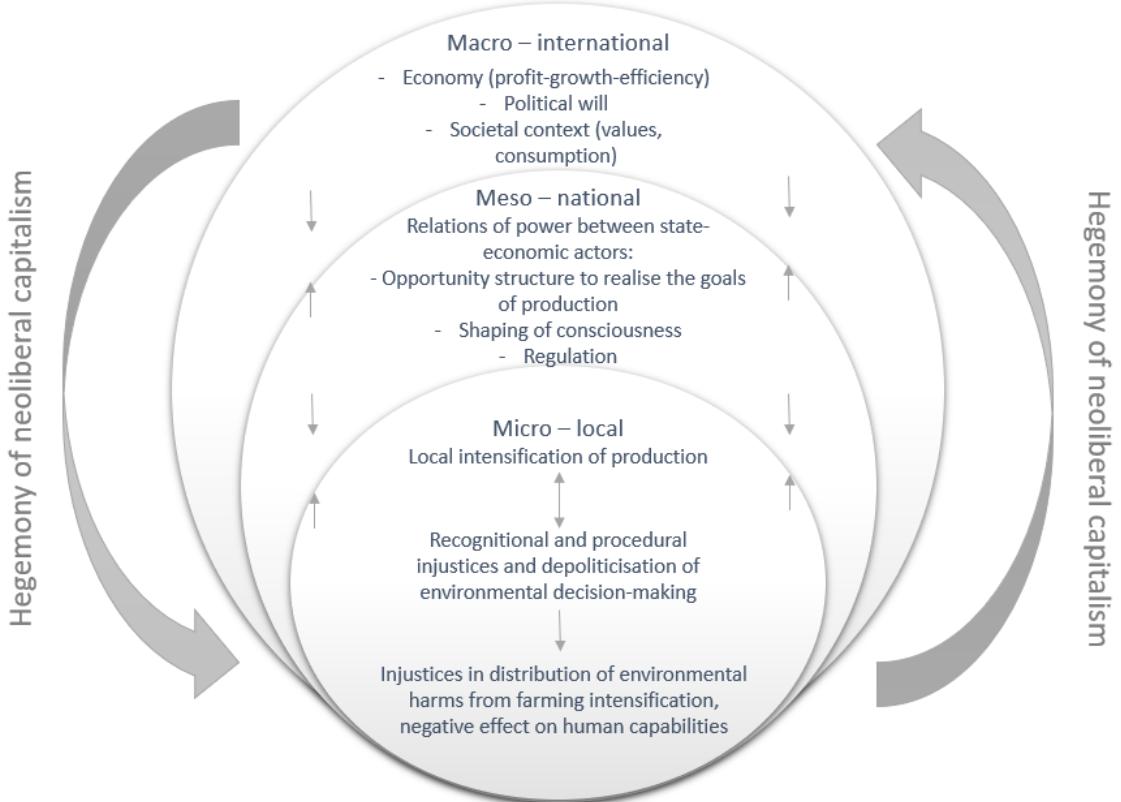


Figure 7.1. Answering the main research question.

Having answered the main research question, in the next section I draw on the case study in my research further and pose the following question: can recognitional and procedural environmental justice be achieved under the conditions of neoliberal capitalism at all?

7.4 Are the ideology of neoliberal capitalism and principles of environmental justice compatible?

My research revealed the extensive academic coverage of marginalisation of individuals and communities in the processes of environmental decision-making under neoliberal capitalism, both in the context of environmental justice (Hunold and Young, 1998; Deacon and Baxter, 2013; Haughton et al, 2016; Bustos et al, 2017) and beyond (Oosterlynck and Swyngedouw, 2010; Fougere and Bond, 2016; Apostolopoulou, 2019). A significant proportion of such marginalisation is attributed to the obstacles to equality in decision-making processes stemming from the entrenched power relations (Forester, 1982; Young, 1990, 2000; Culley and Hughey, 2007). Considering that power asymmetries are one of the foundations of the capitalist regime, the question arises whether such a regime can accommodate the institutional conditions necessary to achieve recognitional, procedural and ultimately distributional environmental justice. Such conditions should allow people to exercise passive and active rights to environmental information, facilitate an open debate on the conditions of equality where pluralities of voices are recognised and whose input (provided on their own terms) is respected and taken into consideration in decision-making, and make the avenues to challenge the decisions made open and available. Ultimately, meeting such conditions implies that a redistribution

of power in decision-making needs to take place (Lake, 1996) in order to challenge the empty promise of the current environmental decision-making institutions.

However, it can be suggested that the regime of neoliberal capitalism may not be conducive for such redistribution of power. As Merkel (2014) asserts, while formally democratic procedures (such as referenda and deliberative assemblies) may be helpful for improving local engagement or holding government institutions accountable, they do little for halting inequality and reversing market hegemony. Ultimately, neoliberal capitalism and principles of environmental justice follow different logics. Decisions made under neoliberal capitalism lead to a degree of inequality, including inequality in the distribution of environmental harms. Moreover, the procedural realm, rather than operating as a dialogic exchange between equals, is replaced by strategic exchanges of power (Roberts and Crossley, 2004), where the decisions made do not threaten the existing order. Young (2000) even warns that, if structural inequalities of power exist (as they do in the processes of environmental decision-making under neoliberal capitalism), formally democratic procedures might reinforce rather than assuage them. As I suggested before, the existence of the formally democratic procedures makes it difficult to consider alternative possibilities and actions and reinforces the hegemonic aspect of neoliberal capitalism. Formally democratic procedures act as a veneer of critique, encouraging one to believe that contestation exists and that contestation results in an incremental change, thus reassuring cynical populations that no action is required on their behalf (Winlow, 2019). Yet, as neoliberal capitalism becomes the governing political rationality that prevents formulation of alternatives, it also dwindle spaces of genuinely democratic politics and erodes the very meaning of democracy. Brown (2003) suggests that the current version of democracy is defined by hollow promises as it fails to generate oppositional consciousness. Moreover, formally democratic decision-making takes place within the existing institutional priorities and social structures, further reinforcing power relations that underlie injustice. Young's (2001, p. 685) further, rather pessimistic, warning is that even if decision-making is freed from the pressure of economic imperatives, 'the majority of participants in such a reflective deliberative setting will be influenced by a common discourse that itself is a complex product of structural inequality'. The latter means that decisions made will still be partly conditioned by unjust power relations, and the powerful will be advancing their own interests at the expense of others (in my case, economic interests at the expense of those of the environment and society).

Furthermore, environmental decision-making is not only about protection, but also about determining a person's interests in regard to the environment. Discussions around environmental justice also focus on what kind of environment one wants to inhabit and what kind of environment one values. As Sandel (2010) remarked, 'justice is not only about the right way to distribute things. It is also about the right way to value things'. Environmental justice, thus, is also about valuing the natural environment. Throughout this thesis, it has been shown that neoliberal capitalism does not recognise the inherent value of the environment and side-lines environmental interests and values. It operates on the basis of causing ecological disorganisation (Lynch et al, 2020), which resonates with a more general claim that ideas of valuing and protecting the natural environment and the dominant

neoliberal economic system are incompatible (Peters, 2019). Struggles for environmental justice may have an adverse effect on economic growth; as Dryzek (1987) suggests, growth assuages tensions around distributive conflicts and allows the powerful to avoid questions about distributive justice. Institutional changes necessary to achieve environmental justice will certainly bring such conflicts to the surface, thus threatening the very logic that propels neoliberal capitalism. Therefore, it can be concluded that recognitional and procedural aspects of environmental justice and the current political economic regime are not compatible.

This incompatibility results in public disengagement, despite the fact that engagement with environmental issues is currently on the rise. The build-up in awareness around the scale of the current environmental crisis, of which harms from intensive farming are part, cannot be underestimated. One can observe a recent shift of consciousness that recognises an urgent need for profound structural changes in legal frameworks, systems of governance and human behaviour to address the existing environmental challenges (Koops, 2009). Yet, the issue of public disengagement nevertheless indicates that the rhetoric of environmental consciousness-raising does not necessarily translate into tangible actions to reform the global political economic order, and a further examination of the phenomenon of depoliticisation is key for understanding the reasons behind it.

To reiterate, consolidation of the hegemony of neoliberal capitalism is linked to a slow erosion of the political in favour of the economic and creates a technocratic version of politics that is detached from the public (Hay, 2007; Crouch, 2011). Depoliticisation can be conceptualised as the separation between the political nature of decision-making and decision-making itself (Bond et al, 2019). It does not mean the disappearance of politics, but rather the reduced visibility and subsequent scrutiny of decision-making by the members of the public. Thus, depoliticisation undermines democracy and weakens the public sphere as the consensus around the dominance of neoliberal capitalism closes the political space to the point that there are no alternatives to it left (Wilson and Swyngedouw, 2014).

Depoliticisation occurs in multiple ways. It can take place through repressing discussion and debate of important issues and differences and restricting subjects' agency (Beveridge, 2017; Bond et al, 2019). In the case of my research, the discussion around environmental and social implications of farming intensification is repressed through the changes to the discourse around it; in Chapter 5, I demonstrate that both education aimed at farmer professionalisation and the research base developed to increase profitability and efficiency of farming present efficient farming as apolitical and common-sense. Furthermore, intensification is framed as a matter of technical expertise, which is emblematic of a further retreat of conflict. Reliance on the technological solutions for reconciling economic growth and environmental and social harms from intensifying meat production also works in favour of depoliticisation as it silences potential controversies around the new developments.

Depoliticisation also signals a decline in public participation and reinforces power asymmetries in decision-making. Mouffe (2005) asserts that the very existence of consensus around neoliberal capitalism perpetuates public disengagement from politics. Engagement necessitates politicisation, but the latter can only be achieved if conflict is not only accepted but integrated in the

public sphere. Another political implication of neoliberal rationality (Brown, 2003) is the way the process of depoliticisation alters how people regard themselves as political agents (Beveridge, 2017). In the case of my research, depoliticisation in relation to environmental decision-making changes the way members of the public regard their rights in the process of decision-making, leading them to feel powerless to change the course of farming intensification. Finally, depoliticisation occurs through ostracising those who hold the powerful accountable and precluding dissent (Giroux, 2004). In addition to the markers of recognitional and procedural injustice described in Chapter 6, depoliticisation in my case manifests itself through the farming industry actors adopting a hostile perspective against the farming intensification opponents and treating them with derision.

To conclude, I suggest that the principles of environmental justice as outlined in my study and the imperatives of neoliberal capitalism follow different logics. The latter is premised on inequality, which conflicts with the principles of environmental justice. Additionally, environmental justice also implies recognising the inherent value of the natural environment, and neoliberal capitalism does not extend its value apparatus beyond the instrumental value. Not only are the principles of environmental justice not compatible with neoliberal capitalism, but reproduction of the hegemony of the latter relies on depoliticisation, which works to prevent changing the environmentally and socially harmful status quo. Despite arriving to this sombre conclusion, the next section aims to discuss some of the solutions to the existing problems.

7.5 Any solutions?

The solutions considered in this section mirror the three levels of inquiry considered in my research – macro, meso and micro.

7.5.1 Macro level solutions

Critics of the current arrangements of global environmental governance have long recognised that, when it comes to environmental change, international power structures are not neutral; there is a relationship between systems of economic accumulation responsible for generating environmental harm and systems of environmental governance in the context of global political economy (Paterson, 2000, p. 5). In order to address environmental harms (including those of intensive meat production) on the macro level, the Earth Jurisprudence paradigm appears to be fitting. It suggests that international environmental agreements will not address the ecological crisis and instead, ‘Earth desperately needs a completely new paradigm for social governance’ (Cullinan, 2011, p. 60). Such a new paradigm implies developing an Earth-centric reconceptualisation of legality, i.e. a transition from a human-centred to an Earth-centred system of law and governance (Koons, 2009). Its principles include the intrinsic value of Earth, the relational responsibility of humanity toward Earth and the democratic governance of the Earth community (Koons, 2009).

In addition to a reworking of the legal sphere, a transition from a growth economy to a degrowth society is needed. Degrowth ideas can be summed up as a reduction of the importance of

the economy in all spheres of life and prioritisation of ecological sustainability and social wellbeing. Parrique (2019) examines in detail how a structural transformation leading to a degrowth society can be achieved. First, he addresses the transformation of property, suggesting sharing possessions, democratic ownership of business and stewardship of nature. Second, Parrique considers the transformation of the world of work, mapping out how work time reduction and decent work both in its content and form (socially useful and ecologically sustainable) can be achieved. Finally, degrowth transition involves transforming money by designing a plurality of special-purpose monies (monetary diversity), regaining democratic control over monetary creation (sovereign banking), and regulating financial markets (slow finance).

7.5.2 Meso level solutions

Throughout this thesis, I demonstrated the interconnectivity between macro and meso levels of inquiry, which is why it is worth considering Northern Ireland-specific solutions on the meso level. As Chapter 3 noted, the Northern Ireland Assembly has reopened in January 2020, which marks a significant change in the country's political situation since the beginning of my research. In this context, the propositions below consider the actions the Assembly could take to both challenge farming intensification and to reform environmental decision-making forums to remedy distributional and procedural injustices.

Firstly, with the Assembly in place, there are renewed hopes that an IEPA will be established. I suggest that an IEPA is essential for improving environmental regulation in general and addressing the environmental impacts from farming in the country, such as water and air pollution, biodiversity loss and climate change. Its independent status will allow the prioritisation of environmental interests before economic interests and avoid the downward trajectory that the Northern Irish environment is currently on.

Secondly, more incentives for small-scale farming should be introduced to redistribute power in the meat supply chain. Small-scale farming is associated with a number of benefits. It preserves rural communities' local food cultures and traditions and ensures transparency of food provenance because of shorter supply chains (Kay, 2016). Small-scale family farms are also responsible for creating employment, helping to sustain rural services, and even contributing to the national character (Winter and Lobley, 2016). Small-scale farming is associated with environmental protection and contributes to the safeguarding of biodiversity (Altieri, 2009). It should be noted that it is rather dangerous to generalise that all small-scale farms are environmentally beneficial (Winter and Lobley, 2016). Nevertheless, Fairlie (2010) claims that from an environmental perspective, it will be better if humans ate less meat (and consumed sustainable meat) rather than no meat at all. First, having animals as part of a natural biodiversity cycle maintains ecological balance. Pasture-fed livestock, for instance, have a positive impact on the land and ensure that grassland-based ecology continues. Fairlie (2010) suggests that without animals it will not be possible to have a mix of forest, grassland, and arable ecologies without resorting to fire or machinery. Second, farming animals on a

small scale is the best means for capturing the nutrients that find their way onto land that is not being cultivated, and particularly for recuperating phosphates. Pigs in particular are vital for this – by consuming substandard grains and waste, they ensure that nutrients go back to the land in the form of manure. Third, small-scale farming creates elasticity in the food system. Since every food system produces waste and biomass, farming animals helps in keeping them in the food chain. They can be fed surplus grain (a necessary feed buffer to avoid starvation in bad harvest years), resulting in meat with a very low environmental impact, almost a by-product of the small-scale farming system (Fairlie, 2010). Finally, some studies conclude that small-scale, family farms are also more considerate of animal welfare (Coats, 1989; Dolan, 1986; Pollan, 2006; Kirby, 2010; Deemer and Lobao, 2011).

I have demonstrated that there is a palpable lack of incentives to support small-scale environmentally friendly farming. Agri-environmental payments make a substantial contribution to the small-scale mixed farm income and the Single Farm Payment is also essential for their viability (Winter et al, 2016). Yet, both of these support mechanisms are under threat after Brexit. Landworkers' Alliance (2017) laid out a set of policy recommendations to support small-scale farmers, echoed by the proposals from the Soil Association (n.d.) after Brexit. It included provisions such as specific infrastructure support to encourage farmers to convert to mixed farming systems and access shorter supply chains. They suggested that financial support 'will be delivered through a points-based system rather than an area based model, in a similar system to that of the Countryside Stewardship programmes' (Landworkers' Alliance, 2017, p. 12). The number of points awarded will vary according to the model of production and those opting for agroecological methods will be eligible for more points. Independent farm audits will assess agroecological methods applied on farms, thus building a foundation for a transition towards agroecological farming.

Support for small-scale environmentally friendly farming can help to address the issues around distributional environmental justice; with minimisation of environmental harms from farming intensification, the issue of their distribution will become less relevant. Yet, the issue of recognitional and procedural environmental justice remains open. A question, thus, arises – how can environmental decision-making forums be transformed on the meso level to guarantee recognitional and procedural justice? It has also been demonstrated that the principles of environmental justice cannot be guaranteed in the context of neoliberal capitalism, and the latter is not conducive to power redistribution in the processes of environmental decision-making. Therefore, it first needs to be considered what role environmental decision-making plays in facilitating systemic change and whether the political economy of capitalism that favours farming intensification can be challenged if environmental decision-making forums are transformed.

Lake (1996) is sceptical about such a prospect – he suggests that even if a community is sufficiently empowered and manages to avoid distributional injustice, it might not be motivated to call for fundamental changes in the production of environmental harms to make sure that no other community is exposed to them. Local community problems remain confined to that community alone and may not translate into the language of general values (Dryzek, 1987). Both Dryzek (2000) and

Bluhdorn (2014) state that even if environmental decision-making forums are democratic, there cannot be a guarantee that environmentally benign outcomes will be produced. While these criticisms are valid, it can still be suggested that in order to challenge farming intensification through environmental decision-making forums and ultimately subvert the political economy of capitalism, certain changes on the national level can be helpful. Mills and King (2000) suggest that democratic decision-making and environmentally benign outcomes are not mutually exclusive – a set of constitutional mechanisms should prevent an unjust distribution of environmental harms while also guaranteeing a fair procedure. In the case of Northern Ireland, such constitutional principles should include safeguarding one's right to a healthy environment, applying core environmental principles and ensuring third-party right of appeal.

