



Reaching Food Security: The legislative challenges of Seed exchange in kind

A discourse analysis of the European Commission's PRM proposal

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En diskursanalys av Europeiska Kommissionens förslag till PRM

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Abstract

On the 5th of July 2023, the European Commission presented a new Plant Reproductive Material directive with a general objective of ensuring high quality and diversity that contributes to food security, protects biodiversity, and restores forest ecosystems. The aims are to increase efficiency and promote and support mainly sustainable innovation. In the proposal, there are three Options, Option 1 - Highest degree of flexibility, Option 2 - Balancing flexibility and harmonisation Option 3 - Highest degree of harmonisation, and the legal text is based on Option 2.

The objective of this master thesis is to examine the discursive tendencies of food security in the proposal and to discuss how the proposal might challenge and affect small-scale farmers who are exchanging seeds in kind.

- What discursive tendencies of food security can be seen in the European Commission's proposal for a directive on plant reproductive materials?
- How does the discourse of food security differentiate between options 1, 2 and 3 in the proposal?

The study was carried out firstly by a content analysis to find relevant materials, and then by adding a problematizing dimension, a discourse analysis of sort. To perform the discourse analysis an analytical framework was made, which is based on other researchers' definitions, and is the base of the discourse analysis. Based on the researcher's work, two discourses could be used: Liberal Food Security and Food Sovereignty. By applying the analytical framework to the material, it was possible to see what discourse was most prominent.

The results indicate that both Liberal Food Security and Food Sovereignty can be found in the material, however, they do differentiate between the options presented by the European Commission. Liberal Food Security is most prominent in Option 1, but also provides the most flexibility for Food Sovereignty, Liberal Food Security is most prominent in Option 2, but has some tendencies toward Food Sovereignty, and in Option 3 Liberal Food Security is the only discourse of the two that is prominent.

Keywords: Food Security, Food Sovereignty, European Commission, Seed exchange in kind

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Abbreviations

PRM	Plant Reproductive Materials
EU	European Union
FAO	Food and Agriculture Organisation
UN	United Nations
CAP	Common Agricultural Policy
WTO	World Trade Organisation
DUS	Distinctness, uniformity, stability
VSCU	Value of sustainable cultivation
GMO	Genetically modified organism

1. Introduction

The rules for the Plant Reproductive Material (PRM) of crops have been in place at the European Union level, previously called the European Communities, since 1966. The directive concerning the marketing of cereal seed is known as Directive 66/402/EEC and is one out of 10 directives that are collectively called the “PRM marketing Directives”. The EU evaluated the PRM marketing Directives in 2008 and carried on being evaluated in 2013 and 2022, and the conclusion was that the directives had a significant impact on free movement, availability, and quality of PRM. The evaluation also found fragmentation and complexity in the legislation framework, which has led to fragmented implementation of the legislation in the Member States. Furthermore, the proposal of the new PRM legislation is made within the EU strategic policies context, the European Green Deal, Farm to Fork strategy, Biodiversity strategy and the EU strategy on adaptation to climate change. There is an aim to support the conservation and sustainable use of plant genetic resources by proposing lighter rules on organic varieties, conservation varieties, seed conservation networks and the exchange of seeds between farmers.

On the 5 of July 2023, the EU published a new proposal on the PRM directive. The new proposal aims to increase efficiency, harmonize implementation, reduce administrative burden, and support innovation. The general objective is to ensure a PRM of high quality and diversity to contribute to food security, protection of biodiversity and restoration of forest ecosystems. In the proposal, rules on seed exchange in kind are added to the legislation, which differs in the three Options: Option 1 - The highest degree of flexibility, Option 2 - Balancing flexibility and harmonisation (preferred option), and Option 3 - The highest degree of harmonisation.

The objective of this master's thesis is to examine the discursive tendencies of food security in the proposal on PRM written by the European Commission. Furthermore, the aim is to discuss how the new proposal challenge and affect small-scale farmers and farmers exchanging seeds in kind and discuss the power dynamic within the food system.

Research questions:

What discursive tendencies of food security can be seen in the European Commission's proposal for a directive on plant reproductive materials?

How does the discourse of food security differentiate between options 1, 2, and 3 in the proposal?

2. Background

In the Background and previous research section, the history of the global food systems (1.1) will be presented, along with sections about the Sustainable development goals (1.2), specifically goal 2, Zero hunger, and the European strategy to create a sustainable food system (1.3). Furthermore, a historical overview of the EU plant reproductive material directive (1.3.1), and an overview of social movements for free seeds (1.4).

2.1 A brief history of the food system

Food historically has been a global interest. Spices, sugar, and salt have played a big part in trade over centuries, and plantation agriculture for certain crops has been key in establishing colonial power and urban growth (Clapp, 2020:23). This historical era is what McMichael calls “the British-centred food regime” (McMichael, 2013:5).

After the Second World War, the United States wanted to dominate the global food trade and started to export agricultural surpluses as food aid (Clapp, 2020:23). This is what McMichael (2013) calls “the US-centred food regime”. The agricultural surpluses descended from price-supported farm programs, opening up the possibility of cheap food-aid programs (McMichael, 2013:5-6). Exporting the agricultural model included the export of pesticides, fertilizers, monocropping, machinery, irrigation, and new seed hybrids. In 1960, the United States scaled back its food aid provision due to high storage costs and began to actively promote the Green Revolution in developing parts of the world (Clapp, 2020:44-45).

The previous regimes laid the groundwork for the globalized food economy, opening the possibility for new norms and practices, which created agricultural trade patterns that were uneven, with a norm of industrialized agriculture and benefited rich countries' power balance (Clapp, 2020:39). Even though the Green Revolution was organised publicly, the private sector had an important role in distributing industrial agricultural models in the developing world. Agricultural inputs corporations, based in the U.S. and Europe, were able to expand their markets

in selling fertilizers, hybrid seeds, and pesticides, making the developing countries dependent on these inputs (Clapp, 2020:47). McMichael (2013:6) calls this third regime “the corporate food regime” and argues that the food regime is defined by the forms of discarding markets, mainly the displacement of those producers who are not able to compete with subsidized or monopolized market powers, which will enhance certain power relations (McMichael, 2013:41).

High-input agriculture has had an ecological impact on the environment. Clapp (2020) explained that the adaptation of hybrid seeds worldwide resulted in fewer varieties of crops being planted, which has had a negative effect on the nutritional diversity and biodiversity. Wheat, maize, and rice are more than half of the world's food supply. Even though there are many different varieties of these crops, the modern varieties are planted in developing countries. The Food and Agriculture Organization (FAO) of the UN reported that about 75 % of the crop diversity of the world has been lost (Clapp, 2020:56). An example of different types of wheat can be found in heritage grain/cereals. The Swedish University of Agriculture (2023) explains that some of the characteristics of old heritage grains are that they have great genetic diversity, often have a local connection, and some specific physical traits, such as taller and thinner straws, deeper root system and have a more robust pattern of growth. Heritage cereals are also known for giving a smaller yield and are often cultivated in small-scale, agroecological, farming system (The Swedish University of Agriculture, 2023).

Monoculture in agriculture is also a main reason for diversity loss. Monocropping is practised for high efficiency, however, the use of non-genetic diversity increases the risk for diseases or pests to manifest, making it essential to use pesticides. Artificial inputs are key to improving the yield in monoculture but are also a main reason for ecological degradation, such as in soil, water, and air (Clapp, 2020:56-57). Pesticide use is expanding, though research has shown that only a fraction of the pesticides reach their target, the rest are released and contaminate the surrounding environment, impacting wildlife and can be linked to a decrease in human health in the area (Clapp, 2020:57).