The right to a clean and healthy environment is a substantive environmental right. Hall (2014) points out that no definitive right to a clean and healthy environment exists in the international law. While this right is embedded in some national constitutions, the UK is not one of them (it has no constitution). Therefore, it is highly recommended that the right to a clean and healthy environment introduced into Northern Irish legislation to ensure that environmental rights are prioritised over economic growth. Moreover, this change should be accompanied with the protection of procedural environmental rights, associated with procedural environmental justice. It has been suggested that the enforcement of both substantive and procedural environmental rights is associated with positive environmental outcomes (Gellers and Jeffords, 2018).

All of the core environmental principles are recognised within the EU (precautionary principle, preventative principle, rectifying environmental damage at source and the 'polluter pays' principles). While they are instrumental for ensuring effective environmental protection, it is crucial that their nature is respected post-Brexit, especially in a country like Northern Ireland, which is known for its environmental shortcomings (as was described in Chapter 3). Yet, enforcement of the environmental principles after the UK leaves the EU appears to be problematic. Lee (2019) suggests that the recently published Environment Bill makes the legal principles matters of policy and opens a terrain for multiple exceptions. Therefore, it is important that the equivalent or stronger legal protection of the environmental principles is guaranteed. Brennan et al (2018) also suggest that the principles should be binding in nature and be applied at all stages of decision-making. Finally, while the discussion around the third-party right of appeal has been developed earlier, it is worth reiterating that the third-party right of appeal is crucial for ensuring equality in the process of environmental decision-making and even more crucial for ensuring environmental justice. Enforcement of the third-party right of appeal should be accompanied with a more diligent compliance with the Aarhus convention in general, including its pillars of access to information and mechanisms for meaningful participation in decisions affecting one's environment. For instance, separate regulations for environmental information can be introduced to improve one's ability to exercise their active and passive rights to environmental information. The implementation of legally enforceable measures to address both distributional and procedural environmental justice on the national level is not without criticism. Swyngedouw (2009) asserts that existing decision-making processes as well as

environmental legislation foreclose genuine political debate as they operate according to a pre-defined set of rules, structuring one's behaviour. Moreover, criminological scholarship has also been critical of the legal approach for addressing environmental harms (Michałowski, 2012; Ruggiero, 2013; Stretesky et al, 2013; Pellow, 2018). Yet, I believe that the state and legal system on the macro and meso levels can still contribute to progressive change, yet such change should be accompanied by the micro level developments, which are discussed in the next subsection.

7.5.3 Micro level solutions

First, I ask how environmental decision-making forums can be transformed to remedy distributional, recognitional and procedural injustices as well as address the issue of depoliticisation identified in my research. Making sure that a plurality of contesting interests is accommodated is the first step. My research showed that the pursuit of 'common interest' in the decision-making regarding new pig farms is tantamount to protecting dominant economic interests, rather than those of the environment or the people. To guarantee a just procedure and outcome, it is suggested that groups with different interests, be they economic or environmental, should heed the concerns of others and be willing to find solutions to their collective problems (Young, 2000). Inclusion of a wide range of interests and needs leads to participants framing their arguments not as claims of self-interest, but as appeals to justice, and enables them to learn from each other to make just decisions (Young, 2000). Second, Bohman (1997) suggests that public capacities need to be developed further to alleviate inequalities that exist between those who dominate the decision-making process and those whose input does not influence the process. Public capacity implies the capacity to be effective in public debate and discussion. Deepening of capacities will encourage a social transformation where economic activities, including meat production, are seen 'not as an end but as a means toward democratically determined forms of human development' (Bowles and Gintis, 1986, p. 178). This argument resonates with Nussbaum's (1997) idea of political capabilities, where the latter allows an increase of opportunities to hold those in power accountable and to influence institutional and policy outcomes.

However, both suggestions also risk being perceived as cosmetic adjustments, considering the earlier mentioned power inequalities. The previous section also suggested that the current political economic regime may not be able to accommodate the institutional conditions necessary to achieve environmental justice; the recommendations above do little to challenge the prevalence of the existing power relations in the decision-making forums and create meaningful participation as they ensure that those included are conforming to hegemonic norms (Young, 2000). Therefore, what is long overdue is not a mere inclusion and development of public capacities, but rather a structural transformation of decision-making forums to ensure that they are resolving social and environmental problems in a just way. The question that really needs to be asked is how this transformation can take place to recalibrate the balance of power in decision-making forums, challenge intensive meat production and ultimately challenge the political economy of neoliberal capitalism. Fraser (1997)

calls this a transformative remedy for injustice, which is aimed at rectifying uneven outcomes by reengineering the underlying framework. It can also be labelled as a procedural redistribution of power.

On the micro level, the structural transformation of the underlying framework can be elicited, according to Young (2001), through activism. An activist, according to her, sees the existing decision-making arrangements as reinforcing injustice because the structural arrangements within them are too restrictive. The wrongs that decision-making structures perpetuate cannot be addressed within them. An activist, thus, is in tension with the existing decision-making arrangements, and challenges relations of power rather than engaging with them. It can be done through opposing particular actions, systems of policies or actions as well as demanding action to reduce injustice or harm (Young, 2003). It is through this opposition that activism that challenges power relations in decision-making forums intersects with activism aimed against farming intensification. The latter can focus on animal welfare and animal rights or environmentalism. The two do not need to be in opposition – Fitzgerald (2019) claims that the two movements can be brought together by their concern about climate change. Challenging intensive farming as a contributor to global greenhouse gas emissions can strengthen the activists' agenda and bring about change in both meat production practices and political economic regimes.

Activism aimed against farming intensification can also take place through changing one's diet, especially in light of the importance of societal context for meat production increases (as described in Chapter 5). The assumption that consumption of animal-based protein is a necessary and desirable act, according to Lundström (2018), submits to the speciesist logic that acts as the main driver of global capitalism. Therefore, one needs to question how this logic can be escaped. One of the answers is adopting a plant-based diet. As I stated before, over 56 billion farmed animals are killed every year by humans (Animal Equality, 2019), which does not include fish and other sea animals whose deaths are only measured in tonnes. Yet, that violates the rights of nonhuman animals not to be exploited, confined, separated from their kin, and killed, all of which occur in both intensive farming systems (to a larger extent), and small-scale farming systems (to a smaller extent). Moreover, a plant-based diet provides an opportunity to balance the relationship between non-human animals and humans, and to challenge the ingrained domination of humans over other species that defines the current speciesist status quo. The exploitation inherent in the processes of animal farming is synonymous with the exploitation inherent in the capitalist economic model (Kidby, 2017). Adopting a plant-based diet, therefore, opens a possibility of challenging predatory capitalism and can inspire other campaigns against injustice.

These avenues for activism aimed against farming intensification may lead to a change in environmental decision-making forums as the two are closely linked. Activism against farming intensification ultimately challenges the balance of power between individuals and communities and the farming industry, and that same balance of power is the key issue in environmental decision-making. Activism is not an immediate solution – it is a process, often long and challenging. But as a

process it gives hope for a better future, a future where intensive meat production is an unpleasant memory of the past and no community or individual should suffer its consequences.

To summarise, the solutions proposed here include a new vision of jurisprudence and a political economy of degrowth on the macro level. In the case of Northern Ireland specifically, I suggest that several developments should be encouraged on the national level to address both the issues around environmental justice and farming intensification. An IEPA should be established and constitutional guarantees such as safeguarding one's right to a healthy environment, applying core environmental principles and ensuring a third-party right of appeal should be enforced. Moreover, the Aarhus convention should be complied with more effectively. More incentives for small-scale farming should also be introduced to redistribute power in the meat supply chain and the use of agroecological methods in farming should be incentivised to transition towards more environmentally friendly outcomes. On the local level, a structural transformation of decision-making forums is necessary to ensure that they are resolving social and environmental problems in a just way. Such a transformation can be initiated through activism that challenges power relations in decision-making forums and activism aimed against farming intensification. Yet, micro-resistance should be accompanied with redistribution of power in decision-making forums on the national level and the reform proposals described above contribute to it. Additionally, a macro level implementation of a vision of Earth Jurisprudence and degrowth should also be taking place to address the existing environmental challenges more broadly and those associated with global food production more specifically. Macro, meso and micro level solutions are, thus, in tandem and should take place simultaneously.

7.6 Future research directions

In terms of future research, I suggest that the trajectory of food harm research in criminology should continue to expand and far-reaching implications of food harms need to be further analysed and theorised. In relation to environmental justice, more research needs to be done on non-minority populations that do not face immediate discrimination; future research avenues should continue exploring procedural (in)justice and the role of capabilities for achieving justice. Such research can also focus on potential solutions and the new ways of recalibrating the balance of power in the decision-making forums to ultimately identify new ways of challenging the political economy of neoliberal capitalism both top-down through the state and legal system and bottom-up through activism.

This chapter also initiated the discussion on the compatibility of environmental justice and the ideology of neoliberal capitalism; their relationship requires further scrutiny, especially in light of the global scale of the threat that neoliberal capitalism poses to democratic institutions. Democratic and participatory decision-making is an essential condition of environmental justice, and this condition has been corroded by the power relations that support the existing political economic system. The issue of depoliticisation can also be discussed through a green criminological lens – for

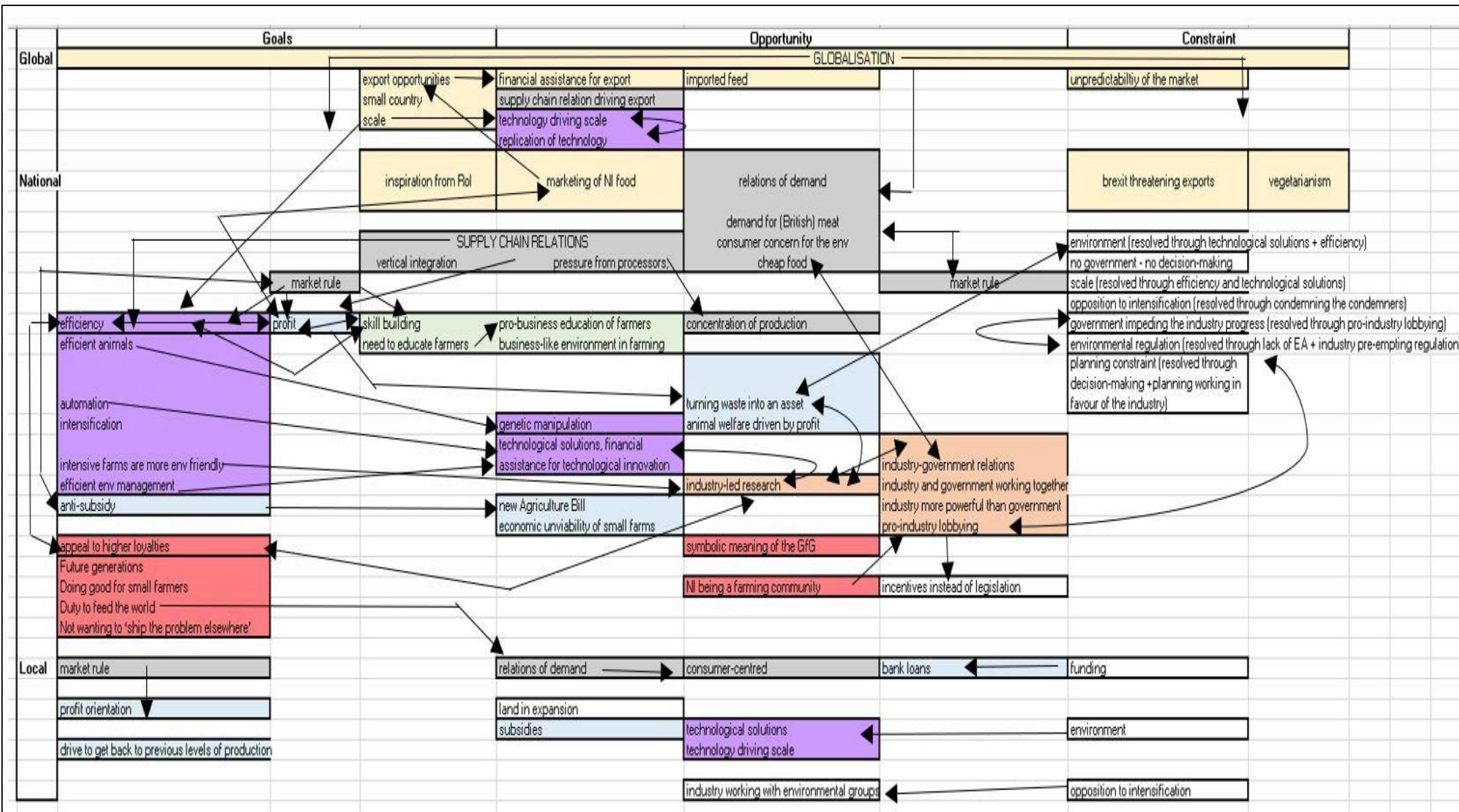
instance, through a conceptualisation of harms resulting from depoliticisation of environmental issues. Moreover, further research on depoliticisation in environmental decision-making can expand on the effects of the ideology of neoliberal capitalism on one's ability to exercise their procedural rights in environmental matters and examine how the hegemonic nature of neoliberal capitalism affects one's regard of such rights. The latter can also be considered through the lens of crimes of the powerful. Rothe (2020) emphasises the symbiotic relationship of state and corporations with power in the context of neoliberalism; future research should enhance our understanding of this relationship and reveal its effects on democratic institutions. Hopefully, this understanding will encourage the much-needed system change in the face of the unfolding ecological crisis.

Appendix 1: Interview list

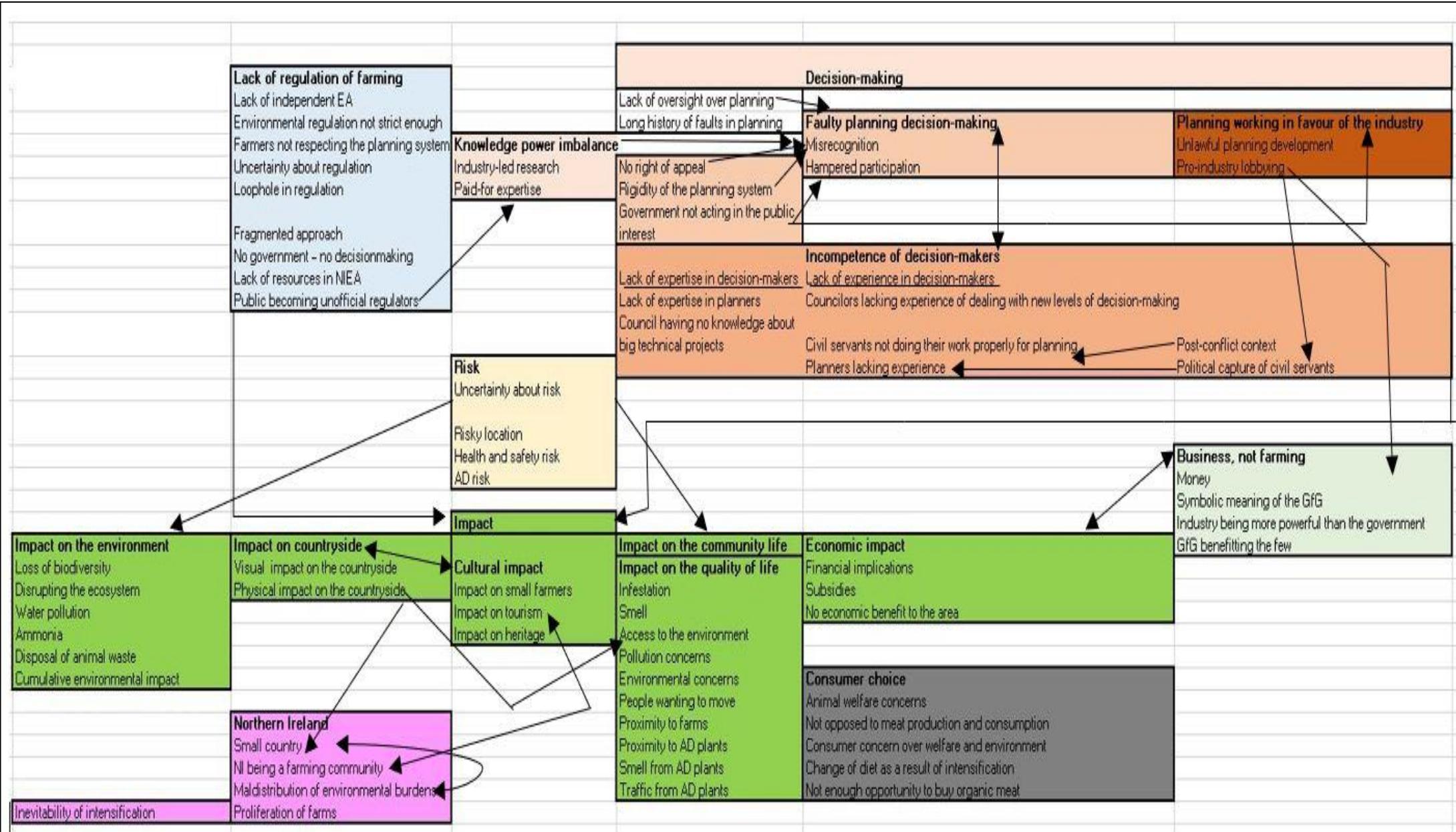
| Code | Date of interview | Interview category |
|-------------|--------------------------|--|
| COM001 | 04 December 2018 | Local residents |
| COM002 | 14 December 2018 | Local residents |
| COM003 | 14 December 2018 | Local residents |
| COM004 | 14 December 2018 | Local residents |
| COM005 | 14 December 2018 | Local residents |
| COM006 | 14 December 2018 | Local residents |
| COM007 | 17 December 2018 | Local residents |
| COM008 | 21 January 2019 | Local residents |
| COU001 | 15 December 2018 | Government |
| COU002 | 16 December 2018 | Government |
| DAERA001 | 26 November 2018 | Government |
| InvestNI001 | 28 November 2018 | Government |
| InvestNI002 | 20 December 2018 | Government |
| MLA001 | 11 December 2018 | Government |
| MLA002 | 17 December 2018 | Government |
| FAR001 | 12 December 2018 | Farming industry |
| FAR002 | 14 December 2018 | Farming industry |
| FAR003 | 17 December 2018 | Farming industry |
| UFU001 | 08 November 2018 | Farming industry |
| UFU002 | 11 December 2018 | Farming industry |
| UFU003 | 13 December 2018 | Farming industry |
| RET001 | 22 November 2018 | Farming industry |
| AFSB001 | 07 November 2018 | Farming industry |
| AFSB002 | 18 December 2018 | Farming industry |
| NGO001 | 13 December 2018 | NGO |
| NGO002 | 13 December 2018 | NGO |
| NGO003 | 13 December 2018 | NGO |
| NGO004 | 13 December 2018 | NGO |
| CIT001 | 18 December 2018 | Public-spirited citizen and researcher |