2.2 Sustainable development goals

Over the last decades, there have been several international initiatives on sustainability and food security. United Nations member states adopted the 2030 Agenda for Sustainable Development Goals in 2015 which is a “call to action” for both the poor and rich, to work with challenges related to food security. The second goal is to end hunger, and there are both goals to have sustainable food production and double the productivity in agriculture. Each goal has specific targets, and the

targets aim to endorse trade liberalization, as well as modern agricultural technologies (UN Sustainable Development Goals, n.d.). In the specific targets for Goal 2 “Zero Hunger”, which should be reached by 2030, the aims are to:

- end hunger and ensure access to food by all people, with a focus on people in vulnerable socioeconomic situations having access to nutritious, safe and sufficient food all year around (UN Sustainable Development Goals, n.d.).
- end malnutrition, including a focus on children under 5 years of age and a focus on malnutrition in girls and women (UN Sustainable Development Goals, n.d.).
- double the agricultural productivity and incomes of small-scale food producers, with a focus on indigenous people, women, and family farms, including equal access to land, knowledge, and access to markets and opportunities for value addition and non-farm employment (UN Sustainable Development Goals, n.d.).
- ensure sustainable food production systems and the implementation of resilient agricultural practices that increase productivity and production, that maintain ecosystems and strengthen the capacity for adaptation to climate change, extreme weather, drought, flooding, and other disasters (UN Sustainable Development Goals, n.d.).
- maintain the genetic diversity of seeds, cultivated plants, and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed (UN Sustainable Development Goals, n.d.).

2.3 EU, The Green Deal, and the Farm to Fork Strategy

In 1962, the European Communities introduced the common agricultural approach, later known as the Common Agricultural Policy (CAP). The aims in 1962 were to; increase agricultural productivity; ensure a fair standard of living for farmers; guarantee the availability of supplies; stabilise the markets; establish a secure supply chain with reasonable prices; and harmonise competition rules across countries (European Council a), 2023). Since then, the European Council a) (2023) has made several changes to improve farmers' income, liberalize the market and improve sustainability and food safety (European Council a), 2023). In 2023, the CAP was reformed, and the new aims are to provide more targeted support to

smaller farms; enhance the contribution of agriculture to EU environmental and climate goals; and allow greater flexibility for member states in adapting measures to local conditions. There is also some main aspect of the policy, such as the use of a performance-based approach, where member states report their achievements, and direct payments that are targeted to subjected and strategic interventions within rural development (European Council b), 2023).

The European Commission presented the Green Deal in 2019, which was approved by the member states in 2020. Within this deal, there are several goals, such as making transport sustainable for all; leading the third industrial revolution; working with nature to protect our planet and health; and boosting climate action. The bigger goal is to reduce emissions by 55% by 2030, compared to the levels in 1990, and aim to be climate neutral in 2050 (European Commission a), n.d.).

There are specific goals for the agricultural sector within the EU member states; to ensure food security in the face of climate change and biodiversity loss; reduce the environmental and climate footprint of the EU food system; strengthen the EU food system's resilience; lead a global transition towards competitive sustainability from farm to fork (European Commission b), n.d.). The European Commission proclaims that the agricultural strategy, called the Farm to Fork Strategy, is at the heart of the European Green Deal (European Commission c), n.d.). According to the European Commission, there is a need to redesign the European food system and put the food system on a path of sustainability. This will not only lead to scientific discoveries and new technologies that will benefit stakeholders, but it will also bring new opportunities for operators in the food value chain (European Commission c), n.d.). There is an aim to accelerate the transition of the food system to be more sustainable in the Farm to Fork Strategy. The aims in the Farm to Fork strategy are to; Have a neutral or positive environmental impact; Help to mitigate climate change and adapt to its impacts; Reverse the loss of biodiversity; Ensure food security, nutrition, and public health. Making sure that everyone has access to sufficient, safe, nutritious, sustainable food; preserving affordability of food while generating fairer economic returns, fostering the competitiveness of the EU supply sector, and promoting trade (European Commission c), n.d.).

2.3.1 The directive of plant reproductive material

European Communities, which later changed its name to the European Union, introduced the Plant Reproductive Material (PRM) Directive between 1966 and 1971, with the addition of some later directives. The framework for the legislation is made up of 11 vertical directives that deal with specific plant groups, and one horizontal directive of the Common Catalogue of Varieties. The directive of fodder

plant seeds and the directive of cereal plant seeds are both from 1966 but have had several amendments (European Commission, 2021:23-24).

The PRM directive had been concluded in an evaluation in 2007-2008 as outdated and too complex (European Commission, 2021:7). The PRM directive leaves room for interpretation by member states, leaving fragmented legislation which resulted in non-harmonised implementation and therefore resulted in a non-level playing field on the free market (European Commission, 2021:9). The European Council requested in late 2019 that the European Commission submit a study at the end of 2020, where the different options to update the PRM legislation would be presented. The aim was to make a simpler and harmonised framework for all sectors related to seed and to create links to new principles and rules regarding control legislation and plant health (European Commission, 2021:6). The main objectives found in European Commission (2021:6) working document of the study were to; grant more responsibility and flexibility to operators; decrease administrative burden and costs by making the rules more flexible and efficient across the EU; create more opportunities for niche markets and small producers; make the rules more compatible with policy aims such as more sustainable agriculture and the enhancement and conservation of biodiversity; streamline administrative procedures to support innovation; and establish a level playing field by introducing the principle of cost recovery.

There were new objectives, partly because of the Green Deal, and there was an aim to ensure that plant varieties were climate-proof and that they should mitigate and adapt to the impact of climate change, and supply food security, biodiversity and more sustainable food production and agriculture. Furthermore, the Farm to Fork strategy aims to provide a more sustainable food system by underlining the importance of seed diversity and security (European Commission, 2021:7). In the legal and political context of the working document the Commission presents that seed will play a key part in making the European agriculture more sustainable, and by implementing new and improved varieties to farmers they can ensure higher productivity and better food quality, making innovation in plant breeding an important role in contributing to food security and seed diversity (European Commission, 2021:9).

The breeding and development of seed varieties need to be processed through stringent registration to ensure that the varieties are distinct, uniform, stable and perform well. This process takes about 10 years and is expensive and has been criticised. There is also evidence that this registration process creates burdens for the registration of locally adapted varieties (European Commission, 2021:12).

2.4 Social movements in the food system

There is a growing discontentment with the current food system. Groups and social movements have been formed fighting for food sovereignty and food justice, arguing that the proposed environmental solutions to solve the problems in the food system will not sufficiently affect the existing problem of the distance between farmers and consumers, food being grown far away, will continue to develop. The main problem for these groups is the power imbalance of the food system, with a shift to the middle space, which has made food detached from its local and traditional way of serving, and threatens the cultural heritage (Clapp, 2020:163).

These groups have identified three problematic issues in the world food economy: the corporate-dominated food supply chains; hierarchies in corporate power; and ecological damage due to large monocultural farming methods. Peschard and Randeria (2020) argued that the people struggling the most from the problems emerging in the world food economy are those whose lives depend on agriculture. Problems are for example located in the right to land and seeds. Agricultural expansion can displace communities, and farmers are not allowed to save seeds and can be prosecuted for trespassing seed patents (Peschard and Randeria, 2020).

These groups advocate for an alternative food model. They have built an alternative food supply model, removing the problem of food distance and relocalising the food systems, which would remove the domination of the food supply chain by the corporations. They also promote more just and fairer agricultural and food relationships between countries of different economies, rich or poor, with, for example, a network to exchange food, removing the hierarchies in corporate power. To remove the damage from the monocultural food system, they promote agroecological systems, both in the ecological sense and also in the social sense by approaching the food system from a bottom-up perspective (Clapp, 2020: 164).