Appendix 2: Findings diagrams

Respondents supporting and reinforcing pig farming intensification:



Respondents living in close proximity to intensive farms:



Bibliography

- Aas, K. (2013), *Globalization and Crime* (London: SAGE Publications).
- AHDB (2013), 'Northern Ireland Pig Industry Overview', (AHDB).
- AFBI (2015a), 'Research to drive sustainable pig production', (Hillsborough: AFBI).
- 'AFBI pig conference 2015 charts way forward for Northern Ireland pig industry', <<https://www.afbini.gov.uk/news/afbi-pig-conference-2015-charts-way-forward-northern-ireland-pig-industry>>, accessed 27/01/2019.
- 'AFBI Stakeholder Open Meeting', <<https://www.afbini.gov.uk/publications/afbi-stakeholder-open-meeting-1-june-2017-presentations>>, accessed 02/11/2018.
- AFSB (2013), 'Going for Growth. A Strategic Action Plan In Support Of The Northern Ireland Agri-Food Industry', (Belfast).
- (2016), 'Delivering Growth - An update on actions to support the NI agri-food industry', (Belfast).
- (2017), 'Members', <<https://wayback.archive-it.org/11112/20170901011318/http://www.agrifoodstrategyboard.org.uk/members>>, accessed 07/07/2018.
- AgendaNi (n.d.), 'Reform and deadlock', <<https://www.agendani.com/reform-and-deadlock/>>, accessed 01/12/2018.
- Agnew, R. (1998), 'The causes of animal abuse: a social-psychological analysis', *Theoretical Criminology*, 2 (2), 177-209.
- (2001), 'An Overview of General Strain Theory', in R. Paternoster and R. Bachman (eds.), *Explaining Criminals and Crime* (Los Angeles: Roxbury), 35-54.
- (2013), 'The Ordinary Acts that Contribute to Ecocide: A Criminological Analysis', in A. Brisman and N. South (eds.), *Routledge International Handbook of Green Criminology* (London: Routledge), 134-167.
- Agri-food Quest (2020), 'Who are we?', <<http://agrifoodquest.com/>>, accessed 15/07/2019.
- Agyeman, J. and Evans, B. (2004), "Just sustainability": the emerging discourse of environmental justice in Britain?', *The Geographical Journal*, 170 (2), 155-64.
- Alkon, A. (2013), 'The Socio-Nature of Local Organic Food', *Antipode*, 45 (3), 663-80.
- Allen, M. (2016), 'Northern Ireland's agri-food sector – background and possible 'Brexit' considerations', (Belfast).
- Allmendinger, P. and Haughton, G. (2012), 'Post-political spatial planning in England: a crisis of consensus?', *Transactions of the Institute of British Geographers*, 37 (1), 89-103.
- Althusser, L. (1971), *Freud and Lacan and 'Ideology and Ideological State Apparatuses* (London: New Left Books).
- Altieri, M. (2009), 'Agroecology, Small Farms, and Food Sovereignty', *Monthly Review*, 61 (3), 102-02.
- Anfara, V. and Mertz, N. (2006), *Theoretical frameworks in qualitative research* (Thousand Oaks and London: Sage).
- Apostolopoulou, E. (2019), 'Beyond post-politics: Offsetting, depoliticisation, and contestation in a community struggle against executive housing', *Transactions of the Institute of British Geographers*, 0, 1-17.
- Archer, M. (2003), *Structure, Agency and the Internal Conversation* (New York: Cambridge University Press).
- Archer, M., Decoteau, C., Gorski, P., Little, D., Porpora, D., Rutzou, T., Smith, C., Steinmetz, G. (2016), 'What Is Critical Realism?', *Perspectives*, 38 (2), 4-9.
- Arnstein, S. (1969), 'A ladder of citizen participation', *Journal of the American Planning Association*, 35 (4), 216-24.
- Ashwood, L. and Mactavish, K. (2016), 'Tyranny of the majority and rural environmental injustice', *Journal of Rural Studies*, 47, 271-77.
- Attorp, A. and McAreavey, R. (2020), 'Muck, brass and smoke: Policy post-exceptionalism in the agri-food sector', *Journal of Rural Studies*, 79, 302-10.
- Aulette, J. and Michalowski, R. (1993), 'Fire in Hamlet: A case study of a state-corporate crime', in K. D. Tunnell (ed.), *Political Crime in Contemporary America* (New York: Garland), 171-206.

- Bachrach, P. and Baratz, M. (1970), *Power and Poverty* (Oxford: Oxford University Press).
- Ban, C. (2016), *Ruling Ideas: How Global Neoliberalism Goes Local* (New York: Oxford University Press).
- Barak, G. (1991), *Crimes by the Capitalist State. An Introduction to State Criminality* (Albany: State University of New York Press).
- (2015a), *The Routledge International Handbook of the Crimes of the Powerful* (London and New York: Routledge).
- (2015b), 'Introduction: On the Invisibility and Neutralization of the Crimes of the Powerful and their Victims', in G. Barak (ed.), (London, New York: Routledge), 1-12.
- (2017), *Unchecked Corporate Power* (London: Routledge).
- Bardach, E. and Kagan, R. (1982), *Going by the Book: The Problem of Regulatory Unreasonableness* (Philadelphia: Temple University Press).
- Barry, B. (1999), 'Sustainability and Intergenerational Justice', in A. Dobson (ed.), *Fairness and Futurity: Essays on Environmental Sustainability and Social Justice* (Oxford: Oxford University Press), 93-117.
- Barry, J. (2009), "It Ain't Easy Being Green": Sustainable Development between Environment and Economy in Northern Ireland", *Irish Political Studies*, 24 (1), 45-66.
- Barton, A., Corteen, K., Scott, D. and Whyte, D. (2007), *Expanding the Criminological Imagination* (Devon: Willan Publishing).
- Baxter, B. (2005), *A Theory of Ecological Justice* (New York, London: Routledge).
- BBC News (2016), 'RHI scandal: RHI 'cash for ash' scandal to cost NI taxpayers £490m', <<https://www.bbc.co.uk/news/uk-northern-ireland-38414486>>, accessed 04/04/2019.
- (2018), 'Auditor calls for an investigation into anaerobic digester subsidies', <<https://www.bbc.co.uk/news/uk-northern-ireland-46213976>>, accessed 10/04/2019.
- (2020), 'Edwin Poots 'not convinced' by incineration arguments', <<https://www.bbc.co.uk/news/uk-northern-ireland-51218646>>, accessed 12/11/2020.
- Beck, U. (1997), *The Reinvention of Politics: Rethinking Modernity in the Global Social Order* (Cambridge: Polity Press).
- Beirne, P. (2014), 'Theriocide: Naming Animal Killing', *International Journal for Crime, Justice and Social Democracy*, 3 (2), 49-66.
- Beirne, P. and South, N. (2007), *Issues in Green Criminology: Confronting Harms Against Environments, Humanity and Other Animals* (Cullompton: Willan Publishing).
- Bell, M., Tang, Y., Dragosits, U., Flechard, C., Ward, P., Braban, C. (2016), 'Ammonia emissions from an anaerobic digestion plant estimated using atmospheric measurements and dispersion modelling', *Waste Management*, 56, 113-24.
- Bensman, J. and Gerver, I. (1963), 'Crime and Punishment in the Factory: The Function of Deviancy in Maintaining the Social', *Source: American Sociological Review*, 28 (4), 588-98.
- Benson, M. and Simpson, S. (2009), *White-collar crime: An opportunity perspective* (New York: Routledge).
- Bernat, I. and Whyte, D. (2017), 'State-Corporate Crime and the Process of Capital Accumulation: Mapping a Global Regime of Permission from Galicia to Morecambe Bay', *Critical Criminology*, 25, 71-86.
- Bernstein, M. (1955), *Regulating Business by Independent Commission* (Princeton: Princeton University Press).
- Beveridge, R. (2017), 'The (Ontological) Politics in Depoliticisation Debates: Three Lenses on the Decline of the Political', *Political Studies Review*, 15 (4), 589-600.
- Bhaskar, R. (1978), *A realist theory of science* (Brighton: Harvester Press).
- (2008), *A realist theory of science* (London and New York: Routledge).
- (2010), 'Contexts of Interdisciplinarity', in R. Bhaskar, et al. (eds.), *Interdisciplinarity and Climate Change* (New York: Routledge), 1-26.
- Bhaskar, R. and Lawson, T. (1998), 'Introduction: Basic texts and developments', in M. Archer, et al. (eds.), *Critical Realism* (London: Routledge), 24-53.
- Birnie, E. and Hitchens, D. (1998), 'An Economic Agenda For the Northern Ireland Assembly', *Regional Studies*, 32 (8), 769-87.

- Birt, L., et al. (2016), 'Member Checking: A Tool to Enhance Trustworthiness or Merely a Nod to Validation?', *Qualitative Health Research*, 26 (13), 1802-11.
- Bishop, P. and Davis, G. (2002), 'Mapping public participation in policy choices', *Australian Journal of Public Administration*, 61 (1), 14-29.
- Bisschop, L., Strobl, S., and Viollaz, J. (2018), 'Getting Into Deep Water: Coastal Land Loss and State-Corporate Crime in the Louisiana Bayou', *British Journal of Criminology*, 58, 886-905.
- Bittle, S., et al. (2018), 'An Introduction', in S. Bittle, et al. (eds.), *Revisiting Crimes of the Powerful. Marxism, Crime and Deviance* (London, New York: Routledge), 10-27.
- Blair, N., Berry, J., and McGreal, S. (2007), 'Regional Spatial Policy for Economic Growth: Lessons from the Deployment of Collaborative Planning in Northern Ireland', *Urban Studies*, 44 (3), 439-55.
- Blanchette, A. (2020), *Porkopolis: American Animality, Standardized Life, and the Factory Farm* (Durham: Duke University Press).
- Blaney, D. and Inayatullah, N. (2010), 'Undressing the wound of wealth', in J. Best and M. Paterson (eds.), *Cultural Political Economy* (Oxon, New York: Routledge), 158-172.
- Blechman, M., Chari, A., and Hasan, R. (2005), 'Democracy, Dissensus and the Aesthetics of Class Struggle: An Exchange with Jacques Rancière', *Historical Materialism*, 13 (4), 285-301.
- Blom, B. and Moren, S. (2011), 'Analysis of Generative Mechanisms', *Journal of Critical Realism*, 10 (1), 60-79.
- Blühdorn, I. (2014), 'Post-ecologist governmentality: post-democracy, post-politics and the politics of unsustainability', in J. Wilson and E. Swyngedouw (eds.), *The Post-Political and its Discontents: Spaces of Depoliticisation, Spectres of Radical Politics* (Edinburgh: Edinburgh University Press), 146-66.
- Blumer, H. (1969), *Symbolic interactionism; perspective and method* (Englewood Cliffs: Prentice-Hall).
- Boekhout van Solinge, T. (2010), 'Deforestation Crimes and Conflicts in the Amazon', *Critical Criminology*, 18 (4), 263-77.
- Bohman, J. (1997), *Deliberative Democracy: Essays on Reason and Politics* (Boston: MIT Press).
- Bond, S., Diprose, G., and Thomas, A. (2019), 'Contesting deep sea oil: Politicisation– depoliticisation– repoliticisation', *Environment and Planning C: Politics and Space*, 37 (3), 519-38.
- Bonds, E. and Downey, L. (2012), 'Green Technology and Ecologically Unequal Exchange: The Environmental and Social Consequences of Ecological Modernization in the World-System', *Journal of World-Systems Research*, 18 (2), 167-86.
- Bonnano, A. and Busch, L. (2015), 'Introduction', in A. Bonnano and L. Busch (eds.), *Handbook of the International Political Economy of Agriculture and Food* (Cheltenham: Elgar Publishing), 10-18.
- Borgmann, A. (2017), 'Justice and technology', in M. McGuire and T. Holt (eds.), *The Routledge Handbook of Technology, Crime and Justice* (London: Routledge), 675-83.
- Bostrom, M. (2012), 'A Missing Pillar? Challenges in theorizing and practicing social sustainability', *Sustainability: Science, Practice, and Policy*, 8 (1), 3-14.
- Bourdieu, P. (1984), *Distinction* (Cambridge: Harvard University Press.).
- (1990), *The Logic of Practice* (Cambridge: Polity Press).
- Bowles, S. and Gintis, H. (1986), *Democracy and Capitalism* (London: Basic Books).
- Bradshaw, E. (2014), 'State-Corporate Environmental Cover-Up: The Response to the 2010 Gulf of Mexico Oil Spill', *State Crime*, 3 (2), 163-81.
- Brannen, J. (2012), 'Expert voices', in S. Baker and R. Edwards (eds.), *National Centre for Research Methods Review Paper* (Southampton: National Centre for Research Methods), 16-17.
- Braun, V. and Clarke, V. (2006), 'Using thematic analysis in psychology', *Qualitative Research in Psychology*, 3, 77-101.
- Brennan, C. (2013), 'The Enforcement of Environmental Regulation in Northern Ireland: A Story of Politics, Penalties and Paradigm Shifts?', PhD Thesis, Queen's University Belfast.
- Brennan, C., Purdy, R., and Hjerp, P. (2017), 'Political, economic and environmental crisis in Northern Ireland: the true cost of environmental governance failures and opportunities for reform', *Northern Ireland Legal Quarterly*, 68 (2), 123-57.

- Brennan, C., Dobbs, M., and Gravey, V. (2019), 'Out of the Frying Pan, Into the Fire? Environmental Governance Vulnerabilities in Post-Brexit Northern Ireland', *Environmental Law Review*, 21 (2), 84-110.
- Brennan, C., et al. (2018), 'Policy Paper: The Future of Environmental Governance in Northern Ireland', (Belfast, Newcastle).
- Brisman, A. (2007), 'Crime-Environment Relationships and Environmental Justice', *Seattle Journal for Social Justice*, 6 (2).
- Brisman, A. and South, N. (2016), 'Methodological innovations and ethical challenges in green criminology', in M. Cowburn, L. Gelsthorpe, and A. Wahidin (eds.), (London, New York: Routledge), 267-98.
- (2018), 'Green Criminology and Environmental Crimes and Harms', *Sociology Compass*, 13, 1-12.
- Brisman, A., McClanahan, B., and South, N. (2014), 'Toward a Green-Cultural Criminology of "the Rural"', *Critical Criminology*, 22 (4), 479-94.
- Brisman, Avi (2013), 'The violence of silence: some reflections on access to information, public participation in decision-making, and access to justice in matters concerning the environment', *Crime, Law & Social Change*, 59, 291-303.
- Brown, W. (2003), 'Neo-liberalism and the End of Liberal Democracy', *Theory&Event*, 7 (1).
- (2015), *Undoing the Demos* (New York: Zone Books).
- Bryman, A. (2012), *Social research methods* (4th edition; Oxford: Oxford University Press).
- Bullard, D. and Wright, B. (2009), *Race, Place, and Environmental Justice After Hurricane Katrina* (Boulder: Westview Press).
- Bullard, R. (1990), *Dumping in Dixie: Race, class, and environmental quality* (Boulder: Westview).
- (1993), *Confronting Environmental Racism: Voices from the Grassroots* (Boston: South End Press).
- (2005), *The Quest for Environmental Justice: Human Rights and the Politics of Pollution* (San Francisco: University of California Press).
- Bullers, S. (2005), 'Environmental Stressors, Perceived Control, and Health: The Case of Residents Near Large-Scale Hog Farms in Eastern North Carolina', *Human Ecology*, 33 (1), 1-16.
- Burch, D. and Lawrence, G. (2009), 'Towards a third food regime: behind the transformation', *Agriculture and Human Values*, 26 (4), 267-79.
- Burkholder, J., et al. (2007), 'Impacts of Waste from Concentrated Animal Feeding Operations on Water Quality', *Environmental Health Perspectives*, 115 (2), 308-12.
- Burns, C., Gravey, V., and Jordan, A. (2018), 'UK Environmental Policy Post-Brexit: A Risk Analysis: A report commissioned by Friends of the Earth England, Wales and Northern Ireland', (London).
- Burton, D. (2000), *Research training for social scientists : a handbook for postgraduate researchers* (London: SAGE Publications).
- Bustos, B., Folchi, M., and Fragkou, M. (2017), 'Coal mining on pastureland in Southern Chile; challenging recognition and participation as guarantees for environmental justice', *Geoforum*, 84, 292-304.
- Bygstad, B., Munkvold, B., and Volkoff, O. (2015), 'Identifying generative mechanisms through affordances: a framework for critical realist data analysis', *Journal of Information Technology*, 31 (1), 83-96.
- CAFRE (2020), 'Discover CAFRE', <<https://www.cafre.ac.uk/wp-content/uploads/2020/06/CAFRE-2021-entry-HE-prospectus.pdf>>, accessed 15/06/2019.
- Carolan, M. (2005), 'Society, biology and ecology', *Organisation&Environment*, 18 (4), 393-421.
- Carrabine, E., et al. (2009), *Criminology: A Sociological Introduction* (2nd edition; Oxford: Routledge).
- Casey, J., et al. (2015), 'Industrial Food Animal Production and Community Health', *Current Environmental Health Report*, 2, 259-71.
- Cave, S. (2016), 'Northern Ireland's environment background and potential 'Brexit' considerations', (Belfast).
- Cave, S. (2013), 'Community Planning', in Northern Ireland assembly research and information service (RaISe). Environmental Committee of the Northern Ireland (UK). <<http://www.niassembly.gov.uk/globalassets/documents/raise/publications/2013/environment/11913.pdf>>, accessed 12/12/2019.

- Chakraborty, J. (2017), 'Focus on environmental justice: new directions in international research', *Environmental Research Letters*, 12, 30201-01.
- Chambliss, W. (1989), 'State Organised Crime', *Criminology*, 27 (2), 183-208.
- Chambliss, W., Michalowski, R., and Kramer, R. (2010), *State Crime in the Global Age* (London: Willan Publishing).
- Cheng, H. (2011), 'Cheap capitalism: A sociological study of food crime in China', *British Journal of Criminology*, 52 (2), 254-73.
- Cheshire, L. and Lawrence, G. (2005), 'Reshaping the state: global/local networks of association and the governing of agricultural production', in V. Higgins and G. Lawrence (eds.), *Agricultural Governance: Globalization and the New Politics of Regulation* (London, New York: Routledge), 252-67.
- Clapp, J. (2012), *Food* (Cambridge: Polity Press).
- Clark, B. and Foster, J. (2001), 'William Stanley Jevons and the Coal Question: An Introduction to Jevons's "Of the Economy of Fuel"', *Organization & Environment*, 14, 93-98.
- Coats, C. (1989), *Old MacDonald's factory farm* (New York: Continuum Publishing).
- Cohen, S. (2001), *States of denial : knowing about atrocities and suffering* (Cambridge: Polity Press).
- Collin, R. and Collin, R. (2015), 'Environmental justice and sustainability', in M. Redclift and D. Springett (eds.), *Routledge International Handbook of Sustainable Development* (London, New York: Routledge), 209-22.
- Collins, C. and Stockton, C. (2018), 'The Central Role of Theory in Qualitative Research', *International Journal of Qualitative Methods*, 17, 1-10.
- Compassion in World Farming (2012), 'Freshwater Use And Farm Animal Welfare', (Surrey).
- 'UK Factory Farming Map', <<https://www.ciwf.org.uk/factory-farm-map/#pig/all>>, accessed 21/03/2020.
- Copson, L. (2018), 'Beyond "Criminology vs. Zemiology": Reconciling Crime with Social Harm', in A. Boukli and J. Kotze (eds.), *Zemiology: reconnecting crime and social harm* (London, New York: Palgrave Macmillan), 358-98.
- Countryside Survey (2007), 'UK Countryside Survey Results from 2007', (Bangor).
- Cowell, Richard (2004), 'Community Planning: Fostering Participation in the Congested State?', *Local Government Studies*, 30 (4), 497-518.
- Creamer, C., et al. (2017), 'After Brexit: 10 key questions for rural policy in Northern Ireland', (Newcastle upon Tyne).
- Croall, H. (2007), 'Victims of White-Collar and Corporate Crime', in P. Davies, P. Francis, and C. Greer (eds.), *Victims, Crime and Society* (Los Angeles, London, New Dehli, Singapore: SAGE Publications), 187-99.
- (2012), 'Food crime: A Green Criminology Perspective', in N. South and A. Brisman (eds.), *Routledge International Handbook of Green Criminology* (London: Routledge), 321-45.
- Crouch, C. (2004), *Post-democracy (Themes for the 21st Century)* (Cambridge: Polity Press).
- (2011), *The strange non-death of neoliberalism* (Malden: Wiley).
- Cruciotti, T. and Matthews, R. (2006), 'The Exxon Valdez Oil Spill', in R. Michalowski and R. Kramer (eds.), *State Corporate Crime: Wrongdoing at the Intersection of Business and Government* (New Brunswick, N.J.: Rutgers University Press), 149-71.
- Culley, M. and Hughey, J. (2007), 'Power and Public Participation in a Hazardous Waste Dispute: A Community Case Study', *American Journal of Community Psychology*, 41, 99-114.
- Cullinan, C. (2011), *Wild law: A manifesto for earth justice* (2nd edn.: Green Books).
- Culpepper, P. (2011), *Quiet Politics and Business Power* (New York: Cambridge University Press).
- Curran, D. (2017), 'The Treadmill of Production and the Positional Economy of Consumption', *Canadian Review of Sociology/Revue canadienne de sociologie*, 54 (1), 28-47.
- Czarnezki, J. and Fiedler, K. (2016), 'The Neoliberal Turn in Environmental Regulation', *Utah Law Review*, 1, 1-40.
- DAERA (2000), 'The Agricultural Census in Northern Ireland. Results for June 2000', (Belfast).
- (2012), 'The Agricultural Census in Northern Ireland - Results for June 2012', (Belfast).
- (2016a), 'The Agricultural Census in Northern Ireland - Results for June 2015', (Belfast).
- (2016b), 'Going for Growth update period ending 30 September 2016', (Belfast).

- (2018a), 'The Agricultural Census in Northern Ireland - Results for June 2017', (Belfast).
- (2018b), 'Farm Incomes in Northern Ireland 2016/17', (Belfast).
- (2018c), 'DAERA Stakeholder Forum on Ammonia', (Belfast).
- (2018d), 'Farm numbers in Northern Ireland 1981 to 2017', (Belfast).
- (2018e), 'Statistical Review of Northern Ireland Agriculture 2017', (Belfast).
- 'New Nitrates Action Programme and Derogation approved', <<https://www.daera-ni.gov.uk/news/new-nitrates-action-programme-and-derogation-approved>>, accessed 12/02/2020.
- 'Ammonia emissions in Northern Ireland', <<https://www.daera-ni.gov.uk/articles/ammonia-emissions-northern-ireland>>, accessed 26/04/2019.
- (2019c), 'About DAERA | Department of Agriculture, Environment and Rural Affairs'.
- (2020), 'The Agricultural Census in Northern Ireland - Results for June 2019', (Belfast).
- DAERA and NIEA (2015), 'Nitrates Action Programme 2015-2018 and Phosphorus Regulations Guidance Booklet', (Cookstown, Lisburn).
- (2016), 'Regulatory Position Statement - Anaerobic digestion of agricultural manure and slurry', (Belfast: DAERA, NIEA).
- (2018), 'Northern Ireland Environmental Statistics Report', (Belfast: DAERA, NIEA).
- Damron, W. (2009), *Introduction to Animal Science: Global, Biological, Social, and Industry Perspectives* (Upper Saddle River, NJ: Pearson Prentice Hall).
- Datta, R. (2018), 'Theorizing fiscal sacrifices in zombie capitalism', in S. Bittle, et al. (eds.), *Revisiting Crimes of the Powerful* (London: Routledge), 232-51.
- Daugbjerg, C. and Swinbank, A. (2012), 'An introduction to the 'new' politics of agriculture and food', *Policy and Society*, 31 (4), 259-70.
- Davies, I. (2019), 'NI farmers facing tougher slurry spreading controls', Farmers Weekly, <<https://www.fwi.co.uk/business/compliance/nvzs/ni-farmers-facing-tougher-slurry-spreading-controls>>, accessed 12/11/2019.
- Davies, J. (2018), 'From severe to routine labour exploitation: The case of migrant workers in the UK food industry', *Criminology & Criminal Justice*, 1-17.
- De Geus, M. (2004), 'The environment versus individual freedom and convenience', in Y. Levy and M. Wissenburg (eds.), *Liberal Democracy and Environmentalism* (London: Taylor & Francis Group), 89-103.
- Deacon, L. and Baxter, J. (2013), 'No opportunity to say no: a case study of procedural environmental injustice in Canada', *Journal of Environmental Planning and Management*, 56 (5), 607-23.
- Debbané, A. and Keil, R. (2004), 'Multiple disconnections: environmental justice and Urban water in Canada and South Africa', *Space and Polity*, 8 (2), 209-25.
- Deemer, D. and Lobao, L. (2011), 'Public Concern with Farm-Animal Welfare: Religion, Politics, and Human Disadvantage in the Food Sector', *Rural Sociology*, 76 (2), 167-96.
- DEFRA (2018a), 'Health and Harmony: the future for food, farming and the environment in a Green Brexit', (London: DEFRA).
- (2018b), 'Defra Evidence and Analysis Paper. Agriculture Bill: Analysis and Economic Rationales for Government Intervention', (London: DEFRA).
- Del Prado-Lu, J. (2019), 'Impact of hazardous substances and pesticides on farmers and farming communities', in A. Gray and R. Hinch (eds.), *A Handbook of Food Crime: Immoral and Illegal Practices in the Food Industry and What to Do About Them* (Bristol: Policy Press), 316-33.
- Department for Infrastructure (2012), 'Attwood's proposals to ease planning rules for farmers', <https://www.planningni.gov.uk/de/index/news/doe_planning_news/news_newsreleases_archive/news_releases_2012/planning_rules_farmers.htm>, accessed 03/05/2019.
- Department of the Environment (2009), 'Northern Ireland Environmental Statistics Report', (Belfast: Department of the Environment).
- (2014), 'Information Leaflet 16. Pre-Application Community Consultation Guidance', (Belfast: Department of the Environment).
- (2016), 'Statement of Community Involvement (SCI)', (Belfast: Department of the Environment).
- Desmond, M. (2004), 'Methodological challenges posed in studying an elite in the field', *Area*, 36 (3), 262-69.

- Devenish Nutrition (2019), 'Pig Projects', <<https://www.devenishnutrition.com/research-development/pig-research/pig-projects>>, accessed 12/08/2019.
- Devlin, J. and Yap, N. (2008), 'Contentious politics in environmental assessment: blocked projects and winning coalitions', *Impact Assessment and Project Appraisal*, 26 (1), 17-27.
- Dixon, P. and O'Kane, E. (2011), *Northern Ireland Since 1969* (Harlow: Pearson Education).
- Dobbs, M., et al. (2018), 'Blog: What is the future of environmental governance in Northern Ireland?', <<http://qpol.qub.ac.uk/future-of-environmental-governance-northern-ireland/>>, accessed 03/09/2019.
- Dobson, A. (1998), *Justice and the Environment: Conceptions of Environmental Sustainability and Theories of Distributive Justice* (Oxford: Oxford University Press).
- Dolan, E. (1986), *Animal rights* (New York: Franklin Watts).
- Donham, K., et al. (2007), 'Community health and socioeconomic issues surrounding concentrated animal feeding operations', *Environmental Health Perspectives*, 115 (2), 317-20.
- Donnermeyer, J. (2016), *The Routledge International Handbook of Rural Criminology* (London: Routledge).
- Donnermeyer, J. and DeKeseredy, W. (2014), *Rural Criminology* (London, New York: Routledge).
- Dryzek, J. (1987), *Rational Ecology* (Oxford: Basil Blackwell).
- (1990), *Discursive Democracy: Politics, Policy and Political Science* (Cambridge: Cambridge University Press).
- (2000), *Deliberative democracy and beyond: Liberals, critics, contestations* (Oxford: Oxford University Press).
- Duffy, M. (2009), 'Economies of Size in Production Agriculture', *Journal of Hunger & Environmental Nutrition*, 4, 375-92.
- Dybing, S. (2012), 'Environmental Harm: Social Causes and Shifting Legislative Dynamics', in R. Ellefsen, R. Sollund, and G. Larsen (eds.), *Eco-global Crimes* (Farnham and Burlington: Ashgate Publishing Limited), 54-69.
- Easton, G. (2010), 'Critical realism in case study approach', *Industrial Marketing Management*, 39 (1), 118-28.
- Eckersley, R. (1996), 'Greening liberal democracy: the rights discourse revisited', in B. Doherty and M. De Geus (eds.), *Democracy and Green Political Thought: Sustainability, rights and citizenship* (London: Routledge), 212-36.
- (2000), 'Deliberative democracy, ecological representation and risk: towards a democracy of the affected', in M. Saward (ed.), *Democratic Innovation* (London: Routledge), 117-32.
- Edelenbos, J., van Schie, N., and Gerrits, L. (2010), 'Organizing interfaces between government institutions and interactive governance', *Policy Sciences*, 43 (1), 73-94.
- Edwards, B. and Ladd, A. (2000), 'Environmental Justice, Swine Production and Farm Loss in North Carolina', *Sociological Spectrum*, 20 (3), 263-90.
- Edwards, G., Reid, L., and Hunter, C. (2016), 'Environmental justice, capabilities, and the theorization of well-being', *Progress in Human Geography*, 40 (6), 754-69.
- Ellis, G. (2002), 'Third party rights of appeal in planning: Reflecting on the experience of the Republic of Ireland', *Town Planning Review*, 73 (4), 437-66.
- Ellis, H. (2000), 'Planning and public empowerment: third party rights in development control', *Planning Theory and Practice*, 2, 203-17.
- European Commission (n.d.), 'The Aarhus Convention', <<https://ec.europa.eu/environment/aarhus/>>, accessed 15/01/2020.
- Expert Working Group on Sustainable Land Management (2016), 'Delivering Our Future, Valuing Our Soils: A Sustainable Agricultural Land Management Strategy for Northern Ireland', (Belfast: DAERA).
- Faber, D. (2008), *Capitalizing on Environmental Injustice* (Plymouth: Rowman & Littlefield Publishers, Inc.).
- Fact Sheets on the European Union (2019), 'Environment policy: general principles and basic framework', <<https://www.europarl.europa.eu/factsheets/en/sheet/71/environment-policy-general-principles-and-basic-framework>>, accessed 14/04/2019.
- Fairlie, S. (2010), *Meat: A Benign Extravagance* (Hampshire: Permanent Publications).

- Farming Life (2017), 'What is the future for farm-scale AD in Northern Ireland?', <<https://www.farminglife.com/ufu-watch/what-is-the-future-for-farm-scale-ad-in-northern-ireland-1-8186268>>, accessed 03/06/2019.
- Farms Not Factories (2018), 'The Issues - Animal Cruelty', <<http://farmsnotfactories.org/issues/#12>>, accessed 12/08/2018.
- (2018), 'New Film: Pig Business in Northern Ireland', <<https://farmsnotfactories.org/articles/new-film-pig-business-northern-ireland-2018/>>, accessed 07/10/2018.
- Fawcett, P., et al. (2017), *Anti-Politics, Depoliticization, and Governance* (Oxford: Oxford University Press).
- Feagin, J. and Sjoberg, G. (1991), *A Case for the Case Study* (The University of North Carolina Press).
- Fiber-Ostrow, P. and Lovell, J. (2016), 'Behind a veil of secrecy: animal abuse, factory farms, and Ag-Gag legislation', *Contemporary Justice Review*, 19 (2), 230-49.
- Findlay, M. (1999), *The Globalisation of Crime* (Cambridge: Cambridge University Press (CUP)).
- Fisher, M. (2009), *Capitalist Realism* (London: Zero Books).
- Fitzgerald, A. (2010), 'A Social History of the Slaughterhouse: From Inception to Contemporary Implications', *Human Ecology Review*, 17 (1), 58-69.
- (2019), *Animal advocacy and environmentalism* (Cambridge: Polity Press).
- Fletcher, A. (2017), 'Applying critical realism in qualitative research: methodology meets method', *International Journal of Social Research Methodology*, 20 (2), 181-94.
- Flick, U. (2014), 'The SAGE Handbook of Qualitative Data Analysis', (Los Angeles: SAGE Publications, Inc.).
- Flores Elizondo, C., Lord, N., and Spencer, J. (2018), 'Food fraud and the Fraud Act 2006: complementarity and limitations', in C. Monaghan and N. Monaghan (eds.), (Abingdon: Routledge), 187-92.
- Foord, W., Barry, J., and Shortall, S. (2018), 'The Climate-Energy-Food Security Nexus. Report on multi-stakeholder scenario planning workshops in Northern Ireland', (Belfast).
- Forester, J. (1982), 'Planning in the Face of Power', *Journal of the American Planning Association*, 48 (1), 67-80.
- (1986), 'Critical theory and public life: only connect', *International Journal of Urban and Regional Research*, 10 (2), 185-206.
- Forrester, K. (2019), *In the Shadow of Justice: Postwar Liberalism and the Remaking of Political Philosophy* (Princeton: Princeton University Press).
- Fougère, L. and Bond, S. (2016), 'Legitimising activism in democracy: A place for antagonism in environmental governance', *Planning Theory*, 17 (2), 143-69.
- Fraser, N. (1990), 'Rethinking the Public Sphere: A Contribution to the Critique of Actually Existing Democracy', *Social Text*, 25-26, 56-80.
- (1995), 'Recognition or Redistribution? A Critical Reading of Iris Young's Justice and the Politics of Difference', *The Journal of Political Philosophy*, 3 (2), 166-80.
- (1996), *Social justice in the age of identity politics: Redistribution, recognition and participation. The Tanner Lectures on Human Values* (Stanford: Stanford University Press).
- (1997), *Justice Interruptus: Critical Reflections on the "postsocialist" Condition* (New York, London: Routledge).
- (1998), 'Social Justice in the Age of Identity Politics: Redistribution, Recognition, and Participation', *The Tanner Lectures on Human Values*, 19.
- (2000), 'Rethinking recognition: Overcoming displacement and reification in cultural politics', *New Left Review*, 107-20.
- (2001), 'Recognition without Ethics?', *Theory, Culture and Society*, 18 (1), 21-42.
- (2012), 'On Justice', *New Left Review*, 74.
- Fraser, N. and Jaeggi, R. (2018), *Capitalism. A Conversation in Critical Theory* (Cambridge: Polity Press).
- Frazer, E. and Lacey, N. (1993), 'The Politics of Community: A Feminist Critique of the Liberal-Communitarian Debate', *The Cambridge Law Journal*, 53 (3), 619-21.
- Friedrichs, D. (2009), *Trusted Criminals – White Collar Crime in Contemporary Society* (Cengage Learning).