3. Qualitative text analysis as a method

3.1 The dimension of discourse

Method and theory are always connected, and cannot be separated (Drisko, et al., 2015). In this case, the chosen method of qualitative text analysis with a focus on discourse analysis. The researcher uses the method to create “tools of inquiry”, which are designed to explain what the researcher takes to exist (Drisko, et al., 2015).

Widén (2015) presents three different dimensions as guidelines used in text interpretation, and the tools of inquiry in this thesis will be based on Widéns' (2015) dimension 3. Dimension 3 is applied in an attempt to interpret what consequences the text has outside its context. This dimension can be used to analyse the texts to create an understanding of political power structures, or how institutions affect society at large. This dimension enables the analysis of dominant ideas and the normative values in the text, and the consequences on society (Widén, 2015:178–179). Widén (2015:180-181) argues that legal texts and directives are categorised as “political texts” since they are written in the formal political arena, and that dimension 3 is applied to understand what impact the legislation can have on society.

3.2 Building an analytical framework and analysis

The first step in this thesis was to read literature relevant to the chosen topic and formulate the research problem. Step two was to decide which material that would be analysed. The approach to finding the material was a qualitative content analysis, to locate relevant themes in the chosen text (Boréus & Kohl, 2018:50). Next, the chosen text was coded according to the chosen themes, (the themes can be found in Table 4 in section 5.4.).

The material was coded three times whilst looking for the themes, with a time gap of about 1 week. The coded material was compiled and further analysed according

to the chosen theoretical framework and themes. The triple coding was done to ensure reliable results (Boréus & Kohl, 2018:60–62). The qualitative analysis was first read through without underlying theory, and then the problematising dimension was applied, e.g. read through with underlying theory (Widén, 2015). The application of a problematising dimension could be construed as a discourse analysis since the method of discourse analysis is vast and has different traditions. With this particular discourse analysis, the aim is to understand a small part of the world (Bolander & Fejes, 2015:92).

The theories presented in the analytical framework were used as discourses in the examination. At the base of the analytical framework/the problematising dimension is a merge of Dryzek's discourse elements, and Holt-Giménez's and Lee's definitions of the discourses of Food Security and Food Sovereignty. The analytical framework was applied to critically examine the most dominant discourse in the proposal on plant reproductive material by the European Commission. The material was colour-coded, and by highlighting paragraphs, sections, and articles to identify the discourses in the proposal. A table differentiating the discourses was made before the examination to find relevant subjects in the coding. These were then used as the base for analysing the discourses.

The approach in this examination has been deductive, based on clear theoretical assumptions that have been tested on empirical material. First, the empirical material was analysed without any underlying theory, a content analysis, ensuring that the content of the material was suitable for the examination. It was then examined with the analytical framework, a deductive approach.

3.3 Criticism towards discourse analysis

It is important to raise the problems with a deductive approach in qualitative research regarding the problematic dimension and discourse analysis. As a researcher always has a discourse of their own, it can be hard to differentiate between the interpretation with the underlying theory and the interpreter's independence from the discourses. Alvehus (2016:109) explains that it is a challenge to conclude whether it is the theoretical framework that has been investigated, or if it is the interpreter's ability to interpret the material. Knowing of this challenge, an interpretation-oriented strategy is a part of criticism towards the chosen methodologically, based on Bergström and Boréus (2018:32), since I, as the researcher of this thesis, is unable to overlook my previous knowledge and prejudice in this area, and such, this study can include misinterpretations.