- Friedrichs, D. and Rothe, D. (2014), 'State-Corporate Crime and Major Financial Institutions: Interrogating an Absence', *State Crime*, 3 (2), 146-62.
- Friends of the Earth (2008), 'What's feeding our food?', (London: Friends of the Earth).
- Friends of the Earth NI (2018a), 'Fighting the pig slurry in Northern Ireland', (Belfast: Friends of the Earth NI).
- (2018b), 'Northern Ireland's Dirty Secret', (Belfast: Friends of the Earth NI).
- (2006), 'Planning for the Environment in Northern Ireland', (Belfast: Friends of the Earth NI).
- (2018), 'Submission to the Environmental Audit Committee's Nitrates Inquiry', (Belfast: Friends of the Earth NI).
- (2020), 'Food and farming in Northern Irealnd', (Belfast: Friends of the Earth NI).
- Fuchs, D., Kalfagianni, A., and Arentsen, M. (2009), 'Retail power, private standards, and sustainability in the global food system', in J. Clapp and D. Fuchs (eds.), *Agroecology and Sustainable Food Systems* (Cambridge: MIT Press), 50-80.
- Fung, A. and Wright, E. (2003), 'Countervailing power in empowered participatory governance', in A. Fung and E. Wright (eds.), *Deepening Democracy* (London, New York: Verso), 232-54.
- Galetta, A. and Cross, W. (2013), *Mastering the Semi-Structured Interview and Beyond : From Research Design to Analysis and Publication* (New York: New York University Press).
- Gannon, C. (2019), 'New Stormont scandal 'worse' than cash-for-ash', <http://www.theirishworld.com/new-stormont-environmental-scandal-worse-than-cash-for-ash/>, accessed 03/09/2019.
- Garside, R. (2013), 'Addressing Social Harm: Better Regulation Versus Social Transformation', *Revista Crítica Penal y Poder*, 5, 247-65.
- Gauna, E. (1998), 'The Environmental Justice Misfit: Public Participation and the Paradigm Paradox', *Stanford Environmental Law Journal*, 17 (3), 3-72.
- Gaus, D., Landwehr, C., and Schmalz-Bruns, R. (2020), 'Defending democracy against technocracy and populism: Deliberative democracy's strengths and challenges', *Constellations*, 27, 335-47.
- Gaventa, J. (1980), *Power and powerlessness* (Urbana: University of Illinois Press.).
- Gellers, J. and Jeffords, C. (2018), 'Toward environmental democracy? Procedural environmental rights and environmental justice', *Global Environmental Politics*, 18 (1), 99-121.
- George, C. and Reed, M. (2017), 'Revealing inadvertent elitism in stakeholder models of environmental governance: Assessing procedural justice in sustainability organisations', *Journal of Environmental Planning and Management*, 60 (1), 158-77.
- Gerber, P., et al. (2005), 'Geographical determinants and environmental implications of livestock production intensification in Asia', *Bioresource Technology*, 96, 263-76.
- Gerring, J. (2007), *Case study research: principles and practices* (Cambridge: Cambridge University Press).
- Gill, G. (2018), 'Mapping the Power Struggles of the National Green Tribunal of India: The Rise and Fall?', *Asian Journal of Law and Society*, 00, 1-42.
- Gilley, B. (2016), 'Technocracy and democracy as spheres of justice in public policy', *Policy Sciences*, 50 (1), 9-22.
- Giroux, H. (2004), 'Public Pedagogy and the Politics of Neo-Liberalism: Making the Political More Pedagogical', *Policy Futures in Education*, 2 (4).
- Glassman, J. (2007), 'Neoliberal primitive accumulation', in N. Heynen (ed.), *Neoliberal Environments* (Oxon, New York: Routledge), 134-65.
- Gomm, R. (2004), *Social Research Methodology. A critical introduction* (Hampshire: Palgrave Macmillan).
- Goodman, D. and Redclift, M. (1991), *Refashioning Nature* (London: Routledge).
- Gould, K., Schnaiberg, A., and Weinberg, A. (1996), *Local Environmental Struggles* (Cambridge: Cambridge University Press).
- Gould, K. (1991), 'The sweet smell of money: Economic dependency and local environmental political mobilization', *Society and Natural Resources*, 4, 133-50.
- (1992), 'Putting the (w)raps on public participation: Remedial action planning and working-class power in the great lakes', *Sociological Practice Review*, 3, 133-39.

- Gould, K., Pellow, D., and Schnaiberg, A. (2003), 'Interrogating the Treadmill of Production: Everything You Wanted to Know about the Treadmill, but Were Afraid to Ask', *Symposium on Environment and the Treadmill of Production*, 1-84.
- Goyes, D. and South, N. (2016), 'Land-grabs, Biopiracy and the Inversion of Justice in Colombia', *The British Journal of Criminology*, 56 (3), 558-77.
- (2017), 'The injustices of policing, law and multinational monopolization in the privatization of natural diversity: Cases from Colombia and Latin America', in D. Goyes, et al. (eds.), *Environmental Crime in Latin America* (London: Palgrave), 312-28.
- Gramsci, A. (1971), *Selections from the Prison Notebooks* (New York: International Publishers).
- Gravey, V., et al. (2018), 'Northern Ireland: Challenges and opportunities for post-Brexit environmental governance', *Brexit & Environment*.
- Gray (2019), 'Milking Anomie: Experiencing Milk Safety Responsibility on Ontario Dairy Farms', *Journal for Social Thought*, 3 (1), 1-16.
- Gray, A., and Hinch, R. (2015), 'Agribusiness, Governments and Food Crime: A Critical Perspective', in R. Sollund (ed.), *Green Harms and Crimes* (London: Palgrave Macmillan UK), 97-116.
- Gray, A., and Hinch, R. (2019), 'Introduction', in A. Gray and R. Hinch (eds.), *A Handbook of Food Crime: Immoral and Illegal Practices in the Food Industry and What to Do About Them* (Bristol: Policy Press), 15-31.
- Green Balance, et al. (2002), 'Third Party Rights of Appeal', (London: Green Balance).
- Green, P., Ward, T., and McConnachie, K. (2007), 'Logging and Legality: Environmental Crime, Civil Society, and the State', *Social Justice*, 34 (2), 94-110.
- Greenberg, D. (1981), *Crime and capitalism* (Palo Alto: Mayfield Publishing Company).
- Greenpeace (2019), 'The dangerous intensification of animal farming in Europe', (Brussels).
- Greer, A. (1996), *Rural politics in Northern Ireland* (Cambridge: Ashgate Publishing Limited).
- Guidry, V. T., et al. (2018), 'Connecting environmental justice and community health: Effects of hog production in North Carolina', *North Carolina Medical Journal*, 79 (5), 324-28.
- Gunderson, R. (2015), 'Meat and Inequality. Environmental health consequences of livestock agribusiness', in J. Emel and H. Neo (eds.), *Political Ecologies of Meat* (London, New York: Routledge), 212-32.
- Haase, D. (2018), 'Research for REGI Committee - The economic, social and territorial situation of Northern Ireland', (Brussels).
- Hall, M. (2014), 'The role and the use of law in green criminology', *International Journal for Crime, Justice and Social Democracy*, 3 (2), 97-110.
- (2015), *Exploring Green Crime: Introducing the Legal, Social and Criminological Contexts of Environmental Harm* (Basingstoke: Palgrave Macmillan).
- Hall, P. (1989), *The Political Power of Economic Ideas: Keynesianism across Nations* (Princeton: Princeton University Press).
- Hall, S. (2012), *Theorizing Crime and Deviance: A New Perspective* (London: Sage).
- Halsey, M. (1997), 'Environmental crime: towards an eco-human rights approach', *Current Issues in Criminal Justice*, 8 (3), 217-42.
- (2004), 'Against 'Green' Criminology', *British Journal of Criminology*, 44 (6), 833-53.
- Halsey, M. and White, R. (1998), 'Crime, Ecophilosophy and Environmental Harm', *Theoretical Criminology*, 2 (3), 345-71.
- Hampton, G. (1999), 'Environmental Equity and Public Participation', *Policy Sciences*, 32, 163-74.
- Hancock, L. (1998), 'Northern Ireland: Troubles Brewing', <<https://cain.ulster.ac.uk/othelem/landon.htm>>, accessed 23/09/2018.
- Hannigan, J. (2006), *Environmental Sociology* (London: Routledge).
- Haraway, D. (1991), *Simians, Cyborgs and Women* (New York: Routledge).
- Harding, J. (2013), *Qualitative data analysis from start to finish* (London: SAGE Publications).
- Harding, J. and Pribram, E. (2004), 'Losing our cool?', *Cultural Studies*, 18 (6), 863-83.
- Harrison, J. (2011), *Pesticide Drift and the Pursuit of Environmental Justice* (Cambridge, MA: MIT Press).

- Hartley, N., and Wood, C. (2005), 'Public participation in environmental impact assessment—implementing the Aarhus Convention', *Environmental Impact Assessment Review*, 25 (4), 319-40.
- Harvey, F. (2016), 'Farming is 'single biggest cause' of worst air pollution in Europe', *The Guardian*, <<https://www.theguardian.com/environment/2016/may/17/farming-is-single-biggest-cause-of-worst-air-pollution-in-europe>>, accessed 17/02/2019.
- Harvey, D. (1996), *Justice, Nature and the Geography of Difference* (USA: Blackwell Publishers).
- (2000), *Spaces of Hope* (Berkeley: University of California Press).
- (2006), *Spaces of Global Capitalism* (London, New York: Verso).
- (2010), *A Companion to Marx's Capital* (London: Verso).
- Harvey, G. (1997), *The Killing of the Countryside* (London: Jonathan Cape).
- Hauck, M. (2008), 'Rethinking Small-Scale Fisheries Compliance', *Marine Policy*, 32, 635-42.
- Haughton, G., Gilchrist, A., and Swyngedouw, E. (2016), 'Rise like lions after slumber': Dissent, protest and (post)politics in Manchester', *Territory, Politics, Governance*, 4, 472-91.
- Hay, C. (2007), *Why we hate politics* (Cambridge: Polity Press).
- Hayden Griffin, O. and Spillane, J. (2016), 'Confounding the process: forgotten actors and factors in the state-corporate crime paradigm', *Crime, Law and Social Change*, 66, 421-37.
- Heckenberg, D. and White, R. (2013), 'Innovative approaches to researching environmental crime', in N. South and A. Brisman (eds.), *International Handbook of Green Criminology* (London: Routledge), 85-103.
- Henry, S. (1991), 'The Informal Economy: A Crime of Omission by the State', in G. Barak (ed.), *Crimes by the Capitalist State: An Introduction to State Criminality* (Albany: State University of New York Press), 276-92.
- Henry, S. and Milovanovic, D. (1996), *Constitutive Criminology – Beyond Postmodernism* (London: SAGE Publications).
- Heydon, J. (2018), 'Sensitising Green Criminology to Procedural Environmental Justice: A Case Study of First Nation Consultation in the Canadian Oil Sands', *International Journal for Crime*, 7 (4), 67-82.
- (2019), 'Procedural Environmental Injustice in 'Europe's Greenest City': A Case Study into the Felling of Sheffield's Street Trees', *Social Sciences*, 9, 100.
- Hillyard, P., et al. (2004), *Beyond Criminology. Taking Harm Seriously* (London: Pluto Press).
- Holifield, R., Walker, G., and Chakraborty, J. (2018), *The Routledge handbook of environmental justice* (New York: Routledge).
- Holland, B. (2008), 'Justice and the Environment in Nussbaum's "Capabilities Approach": Why Sustainable Ecological Capacity Is a Meta-Capability', *Political Research Quarterly*, 61 (2), 319-32.
- (2017), 'Procedural justice in local climate adaptation: political capabilities and transformational change', *Environmental Politics*, 26 (3), 391-412.
- Holloway, D. (2005), 'Understanding The Northern Ireland Conflict: A Summary And Overview Of The Conflict And Its Origins', (Belfast), <www.communitydialogue.org>, accessed 04/07/2018.
- Hoover, Kara C. (2018), 'Sensory Disruption in Modern Living and the Emergence of Sensory Inequities', *Yale Journal Of Biology And Medicine*, 91, 53-62.
- House of Commons (2018), 'Brexit and Agriculture in Northern Ireland. Fifth Report of Session 2017-19', (London).
- Howell Major, C. and Savin Baden, M. (2012), *Qualitative Research: The Essential Guide to Theory and Practice* (London: Routledge).
- Hunold, C. and Young, I. (1998), 'Justice, Democracy, and Hazardous Siting', *Political Studies*, 46 (1), 82-95.
- Imhoff, D. (2010), *The CAFO Reader. The tragedy of industrial animal factories* (Foundation for Deep Ecology).
- Irvine, A., Drew, P., and Sainsbury, R. (2013), '"Am I not answering your questions properly?" Clarification, adequacy and responsiveness in semi-structured telephone and face-to-face interviews', *Qualitative Research*, 13 (1), 87-106.
- Jackson, P. (1989), *Maps of Meaning* (London: Unwin Hyman Ltd).

- James, R. (2019), 'Ethical challenges facing farm managers', in A. Gray and Ron Hinch (eds.), *A Handbook of Food Crime: Immoral and Illegal Practices in the Food Industry and What to Do About Them* (Bristol: Policy Press), 345-69.
- Jones, B. A., et al. (2013), 'Zoonosis emergence linked to agricultural intensification and environmental change', *Proceedings of the National Academy of Sciences of the United States of America*, 110 (21), 8399-404.
- Kadlec, A. and Friedman, W. (2007), 'Deliberative Democracy and the Problem of Power', *Journal of Public Deliberation*, 3 (1), 1-26.
- Kamat, S. (2014), 'The new development architecture and the post-political in the Global South', in J. Wilson and E. Swyngedouw (eds.), *The Post-Political and Its Discontents* (Edinburgh: Edinburgh University Press), 67-85.
- Kamieniecki, S. (2006), *Corporate America and Environmental Policy* (Stanford: Stanford University Press).
- Katz, R. (2010), 'The Corporate Crimes of Dow Chemical and the Failure to Regulate Environmental Pollution', *Critical Criminology*, 18 (4), 295-306.
- Kauzlarich, D. and Kramer, R. (1998), *Crimes of the American Nuclear State* (Boston: Northeastern University Press).
- Kauzlarich, D. and Matthews, R. (2006), 'Taking Stock of Theory and Research', in R. Michalowski and R. Kramer (eds.), *State-corporate crime: Wrongdoing at the intersection of business and government* (New Brunswick, N.J.: Rutgers University Press), 276-98.
- Kay, S. (2016), 'Land grabbing and land concentration in Europe – a Research Brief', (Amsterdam).
- Keil, R. (2010), 'The urban politics of roll-with-it neoliberalization', *City analysis of urban trends, culture, theory, policy, action*, 2, 230-45.
- Kelly-Reif, K. and Wing, S. (2016), 'Urban-rural exploitation: An underappreciated dimension of environmental injustice', *Journal of Rural Studies*, 47, 350-58.
- Khouri, S. (2018), 'Pesticideland. Brazil's Poison Market', in S. Bittle, et al. (eds.), *Revisiting Crimes of the Powerful* (London: Routledge), 162-87.
- Kidby, D. (2017), 'The Radical Left's Top 10 Objections to Veganism (And Why They Suck)', Medium, < <https://medium.com/@Veganarchy/the-radical-lefts-top-10-objections-to-veganism-and-why-they-suck-5f27d19e801d>>, accessed 09/01/2020.
- Kilbert, N. (2001), 'Green justice: a holistic approach to environmental injustice', *Journal of Land Use & Environmental Law*, 17 (1), 169-82.
- Kinsella, W. (2004), 'Public expertise: A foundation for citizen participation in energy and environmental decisions', in S. Depoe, J. Delicath, and M. Elsenbeer (eds.), *Communication and public participation in environmental decision making* (Albany, NY: State University of New York Press), 83-95.
- Kirby, D. (2010), *Animal Factory* (London: Saint Martin's Press Inc.).
- Kluin, M. (2013), 'Environmental regulation in chemical corporations', in R. Walters, D. Westerhuis, and T. Wyatt (eds.), *Emerging Issues in Green Criminology* (Basingstoke: Macmillan), 137-52.
- Knight, J., and Johnson, J. (1997), 'What Sort of Equality Does Democratic Deliberation Require?', in J. Bohman and W. Rehg (eds.), *Deliberative Democracy* (Boston: MIT Press), 65-87.
- Knobel, A. (2017), 'The Evolution of Conflict in Northern Ireland', *Palestine-Israel Journal of Politics, Economics & Culture*, 22 (1), 63-68.
- Knox, C. and Carmichael, P. (2015), 'Local government reform: Community planning and the quality of life in Northern Ireland', *Administration*, 63 (2), 31-57.
- Kolko, G. (1963), *The Triumph of Conservatism: A Reinterpretation of American History, 1900–1916* (New York: The Free Press).
- Koons, J. (2009), 'What is earth jurisprudence: Key principles to transform law for the health of the planet', *Penn State Environmental Law Review*, 18 (1), 47-70.
- Kramer, R. (1982), 'Corporate Crime: An Organizational Perspective', in P. Widman and P. Daily (eds.), *White collar and economic crime* (Lexington: Lexington Books), 75-94.
- (1992), 'The Space Shuttle Challenger Explosion: A Case Study of State-Corporate Crime', in K. Schlegel and D. Weisburd (eds.), *White Collar Crime* (Boston: Northwestern University Press), 214-43.

- Kramer, R. and Michalowski, R. (2012), 'Is Global Warming a State-Corporate Crime?', in R. White (ed.), *Climate Change from a Criminological Perspective* (New York, London: Springer International Publishing), 187-202.
- Kramer, R., Michalowski, R., and Kauzlarich, D. (2002), 'The Origins and Development of the Concept and Theory of State-Corporate Crime', *Crime & Delinquency*, 48 (2), 263-82.
- Kramer, R. and Michalowski, R. (2005), 'War, Aggression and State Crime. A Criminological Analysis of the Invasion and Occupation of Iraq', *The British Journal of Criminology*, 45, 446-69.
- Kvale, S. (1996), *InterViews: an introduction to qualitative research interviewing* (Thousand Oaks, London: Sage).
- Laclau, E., and Mouffe, C. (2001), *Hegemony and Socialist Strategy: Towards a Radical Democratic Politics* (2nd edition; London: Verso).
- Ladd, A., and Edwards, B. (2002), 'Corporate swine and capitalist pigs: a decade of environmental injustice and protest in North Carolina', *Social Justice*, 29 (3), 26-46.
- Lake, R. (1996), 'Volunteers, NIMBYs, and environmental justice: dilemmas of democratic practice', *Antipode*, 28 (2), 160-74.
- Lang, S. and Klein, L. (2015), 'Walmart's sustainability initiative: greening capitalism as a form of corporate irresponsibility', in G. Barak (ed.), *The Routledge International Handbook of the Crimes of the Powerful* (London, New York: Routledge), 303-19.
- Larsen, G. (2012), 'The Most Serious Crime: Eco-genocide Concepts and Perspectives in Eco-global Criminology', in R. Ellefsen, R. Sollund, and G. Larsen (eds.), (Farnham and Burlington: Ashgate Publishing Limited), 46-62.
- Lasslett, K. (2010a), 'Crime or social harm? A dialectical perspective', *Crime, Law and Social Change*, 54 (1), 1-19.
- (2014), *State Crime on the Margins of Empire: Rio Tinto, the War on Bougainville and Resistance to Mining* (London: Pluto Press).
- Lasslett, K. (2010b), 'Scientific Method and the Crimes of the Powerful', *Critical Criminology*, 18, 211-28.
- Laurian, L. (2004), 'Findings from Communities Facing Toxic Waste Cleanup', *Journal of the American Planning Association*, 70 (1), 53-65.
- Lee, M. (2019), 'The Environment Bill: A framework for progressive environmental law?', <<https://www.brexitenvironment.co.uk/2019/10/18/framework-progressive-environmental-law/>>, accessed 16/04/2020.
- Lee, M. and Abbot, C. (2003), 'The Usual Suspects - Public Participation under the Aarhus Convention', *Modern Law Review*, 66 (1), 80-108.
- Leebaw, B. (2014), 'Scorched Earth: Environmental War Crimes and International Justice', *Perspectives on Politics*, 12 (4).
- Lenhardt, J. and Ogneva-Himmelberger, Y. (2015), 'Environmental injustice in the spatial distribution of concentrated animal feeding operations', in J. Emel and H. Neo (eds.), *Political Ecologies of Meat* (London, New York: Routledge), 172-181.
- Leon, K. and Ken, I. (2017), 'Food Fraud and the Partnership for a 'Healthier' America: A Case Study in State-Corporate Crime', *Crit Crim*, 25, 393-410.
- Lewis, J. (2003), 'Design Issues', in J. Ritchie and J. Lewis (eds.), *Qualitative Research Practice: A Guide for Social Science Students and Researchers* (London: Sage), 36-45.
- Lewontin, R. (2000), 'The Maturing of Capitalist Agriculture: Farmer as Proletarian', *Hungry for Profit*, 93-106.
- Ley, C. (2018), 'Northern Ireland research reveals £1m extra performance value', <<http://www.pig-world.co.uk/news/nutrition/northern-ireland-research-reveals-1m-extra-performance-value.html>>, accessed 24/05/2019.
- Lincoln, Y., Lynham, S., and Guba, E. (2018), 'Paradigmatic controversies, contradictions and emerging confluences, revisited', in N. Denzin and Y. Lincoln (eds.), *The Sage handbook of qualitative research* (Thousand Oaks: Sage), 254-268.
- Liu, F. (2000), *Environmental Justice Analysis* (Florida: CRC Press).
- Loewenstein, A. (2017), *Disaster Capitalism: Making a Killing Out of Catastrophe* (New York: Verso).

- Lord, N., Flores Elizondo, C., and Spencer, J. (2017), 'The Dynamics of Food Fraud: the interactions between criminal opportunity and market (dys)functionality in legitimate business', *Criminology and Criminal Justice*, 17 (5), 605-23.
- Low, N. and Gleeson, B. (1998), *Justice, Society and Nature: An Exploration of Political Ecology* (London: Routledge).
- Lukes, S. (1974), *Power: A radical view* (London: Macmillan).
- Lundström, M. (2018), "We do this because the market demands it": alternative meat production and the speciesist logic', *Agriculture and Human Values*, 36, 127-36.
- Lynch, M. (1990), 'The greening of criminology: a perspective on the 1990s', *The Critical Criminologist*, 2 (3), 1-4.
- (2016), 'The Ecological Distribution of Community Advantage and Disadvantage: Power Structures, Political Economy, Communities, and Green-State Crime and Justice', *Critical Criminology*, 24, 247-62.
- (2020), 'Green Criminology and Environmental Crime: Criminology That Matters in the Age of Global Ecological Collapse', *Journal of White Collar and Corporate Crime*, 1 (1), 50-61.
- Lynch, M. and Stretesky, P. (2001), 'Toxic Crimes: Examining Corporate Victimization of the General Public Employing Medical and Epidemiological Evidence', *Critical Criminology*, 10, 153-72.
- (2003), 'The Meaning of Green: Contrasting Criminological Perspectives', *Theoretical Criminology*, 7 (2), 217-38.
- (2012), 'Native Americans and Social and Environmental Justice: Implications for Criminology', *Social Justice*, 38 (3), 104-24.
- (2014), *Exploring Green Criminology: Toward a Green Criminological Revolution* (London: Ashgate Publishing Limited).
- Lynch, M. and Barrett, K. (2017), 'Environmental Crime and Justice: A Green Criminological Examination', in R. Holifield, G. Walker, and J. Chakraborty (eds.), *Handbook for Environmental Justice* (Milton: Taylor and Francis), 172-89.
- Lynch, M., Burns, R., and Stretesky, P. (2010), 'Global warming and state-corporate crime: The politicization of global warming under the Bush administration', *Crime, Law and Social Change*, 54, 213-39.
- Lynch, M., Long, M., and Stretesky, P. (2015a), 'Anthropogenic Development Drives Species to Be Endangered: Capitalism and the Decline of Species', in R. Sollund (ed.), (London: Palgrave Macmillan), 244-62.
- Lynch, M., et al. (2017), *Green Criminology: Crime, Justice, and the Environment* (Oakland: University of California Press).
- Lynch, M., Stretesky, P., and Long, M. (2015b), 'Environmental justice: a criminological perspective', *Environmental Research Letters*, 10 (8).
- (2015c), 'A Proposal for the Political Economy of Green Criminology: Capitalism and the Case of the Alberta Tar Sands', *Canadian Journal of Criminology and Criminal Justice*, 58 (2), 137-60.
- Macauley, C. (2016), 'Controversial farm remark raised by MLA', <<https://www.bbc.co.uk/news/uk-northern-ireland-37767970>>, accessed 11/07/2018.
- (2020), 'Ammonia: Move by Edwin Poots eases farm planning backlog', <<https://www.bbc.co.uk/news/uk-northern-ireland-53656363>>, accessed 27/08/2020.
- Machin, A. and Smith, G. (2014), 'Ends, means, beginnings: environmental technocracy, ecological deliberation or embodied disagreement', *Ethical Perspectives*, 21 (1), 47-72.
- Mackenzie, S. and Yates, D. (2015), 'Collectors on illicit collecting: Higher loyalties and other techniques of neutralization in the unlawful collecting of rare and precious orchids and antiquities', *Theoretical Criminology*, 1-18.
- Macrory, R. (2004), *Transparency and Trust: Reshaping Environmental Governance in Northern Ireland* (London: UCL Press).
- Magowan, E. and Ball, E. (2013), 'Summary of Research findings funded by Pig Regen Ltd', (Belfast).
- Mah, A. (2017), 'Global environmental injustice', <<https://www.leverhulme.ac.uk/philip-leverhulme-prizes/global-environmental-injustice>>, accessed 02/02/2020.
- Mahon, R. (1979), 'Regulatory agencies: captive agents or hegemonic apparatuses?', *Studies in Political Economy*, 1 (1), 162-200.

- Mansbridge, J. (2003), 'Rethinking Representation', *The American Political Science Review*, 97 (4), 515-28.
- Martin, P. (1995), 'The constitution of power in landcare: a poststructuralist perspective with modernist undertones', *Rural Society*, 5 (2/3), 30-37.
- Martin, R. (2017), 'Anaerobic Digestion plants approved in Northern Ireland as AD sector booms', AgriLand, <www.agriland.ie/farming-news/103-anaerobic-digestion-plants-approved-in-northern-ireland-as-ad-sector-booms/>.
- Mason, M. (2010), 'Sample Size and Saturation in PhD Studies Using Qualitative Interviews', *Forum: Qualitative Social Research*, 11 (3).
- Matthews, R. (2006), 'Ordinary business in Nazi Germany', in R. Michalowski and R. Kramer (eds.), *State-corporate crime: Wrongdoing at the intersection of business and government* (New Brunswick, N.J.: Rutgers University Press), 61-78.
- Matthews, R. and Kauzlarich, D. (2000), 'The Crash of Valujet Flight 592: A Case Study in State-Corporate Crime', *Sociological Focus*, 33 (3), 281-98.
- Maxwell, J. (2005), *Qualitative research design* (Thousand Oaks and London: Sage).
- Maxwell, S. and Maxwell, C. (2020), 'Ecology and criminology? Applying the tenets of procedural justice on compliance to environmental regulations', *Criminology & Criminal Justice*, 1-18.
- May, J. and Daly, E. (2009), 'Vindicating Fundamental Environmental Rights Worldwide', *Oregon Review of International Law*, 11, 365-440.
- McAlister, R. (2010), 'Putting the 'Community' into Community Planning: Assessing Community Inclusion in Northern Ireland', *International Journal of Urban and Regional Research*, 34 (3), 533-48.
- McAreavey, R. and Foord, W. (2016), 'Who benefits? The Going for Growth agri-food strategy in Northern Ireland', (Belfast).
- McEvoy, J. (2008), *The politics of Northern Ireland* (Edinburgh: Edinburgh University Press).
- McKeown, G. (2017), 'Agri-food research projects receive multi-million pound funding boost', *The Irish News*, <<https://www.irishnews.com/business/2017/12/19/news/agri-food-research-projects-receive-multi-million-pound-funding-boost-1213612/>>.
- McKie, R. (2018), 'Climate Change Counter Movement Neutralization Techniques: A Typology to Examine the Climate Change Counter Movement', *Sociological Inquiry*, 89 (2).
- McMahon, M. and Glatt, K. (2019), 'Food crime without criminals: Agri-food safety governance as a protection racket for dominant political and economic interest', in A. Gray and R. Hinch (eds.), *A Handbook of Food Crime: Immoral and Illegal Practices in the Food Industry and What to Do About Them* (Bristol: Policy Press), 312-34.
- McMichael, P. (1996), *Development and social change. A global perspective* (Thousand Oaks: Pine Forge Press).
- (2005), 'Global development and the corporate food regime', *Research in Rural Sociology and Development*, 11, 269-303.
- Merkel, W. (2014), 'Is capitalism compatible with democracy?', *Zeitschrift für Vergleichende Politikwissenschaft*, 8 (2), 109-28.
- Merriam, S. (2009), *Qualitative research: A Guide to design and implementation* (San Francisco: Jossey-Bass).
- Merriam, S. and Tisdell, E. (2016), *Qualitative research: A guide to design and implementation* (San Francisco: Jossey-Bass).
- Merton, R. (1957), *Social theory and social structure* (Revised an edn.; Glencoe: Free Press).
- Merton, R. (1938), 'Social Structure and Anomie', *American Sociological Review*, 3 (5), 672-82.
- Meshel, T. (2018), 'Environmental Justice in the United States: The Human Right to Water', *Washington Journal on Environmental Law and Policy*, 8 (2), 264-97.
- Michalowski, R. (2010), 'In search of 'state and crime' in state crime studies', in W. Chambliss, R. Michalowski, and R. Kramer (eds.), *State Crime in the Global Age* (London: Willan Publishing), 166-83.
- (2012), 'The master's tools: Can supranational law confront crimes of powerful states?', in E. Stanley (ed.), *State Crime and Resistance* (London: Taylor & Francis).

- (2018), 'Power, crime and enclosure. Capital accumulation in the twilight of the neoliberal SSA.', in S. Bittle, et al. (eds.), *Crimes of the powerful* (London: Routledge), 412-28.
- Michałowski, R. and Kramer, R. (2006a), 'The Critique of Power', in R. Michałowski and R. Kramer (eds.), *State-corporate crime: wrongdoing at the intersection of business and government* (New Brunswick, N.J.: Rutgers University Press), 24-35.
- (2006b), *State-corporate crime: Wrongdoing at the Intersection of Business and Government*. (New Jersey: Rutgers University Press).
- Mills, M. and King, F. (2000), 'Ecological constitutionalism and the limits of deliberation and representation', in M. Saward (ed.), *Democratic Innovation* (London, New York: Routledge), 80-93.
- Mirabelli, M., et al. (2006), 'Asthma symptoms among adolescents who attend public schools that are located near confined swine feeding operations', *Pediatrics*, 118 (1), 66-75.
- Mol, H. (2013), 'A Gift from the Tropics to the World': Power, Harm, and Palm Oil', in R. Walters, D. Westerhuis, and T. Wyatt (eds.), (London: Palgrave Macmillan UK), 242-60.
- Montgomery, I. (2015), 'Maximising Production and Biodiversity in NI Agriculture', (Belfast).
- Morgan, K., Marsden, T., and Murdoch, J. (2006), *Worlds of Food. Place, Power, and Provenance in the Food Chain* (Oxford, New York: Oxford University Press).
- Morison, J. (2017), 'Citizen Participation: A Critical Look at the Democratic Adequacy of Government Consultations', *Oxford Journal of Legal Studies*, 37 (3), 636-59.
- Morris, D. (2001), 'Free trade: the great destroyer', in E. Goldsmith and J. Mander (eds.), *The Case Against the Global Economy* (London: Earthscan publications), 145-67.
- Mouffe, C. (2005), *On the Political* (London, New York: Routledge).
- Mullins, C. and Rothe, D. (2007), 'The forgotten ones. The Darfuri genocide', *Critical Criminology*, 15, 135-58.
- Myers, N. and Kent, J. (2001), *Perverse Subsidies: How tax dollars can undercut the environment and the economy* (Washington, Covelo, London: Island Press).
- Natali, L. (2013), 'The contemporary horizon of green criminology', in N. South and A. Brisman (eds.), *Routledge International Handbook of Green Criminology* (London: Routledge), 233-51.
- Neo, H. and Emel, J. (2017), *Geographies of meat* (London, New York: Routledge).
- Neubauer, I. (2020), 'Swine fever: 'Double punch' for countries facing COVID-19 threat', *Aljazeera*, <<https://www.aljazeera.com/news/2020/02/swine-fever-double-punch-countries-facing-covid-19-threat-200217050557166.html>>.
- Neveu, E. (2018), 'Bourdieu's Capital(s): Sociologizing an Economic Concept', in T. Medvetz and J. Sallaz (eds.), *The Oxford Handbook of Pierre Bourdieu* (Oxford: Oxford University Press), 161-84.
- NFU and UFU (2019), 'UK Farmers Navigating Change In Europe - An agenda for the future', (London, Belfast: NFU, UFU).
- nidirect (n.d.), 'Commenting on planning appeals', <<https://www.nidirect.gov.uk/articles/commenting-on-planning-appeals>>, accessed 13/01/2020.
- NIEA and UFU (2017), 'Memorandum of Understanding. Farming for a Healthier Environment', (Belfast: NIEA, UFU).
- Northern Ireland Assembly (2016), 'Comparison of the planning systems in the four UK countries', (Belfast: Northern Ireland Assembly).
- Northern Ireland Fresh Water Taskforce (2018), 'Environmental Audit Committee: Nitrates Inquiry', (Belfast).
- Novek, J. (2003), 'Intensive Hog Farming in Manitoba: Transnational Treadmills and Local Conflicts', *The Canadian Review of Sociology and Anthropology*, 40 (1), 3-24.
- Nurse, A. (2013), *Animal harm: perspectives on why people harm and kill animals* (Surrey, Burlington: Ashgate Publishing Limited).
- Nussbaum, M. (1997), 'Capabilities and human rights', *Fordham Law Review*, 66 (2), 273-300.
- (2001), *Women and human development : the capabilities approach* (Cambridge: Cambridge University Press).
- (2003), 'Capabilities as Fundamental Entitlements: Sen and Social Justice', *Feminist Economics*, 9 (2/3), 33-59.

- (2006), *Frontiers of Justice: Disability, Nationality, Species Membership* (Cambridge: Belknap Press).
- (2011), *Creating Capabilities: The Human Development Approach* (Cambridge, London: Harvard University Press.).
- O'Faircheallaigh, C. (2010), 'Public participation and environmental impact assessment: Purposes, implications, and lessons for public policy making', *Environmental Impact Assessment Review*, 30 (1), 19-27.
- O'Kane, C. (2011), *A society in transition: society, identity and nostalgia in rural Northern Ireland, 1939-68* (Belfast: School of History and Anthropology, Queen's University Belfast).
- Oosterlynck, S. and Swyngedouw, E. (2010), 'Noise reduction: the postpolitical quandary of night flights at Brussels airport', *Environment and Planning*, 42, 1577-94.
- Parenti, M. (1978), *Power and the powerless* (New York: St. Martin's Press).
- Parrique, T. (2019), 'The political economy of degrowth', PhD Thesis, Université Clermont Auvergne; Stockholms universitet.
- Passas, N. (1990), 'Anomie and corporate deviance', *Contemporary Crises*, 14, 157-78.
- (2000), 'Global anomie, dysnomie, and economic crime: Hidden consequences of neoliberalism and globalisation in Russia and around the world', *Social Justice*, 27 (2), 16-44.
- (2005), 'Lawful but awful: "Legal Corporate Crimes"', *The Journal of Socio-Economics*, 34, 771-86.
- Passas, N. and Goodwin, N. (2004), *It's Legal but It Ain't Right* (Ann Arbor: University of Michigan Press).
- Paterson, M. (2000), *Understanding Global Environmental Politics* (London, New York: Palgrave Macmillan).
- Pearce, F. and Tombs, S. (1998), *Toxic Capitalism: Corporate Crime and the Chemical Industry* (Dartmouth: Aldershot).
- Pearce, F. (1976), *Crimes of the Powerful* (London: Pluto Press).
- Pearce, F. and Tombs, S. (1990), 'Ideology, Hegemony, and Empiricism - Compliance Theories of Regulation', *British Journal of Criminology*, 30 (4).
- Pechlaner, G. (2012), *Corporate Crops* (Austin: University of Texas Press).
- Pechlaner, G. and Otero, G. (2008), 'The Third Food Regime: Neoliberal Globalism and Agricultural Biotechnology in North America', *Sociologia Ruralis*, 48 (4), 351-71.
- Peine, E. and McMichael, P. (2005), 'Globalization and governance', in V. Higgins and G. Lawrence (eds.), *Agricultural Governance* (London: Routledge), 322-45.
- Pellow, D. (2016), 'Environmental justice and rural studies: A critical conversation and invitation to collaboration', *Journal of Rural Studies*, 47, 381-86.
- (2018), *What is Critical Environmental Justice?* (London: Policy Press).
- Pellow, D. and Brulle, R. (2005), *Power, Justice, and the Environment: A Critical Appraisal of the Environmental Justice Movement* (Boston: MIT Press).
- Peluso, N. (2007), 'Enclosure and privatization of neoliberal environments', in N. Heynen, et al. (eds.), *Neoliberal Environments* (Oxon, New York: Routledge), 153-78.
- Pemberton, S. and Lloyd, G. (2011), 'Facilitating Institutional Reform in England: Reconciling City-regions and Community Planning for Efficiency Gains?', *European Planning Studies*, 19 (3), 501-17.
- Peters, M. (2019), 'Can democracy solve the sustainability crisis? Green politics, grassroots participation and the failure of the sustainability paradigm', *Educational Philosophy and Theory*, 51 (2), 133-41.
- Piquero, N., et al. (2005), 'Examining the role of differential association and techniques of neutralization in explaining corporate crime', *Deviant behavior*, 26 (2), 159-88.
- Planning NI (n.d.), 'Judicial Review in the new planning system', (Belfast: Government UK).
- Planning Portal (n.d.), 'Homepage | Planning Portal', (Department for Infrastructure (DfI)).
- Playfair, D. (2018), 'Key Facts on Agriculture, Fishing and Forestry. Northern Ireland Agri-Food Sector', (Belfast).
- Polanyi, K. (1944), *The great transformation* (New York and Toronto: Rinehart and Co).
- Pollan, M. (2006), *The Omnivore's Dilemma: A Natural History of Four Meals* (New York: Penguin).

- Ponette-Gonzalez, A. and Fry, M. (2010), 'Pig pandemic: Industrial hog farming in eastern Mexico', *Land Use Policy*, 27, 1107-10.
- Public Interest Litigation Support (2012), 'Judicial Review in Northern Ireland: A guide for non governmental organisations', (Belfast), 1-38.
- Pulido, L. (1996), *Environmentalism and Social Justice: Two Chicano Struggles in the Southwest* (Tucson: University of Arizona Press).
- Punch, M. (1996), *Dirty Business. Exploring Corporate Misconduct* (London: SAGE Publications).
- Purdy, R. and Hjerpe, P. (2016), 'Environmental Governance in Northern Ireland', (London: UK), 1-117.
- QUB (2015), 'Institute for Global Food Security Newsletter', (Belfast: QUB).
- Quinlivan, A. (2014), 'Northern Ireland's diminishing councils and what this means for democracy', <<https://www.theguardian.com/local-government-network/2014/jun/08/northern-ireland-diminishing-council-numbers-26-to-11-democracy>>, accessed 03/09/2018.
- Quinney, R. (1970), *The Social Reality of Crime* (Boston: Little, Brown & Co).
- (2000), *Bearing witness to crime and social justice* (Albany: State University of New York Press).
- Rachynska, V. (2017), 'Notifying the Public as a Part of the Public Participation Procedure in EU, Polish and Ukrainian Law', in J. Jendroska and M. Bar (eds.), *Procedural Environmental Rights. Principle X in Theory and Practice* (Cambridge, Antwerp, Portland: Intersentia), 387-406.
- Raco, M. (2014), 'Capitalism: State-led Privatization and the London Olympics 2012', *International Journal of Urban and Regional Research*, 38 (1), 176-97.
- Ranciere, J. (1999), *Disagreement: Politics and Philosophy* (Minneapolis: University of Minnesota Press).
- Rawls, J. (1971), *A Theory of Justice* (Oxford: Oxford University Press).
- Reed, M. (2008), 'Stakeholder participation for environmental management: A literature review', *Biological Conservation*, 141 (10), 2417-31.
- Rhodes, S., et al. (2020), 'Environmental injustice in North Carolina's hog industry: Lessons learned from communitydriven participatory research and the "people's professor"', in A. Mah and T. Davies (eds.), *Toxic truths* (Manchester: United Press), 129-47.
- Ritchie, H. (2019), 'Which countries eat the most meat?', <<https://www.bbc.co.uk/news/health-47057341>>, accessed 15/10/2020.
- Ritchie, M. (2004), 'The High Price of Cheap Food', in N. Passas and N. Goodwin (eds.), *It's Legal but It Ain't Right: Harmful Social Consequences of Legal Industries* (Ann Arbor: University of Michigan Press), 77-92.
- Roberts, J. and Crossley, N. (2004), 'Introduction', in J. Roberts and N. Crossley (eds.), *After Habermas: New Perspectives on the Public Sphere* (Oxford: Blackwell Publishing), 7-18.
- Robyn, L. (2006), 'Violations of treaty rights', in R. Michalowski and R. Kramer (eds.), *State–corporate crime: Wrongdoing at the intersection of business and government* (New Brunswick, N.J.: Rutgers University Press), 139-58.
- Rothe, D. (2020), 'Moving Beyond Abstract Typologies? Overview of State and State-Corporate Crime', 1 (1), 7-15.
- Rothe, D. and Friedrichs, D. (2015), *Crimes of Globalization* (Abingdon: Routledge).
- Rothe, D. and Collins, V. (2015), 'Consent and Consumption of Spectacle Power and Violence', *Critical Criminology*, 44 (1), 15-28.
- Rothe, D. and Kauzlarich, D. (2016), *Crimes of the powerful. An introduction* (Oxon, New York: Routledge).
- Rothe, Dawn and Collins, V. (2017), 'The Integrated Spectacle: Neoliberalism and the Socially Dead', *Social Justice*, 43 (2), 1-20.
- Rowe, G. and Frewer, L. (2000), 'Public Participation Methods: A Framework for Evaluation', *Science, Technology, and Human Values*, 25 (1), 3-29.
- RSPCA (2020), 'Farming pigs', <<https://www.rspca.org.uk/adviceandwelfare/farm/pigs/farming>>, accessed 05/05/2018.
- Ruggiero, V. (2013a), *The Crimes of the Economy. A criminological analysis of economic thought* (New York, London: Routledge).
- (2013b), 'The environment and the crimes of the economy', in N. South and A. Brisman (eds.), *Routledge International Handbook of Green Criminology* (London: Routledge), 267-91.

- (2015a), 'Creative Destruction' and the Economy of Waste', in R. Sollund (ed.), *Green Harms and Crimes* (London: Palgrave Macmillan), 112-28.
- (2018), 'Between force and consensus', in S. Bittle, et al. (eds.), *Revisiting Crimes of the Powerful* (London: Routledge), 136-49.
- Ruggiero, V. and South, N. (2010), 'Green Criminology and Dirty Collar Crime', *Critical Criminology*, 18 (4), 251-62.
- (2013), 'Toxic state-corporate crimes, neo-liberalism and green criminology: The hazards and legacies of the oil, chemical and mineral industries', *International Journal for Crime, Justice and Social Democracy*, 2 (2), 12-26.
- Ruggiero, V. (2015b), 'Ethics and the Crime of the Powerful', *Howard Journal of Criminal Justice*, 54 (1), 42-56.
- Ruhl, J. (2000), 'Farms, Their Environmental Harms, and Environmental Law', *Ecology Law Quarterly*, 27 (2), 263-350.
- Ruth, S., et al. (2018), 'Differences in fraud vulnerability in various food supply chains and their tiers', *Food Control*, 84, 375-81.
- Sam, M. and Scherer, J. (2006), 'The steering group as policy advice instrument: A case of "Consultocracy" in stadium subsidy deliberations', *Policy Sciences*, 39 (2), 169-81.
- Sandel, M. (2010), *Justice: what's the right thing to do?* (London: Penguin).
- Saunders, M., Lewis, P., and Thornhill, A. (2007), *Research Methods for Business Students* (Essex: Pearson Education Limited).
- Sayer, A. (1992), *Method in social science: A realist approach* (2nd edition; London: Routledge).
- Schaider, L., et al. (2019), 'Environmental justice and drinking water quality: are there socioeconomic disparities in nitrate levels in U.S. drinking water?', *Environmental Health*, 18 (3), 1-15.
- Schally, J. (2017), *Legitimizing Corporate Harm: The Discourse of Contemporary Agribusiness* (USA: Palgrave Macmillan).
- Schlosberg, D. (2001), 'Three Dimensions of Environmental and Ecological Justice', (Grenoble).
- (2002), *Environmental Justice and the New Pluralism: The Challenge of Difference for Environmentalism* (New York, London: Oxford University Press).
- (2004), 'Reconceiving Environmental Justice: Global Movements And Political Theories', *Environmental Politics*, 13 (3), 517-40.
- (2007), *Defining Environmental Justice: Theories, Movements, and Nature* (New York: Oxford University Press).
- (2013), 'Theorising environmental justice: the expanding sphere of a discourse', *Environmental Politics*, 22 (1), 37-55.
- (2014), 'Ecological Justice for the Anthropocene', in M. Wissenburg and D. Schlosberg (eds.), (London: Palgrave Macmillan Limited), 167-82.
- Schlosberg, D. and Carruthers, D. (2010), 'Indigenous struggles, environmental justice, and community capabilities', *Global Environmental Politics*, 10, 12-35.
- Schmitter, P. (1974), 'Still the Century of Corporatism?', *The Review of Politics*, 36 (1), 85-131.
- Schnaiberg, A. (1980), *The environment, from surplus to scarcity* (Oxford: Oxford University Press).
- Schwendinger, H. and Schwendinger, J. (1970), 'Defenders of Order or Guardians of Human Rights?', *Issues in Criminology*, 5 (2), 123-57.
- Sen, A. (1985), *Commodities and Capabilities* (New Dehli: Oxford University Press).
- (1999), *Development as Freedom* (New York: Knopf).
- Seneca, S. (2004), 'The Trinity of Voice: The Role of Practical Theory in Planning and Evaluating the Effectiveness of Environmental Participatory Processes', in S. P. Depoe, J. W. Delicath, and M. F. A. Elsenbeer (eds.), (New York: Sunny Press), 53-72.
- Seymour, R. (2010), *The Meaning of David Cameron* (Winchester, Washington DC: Zero Books).
- Shammas, V. (2016), 'Who's afraid of penal populism? Technocracy and 'the people' in the sociology of punishment', *Contemporary Justice Review*, 19 (3), 325-46.
- Shrader-Frechette, K. (2002), *Environmental Justice. Creating Equality, Reclaiming Democracy* (New York: Oxford University Press).
- Sikor, T. and Newell, P. (2014), 'Globalizing environmental justice?', *Geoforum*, 54, 151-57.

- Silver, C. and Lewins, A. (2014), *Using Software in Qualitative Research a step-by-step guide* (London, New York: SAGE Publications).
- Simila, J. (2017), 'The Evolution of Participatory Rights in the Era of Fiscal Austerity and Reduced Administrative Burden', in J. Jendroska and M. Bar (eds.), *Procedural Environmental Rights: Principle X in Theory and Practice* (Cambridge, Antwerp, Portland: Intersentia), 401-19.
- Sinclair, S. (2011), 'Partnership or Presence? Exploring the Complexity of Community Planning', *Local Government Studies*, 37 (1), 77-92.
- Slobodian, Q. (2018), *Globalists: The End of Empire and the Birth of Neoliberalism* (Cambridge, MA: Harvard University Press).
- Sloterdijk, P. (2005), 'Atmospheric Politics', in B. Latour and P. Weibel (eds.), *Making Things Public* (Cambridge, MA: MIT Press), 944-51.
- Smandych, R. and Kueneman, R. (2010), 'The Canadian-Alberta tar sands: A case study of state-corporate environmental crime', in R. White (ed.), *Global Environmental Harm* (Cullompton: Willan Publishing), 242-58.
- Smith, M. (1990), *The Politics of Agricultural Support in Britain* (Aldershot, Hants: Dartmouth).
- Snider, L. (2000), 'The Sociology of Corporate Crime: An Obituary (Or: Whose Knowledge Claims Have Legs?)', *Theoretical Criminology*, 4 (2), 169-206.
- (2001), 'Abusing Corporate Power: Death of a Concept', in S. Boyd, D. Chunn, and R. Menzies (eds.), *(Ab)Using Power* (Halifax: Fernwood), 62-78.
- (2002), 'Theft of Time: Disciplining through Science and Law', *Osgoode Hall Law Journal*, 40 (1), 89-112.
- Sollund, R. (2012), 'Speciesism as Doxic Practice Versus Valuing Difference and Plurality', in R. Ellefsen, R. Sollund, and G. Larsen (eds.), *Eco-global Crimes* (Farnham and Burlington: Ashgate Publishing Limited), 181-99.
- (2015a), *Green Harms and Crimes Critical Criminology in a Changing World* (London: Palgrave Macmillan).
- (2015b), *Green Harms and Crimes. Critical Criminological Perspectives* (London: Palgrave Macmillan).
- (2017), 'Doing Green, Critical Criminology with an Auto-Ethnographic, Feminist Approach', *Critical Criminology*, 25 (2), 245-60.
- Source Material (2018), 'Muck for Brass', <<https://www.source-material.org/blog/muck-for-brass>>, accessed 14/08/2019.
- South, N. (1998), 'A green field for criminology? A proposal for a perspective', *Theoretical Criminology*, 2 (2), 211-33.
- (2007), 'The 'Corporate Colonization of Nature': Bio-prospecting, Bio-piracy and the Development of Green Criminology', in P. Beirne and N. South (eds.), *Transnational Environmental Crime* (Cullompton: Willan Publishing), 76-89.
- Spapens, T., et al. (2018), *Green Crimes and Dirty Money* (New York, London: Routledge).
- Standing, A. (2015), 'Mirage of Pirates: State-Corporate Crime in West Africa's Fisheries', *State Crime*, 4 (2), 175-97.
- Stathopoulos, A. (2010), 'You Are What Your Food Eats: How Regulation Of Factory Farm Conditions Could Improve Human Health And Animal Welfare Alike', *New York University Journal of Legislation and Public Policy*, 13, 407-44.
- Steinfeld, H., et al. (2006), 'Livestock's Long Shadow: Environmental Issues and Options', (FAO, Rome).
- Stewart, J. and Sinclair, A. (2007), 'Meaningful public participation in environmental assessment: perspectives from Canadian participants, proponents and government', *Journal of Environmental Assessment Policy and Management*, 9 (2), 161-83.
- Stoddard, E. (2015), 'Neoliberal governance and environmental risk. 'Normal accidents' in North Carolina's hog industry', in J. Emel and H. Neo (eds.), *Political Ecologies of Meat* (London, New York: Routledge), 132-48.
- Stoll-Kleemann, S. Schmidt U. (2017), 'Reducing meat consumption in developed and transition countries to counter climate change and biodiversity loss: a review of influence factors', *Regional Environmental Change*, 17, 1261-77.

- Stretesky, P. (2003), 'Environmental inequity and the distribution of air lead levels across US counties: implications for the production of racial inequality', *Sociological Spectrum*, 23, 91-118.
- Stretesky, P. and Lynch, M. (1998), 'Corporate environmental violence and racism', *Crime, Law and Social Change*, 30 (2), 163-84.
- (2002), 'Environmental Hazards and School Segregation in Hillsborough County, Florida, 1987–1999', *The Sociological Quarterly*, 43 (4), 553-73.
- Stretesky, P., Long, M., and Lynch, M. (2013), *The Treadmill of Crime: Political Economy and Green Criminology* (London: Routledge).
- Sultana, F. (2007), '"Reflexivity, Positionality and Participatory Ethics. Negotiating Fieldwork Dilemmas in International Research', *ACME: An International E-Journal for Critical Geographies*, 6 (3), 374-85.
- Sutherland, E. (1939), 'White Collar Criminality. Presidential address to the American Society of Sociology', *American Sociological Review*, 5, 1-12.
- Swyngedouw, E. (1992), 'Territorial Organization and the Space/Technology Nexus', *Transactions - Institute of British Geographers N.S.*, 17, 417-33.
- (2000), 'Authoritarian governance, power, and the politics of rescaling', *Environment and Planning D: Society and Space*, 18, 63-76.
- (2007), 'Impossible/undesirable sustainability and the post-political condition', in J. Krueger and D. Gibbs (eds.), *Making Strategies in Spatial Planning* (New York: Guilford Press), 34-51.
- (2011), 'Interrogating post-democratization: Reclaiming egalitarian political spaces', *Political Geography*, 30 (7), 370-80.
- Swyngedouw, E. (2009), 'The Antinomies of the Postpolitical City: In Search of a Democratic Politics of Environmental Production', *International Journal of Urban and Regional Research*, 33 (3), 601-20.
- Sykes, G. and Matza, D. (1957), 'Techniques of Neutralization: A Theory of Delinquency', *American Sociological Review*, 22 (6), 664-70.
- Szasz, A. (1986), 'Corporations, Organized Crime, and the Disposal of Hazardous Waste: An Examination of the Making of a Criminogenic Regulatory Structure', *Criminology*, 24 (1), 1-27.
- Tandon, N. (2010), 'New agribusiness investments mean wholesale sell-out for women farmers', *Gender & Development*, 18 (3), 503-14.
- Tanentzap, A., et al. (2015), 'Resolving Conflicts between Agriculture and the Natural Environment', *PLoS Biology*, 13 (9).
- Tang, W., Wai Ying Lee, J., and Ng, M. (2012), 'Public engagement as a tool of hegemony: the case of designing the new central harbour front in Hong Kong', *Critical Sociology*, 38 (1), 89-106.
- Tappan, P. (1947), 'Who Is the Criminal?', *American Sociological Review*, 12 (10), 96-102.
- Tauxe, C. (1995), 'Marginalizing Public Participation in Local Planning: An Ethnographic Account', *Journal of the American Planning Association*, 61 (4), 471-81.
- Taylor, D. (2014), *Toxic Communities: Environmental Racism, Industrial Pollution, and Residential Mobility* (New York: NYU Press).
- Temper, L. and Del Bene, D. (2016), 'Transforming knowledge creation for environmental and epistemic justice', *Current Opinion in Environmental Sustainability*, 20, 41-49.
- The Bureau of Investigative Journalism (2017), 'Intensive farming in the UK, by numbers'.
- (2019), 'Deadly gas: Cutting farm emissions in half could save 3,000 lives a year', <<https://www.thebureauinvestigates.com/stories/2019-06-13/deadly-gas-ammonia-cutting-farm-emissions-could-save-3000-lives-a-year>>, accessed 02/02/2020.
- The Gazette (n.d.), 'Placing notices in The Gazette', <<https://www.thegazette.co.uk/place-notice#:~:text=The>>, accessed 14/11/2019.
- The Landworkers Alliance (2017), 'Recommendations for Post-Brexit Agricultural Policy', (London: The Landworkers Alliance).
- Thomas, D. (2017), 'Feedback from research participants: are member checks useful in qualitative research?', *Qualitative Research in Psychology*, 14 (1), 23-41.
- Tietz, J. (2010), 'Boss Hog: The Rapid Rise of Industrial Swine', in D. Imhoff (ed.), *CAFO - The Tragedy of Industrial Animal Factories* (London: University of California Press), 356-78.
- Tombs, S. (2012), 'State-Corporate Symbiosis in the Production of Crime and Harm', *State Crime*, 1 (2).

- (2017), *Social Protection after the Crisis. Regulation without Enforcement* (Bristol: Policy Press).
- Tombs, S. and Whyte, D. (2003), 'Scrutinizing the Powerful: Crime, Contemporary Political Economy, and Critical Social Research', in S. Tombs and D. Whyte (eds.), *Unmasking the Crimes of the Powerful* (New York: Peter Lang), 41-63.
- (2007), *Safety Crime* (Cullompton: Willan Publishing).
- (2009), 'The State and Corporate Crime', in R. Coleman, et al. (eds.), *State, Crime, Power* (London: SAGE Publications), 254-78.
- (2010), 'Crime, Harm and Corporate Power', in J. Muncie, D. Talbot, and R. Walters (eds.), *Crime: Local and Global* (Cullompton: Willan Publishing), 137-72.
- (2020), 'The Shifting Imaginaries of Corporate Crime', *Journal of White Collar and Corporate Crime*, 1 (1), 16-23.
- Tonge, J. (2006), *Northern Ireland* (Cambridge: Polity Press).
- Tritter, J. and McCallum, A. (2006), 'The snakes and ladders of user involvement: Moving beyond Arnstein', *Health Policy*, 76 (2), 158-68.
- Tudge, C. (2003), *So Shall We Reap* (London: Penguin).
- Turner, S. (2007), 'Laying the Foundations for a Sustainable Northern Ireland: The Review of Environmental Governance', *Northern Ireland Legal Quarterly*, 58 (4), 422-58.
- UFU (2017), 'Judicial review supports UFU position', <<https://www.ufuni.org/news/judicial-review-supports-ufu-position>>, accessed 15/10/2019.
- Farming UK (2018), 'NI farmers in 'planning limbo' due to ammonia', <https://www.farminguk.com/News/NI-farmers-in-planning-limbo-due-to-ammonia_50414.html>, accessed 21/06/2019.
- UK Government and Irish Government (2020), 'New Decade, New Approach', (Belfast), 1-62.
- UNECE (1998), 'UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention)', (Aarhus), 1-25.
- Vaughan, D. (1999), 'The Dark Side of Organizations: Mistake, Misconduct, and Disaster', *Annual Review of Sociology*, 25, 271-305.
- (2007), 'Beyond Macro- and Micro-Levels of Analysis, Organizations, and the Cultural Fix', in H. N. Pontell and G. Geis (eds.), *International Handbook of White-Collar and Corporate Crime* (New York: Springer International Publishing), 112-29.
- Vaughan, D. (2002), 'Criminology and the sociology of organizations Analogy, comparative social organization, and general theory', *Crime, Law & Social Change*, 37, 117-36.
- Velicu, I. and Kaika, M. (2017), 'Undoing environmental justice: Re-imagining equality in the Rosia Montana anti-mining movement', *Geoforum*, 84, 305-15.
- Walker, G. (2012), *Environmental Justice: Concepts, evidence and politics* (Abingdon: Routledge).
- Walker, G. and Bulkeley, H. (2006), 'Geographies of environmental justice', *Geoforum*, 37 (5), 655-59.
- Walker, G. B., Seneca, S. L., and Daniels, S. (2006), 'From the Forest to the River: Citizens' Views of Stakeholder Engagement', *Human Ecology Review*, 13 (2), 193-202.
- Walters, R. (2003), *Deviant Knowledge: Criminology, Politics and Policy* (Portland: Willan Publishing).
- (2006), 'Crime, Bio-Agriculture and the Exploitation of Hunger', *The British Journal of Criminology*, 46 (1), 26-45.
- (2007), 'Food crime, regulation and the biotech harvest', *European Journal of Criminology*, 4 (2), 217-35.
- (2010), 'Eco crime', in J. Muncie, D. Talbot, and R. Walters (eds.), *Crime: local and global* (Cullompton: Willan Publishing), 45-67.
- (2011), *Eco Crime and Genetically Modified Food* (London: Routledge).
- Walters, R. and Martin, P. (2013), 'Crime and the commodification of carbon', in R. Walters, Diane Westerhuis, and T. Wyatt (eds.), *Emerging Issues in Green Criminology* (Basingstoke: Macmillan), 281-301.
- Ward, T. (2004), 'State Harms', in P. Hillyard, et al. (eds.), *Beyond criminology: Taking harm seriously* (London: Pluto Press), 189-98.
- Weinberg, A. and Gould, K. (1993), 'Public participation in environmental regulatory conflicts: Treading through the possibilities and pitfalls', *Law Policy*, 15 (2), 139-68.

- Welch, C., et al. (2002), 'Corporate elites as informants in qualitative international business research', *International Business Review*, 11, 611-28.
- Wenz, P. (1988), *Environmental Justice* (New York: State University of New York Press).
- Westra, L. (2004), *Ecoviolence and the law: Supranational normative foundations of ecocrime* (Ardsley, NY: Transnational Publishers).
- Wetherell, M., Taylor, S., and Yates, S. (2001), *Discourse Theory and Practice: A Reader* (London, New York: Sage).
- White, R. (2011), *Transnational Environmental Crime: Towards an eco-global criminology* (Abingdon: Routledge).
- (2013a), 'Land Theft as Rural Eco-Crime', *International Journal of Rural Criminology*, 1 (2), 203-17.
- White, R. and Yeates, J. (2019), 'Farming and climate change', in A. Gray and R. Hinch (eds.), *A Handbook of Food Crime: Immoral and Illegal Practices in the Food Industry and What to Do About Them* (Bristol: Policy Press), 341-62.
- White, R. (2003), 'Environmental Issues and the Criminological Imagination', *Theoretical Criminology*, 7 (4), 483-506.
- (2008), *Crimes Against Nature. Environmental criminology and ecological justice* (New York: Willan Publishing).
- (2014), 'Eco-justice and Problem-solving Approaches to Environmental Crime and Victimisation', in T. Spapens, R. White, and M. Kluin (eds.), *Environmental Crime and its Victims* (London: Ashgate Publishing Limited), 117-29.
- (2018a), *Climate change criminology* (Bristol: Bristol University Press).
- White, R. and Heckenberg, D. (2014), *Green criminology: An introduction to the study of environmental harm* (London, New York: Routledge).
- White, R. and Kramer, R. (2015), 'Critical Criminology and the Struggle Against Climate Change Ecocide', *Critical Criminology*, 23 (4), 383-99.
- White, R. (2013b), *Environmental harm: an eco-justice perspective* (Bristol: Policy Press).
- (2016), 'The Four Ways of Eco-global Criminology', *International Journal for Crime, Justice and Social Democracy*, 6 (1), 8-22.
- (2017), 'Technology, environmental harm and green criminology', in M. R. McGuire and T. Holt (eds.), *The Routledge Handbook of Technology, Crime and Justice* (Oxon, New York: Routledge), 281-97.
- (2018b), 'Critical green criminology', in W. DeKeseredy and M. Dragiewicz (eds.), *Routledge Handbook of Critical Criminology* (Oxon, New York: Routledge), 156-72.
- (2018c), 'Green victimology and non-human victims', *International Review of Victimology*, 24 (2), 239-55.
- Whittaker, S., Mendel, J., and Reid, C. (2019), 'Back to Square One: Revisiting How We Analyse the Right of Access to Environmental Information', *Journal of Environmental Law*, 31 (3), 465-85.
- Whyte, D. (2004), 'Corporate Crime and Regulation', in J. Muncie and D. Wilson (eds.), *Student Handbook of Criminology and Criminal Justice* (London: Cavendish), 133-52.
- (2009), *Crimes of the Powerful: A Reader* (Berkshire: Open University Press).
- (2014), 'Regimes of Permission and State-Corporate Crime', *State Crime*, 3 (2), 237-46.
- Whyte, D., Muncie, J., and Wilson, D. (2004), 'Regulation and Corporate Crime', in D. Whyte, J. Muncie, and D. Wilson (eds.), *Student Handbook of Criminology and Criminal Justice* (London: Cavendish).
- Whyte, D. (2016), 'It's common sense, stupid! Corporate crime and techniques of neutralization in the automobile industry', *Crime, Law and Social Change*, 66 (2), 165-81.
- Wilks, S. (2013), *The Political Power of the Business Corporation* (London: Edward Elgar Publishing).
- Williams, C. (1996), 'An environmental victimology', *Social Justice*, 23 (4), 16-40.
- Williams, O. (2005), 'Food and justice: The critical link to healthy communities', in D. Pellow and R. Brulle (eds.), *Power, Justice, and the Environment: A Critical Appraisal of the Environmental Justice Movement* (Cambridge: MIT Press), 117-30.
- Willig, C. (2014), 'Interpretation and Analysis', in U. Flick (ed.), *The SAGE Handbook of Qualitative Data Analysis* (London: SAGE Publications), 126-38.

- Wilson, J. and Swyngedouw, E. (2014), 'Seeds of dystopia: Post-politics and the return of the political', in J. Wilson and E. Swyngedouw (eds.), *The Post-Political and Its Discontents* (Edinburgh: Edinburgh University Press), 1-22.
- Wilson, S. M., et al. (2002), 'Environmental injustice and the Mississippi hog industry', *Environmental Health Perspectives*, 110, 195-201.
- Winders, B. and Nibert, D. (2004), 'Consuming the surplus: expanding "meat" consumption and animal oppression', *International Journal of Sociology and Social Policy*, 24 (9), 76-96.
- Wing, S., et al. (2008), 'Integrating epidemiology, education, and organizing for environmental justice: Community health effects of industrial hog operations', *American Journal of Public Health*, 98 (8), 1390-97.
- Wing, S. and Wolf, S. (2000), 'Intensive Livestock Operations, Health, and Quality of Life among Eastern North Carolina Residents', *Environmental Health Perspectives*, 108 (3), 233-38.
- Winlow, S. (2019), 'What Lies Beneath? Some notes on Ultra-realism, and the Intellectual Foundations of the 'Deviant Leisure' Perspective', in T. Raymen and O. Smith (eds.), *Deviant Leisure* (London: Palgrave), 45-65.
- Winlow, S., et al. (2015), *Riots and Political Protest: Notes from the Post-Political Present* (London: Routledge).
- Winter, M. and Lobley, M. (2016), 'Is there a future for the small family farm in the UK?', (London).
- Wolford, W. (2008), 'Environmental Justice and the Construction of Scale in Brazilian Agriculture', *Society & Natural Resources*, 21 (7), 641-55.
- Wyatt, T. (2014), 'A criminological exploration of the industrialisation of pig farming', *Internet Journal of Criminology*, 12-28.
- Wyatt, T. and Brisman, A. (2017), 'The Role of Denial in the 'Theft of Nature': A Comparison of Biopiracy and Climate Change', *Critical Criminology: An International Journal*, 25 (3), 325-41.
- Yin, R. (2003), *Case study research: design and methods* (Thousand Oaks: SAGE Publications).
- (2014), *Case Study Research* (Thousand Oaks: SAGE Publications).
- Young, I. (1990), *Justice and the Politics of Difference* (Princeton: Princeton University Press).
- (1997), 'Unruly Categories: A Critique of Nancy Fraser's Dual Systems Theory', *New Left Review*, 222.
- (2003), 'From Guilt to Solidarity', *Dissent*, 50 (2), 39-44.
- Young, I. (2000), *Inclusion and Democracy* (Oxford, New York: Oxford University Press).
- (2001), 'Activist Challenges to Deliberative Democracy', *Political Theory*, 29 (5), 670-90.
- Zaitch, D. and Gutierrez Gomez, L. (2015), 'Mining as state-corporate crime', in G. Barak (ed.), *The Routledge International Handbook of the Crimes of the Powerful* (London and New York: Routledge), 72-86.
- Zilney, L., McGurran, D., and Zahran, S. (2006), 'Environmental Justice and the Role of Criminology', *Criminal Justice Review*, 31 (1), 47-62.
- Zizek, S. (1999), *The Ticklish Subject: The Absent Centre of Political Ontology* (London, New York: Verso).
- (2000), 'Holding the place', in J. Butler, E. Laclau, and S. Zizek (eds.), *Contingency, hegemony, universality: Contemporary dialogues on the left* (London: Verso), 308-329.
- (2008), *The Sublime Object of Ideology* (London: Verso).
- (2009), *Violence: Six Sideways Reflections* (London: Profile Books).