Some critical question has been asked about this study to ensure that this examination has validity. Thornberg and Fejes (2015:257-258) provide 17 critical questions, a sort of checklist, that can assess the level of validity. The research question in this study suits qualitative research, and the method of analysis fits the purpose of this research. The chosen theories and background chapter are relevant to the purpose and research questions, and the argument for the selection of materials and the theory of choice that has been argued for can be seen as reasonable. There is a section on the weaknesses of the chosen method. The collection of the results has been presented in the chapter on method, which has been coded more than once, and the step-by-step has been presented. There are no ethical points in this research. The analysis has been made very systematically, following Table 4. presented in the analytical framework. Theory has played a big part in ensuring the result of this study, and the result answers the chosen research questions. The result is structured and anchored in the data.

4. Selection of material

On the demand by the European Council, the European Commission has written a proposal for a new legislation for Plant Reproductive Material (PRM). In this study, an 86-page legislation has been chosen as the material. The directive for PRM has had several evaluations over the years, and this latest proposal, published 5th of July 2023, is the first that includes legislation on seed exchange in kind.

The author of this study has a background working with heritage cereals and has followed the progression of the PRM legislation. With a wider definition of food security, including both a liberal and a protectionist perspective, there might be value in examining this specific proposal since it will affect both large and small-scale producers, and farmers producing food from heritage cereals and legislation of seed exchange in kind.

Therefore, the material of choice can hopefully contribute to further understanding of what discourse tendencies of food security are most prominent in this legislation.

5. Analytical Framework

Food security is a wide definition that includes both a liberal agricultural trade model and a protectionist agricultural trade model. Lee (2013) argues that there is one part of Food Security that he defines as “trade-oriented food security”, which is based on an economic liberal agricultural model and high productivity. The term food security is a normative concept that usually points to liberal food security (Clapp, 2014).

The term Food sovereignty is often defined as a separate part from Food Security; however, Clapp (2014) argues that not only is food sovereignty a part of food security but is also a part of the solution to achieving food security on a global scale. Clapp (2014) argues that there is a risk of losing valuable insights since both the normative definition of food security and the food sovereignty movement have useful concepts, which help us formulate policies and address issues of global inequality and hunger in the global food system.

In this study, I have chosen to have a more open-ended definition of food security, including both liberal and protectionist perspectives on food security, which will be presented as Liberal Food Security and Food Sovereignty in the following chapters. However, not all points in protectionist Food Sovereignty are in line with the normative view on Food Security and therefore might contradict some of the discursive points.

5.1 Liberal Food Security

The discourse of liberal food security advocates for high productivity and efficiency in the food system to reach the goal defined at the World Food Summit 1996, with an addition in 2001, as: “*Food Security exists when all people, at all times have physical, social and economic access to sufficient, safe and nutritious food that meet their dietary needs and food preferences for an active and healthy life*” (Clapp, 2014, Eriksen, 2008). In 2008, the Food and Agricultural Organisation (FAO) referred to the four pillars of food security when explaining the concepts of availability, access, utilisation and stability (Clapp, 2014). Having access to food is

seen as a critical point of food security, and in this discourse, access is determined by the possibility for a population to change their monetary and political capital into food. Therefore, food security is often analysed in terms of why a part of the population is malnourished and hungry. The main cause of the lack of food security is often defined as a lack of growth, agricultural productivity and ensuring improved market functions. However, the point on how to receive access to food gives insight into why the food system in the neoliberal economy is based on inequity, due to the differences in income, and social and political power (Ericksen, 2008).

The main focus of the discourse on liberal food security is the orientation of 'productivism', to prioritise food availability over other aspects (Clapp, 2014). Lee (2013) describes the model of agricultural production in the food security discourse as 'Productivist/Industrial'. Clapp (2014) argued that the mainstream policy agenda of food security did not prioritize the access of the population to food, but rather that food production is a priority. Jarosz, (2014) argued that the concept of food security is embedded in the discourse of neoliberal discourse and that there is an emphasis on individual access to corporatized, global food. Trade is seen as a key element of liberal food security and good governance at international institutions. In this case, good governance is seen in the premise of increasing the accessibility and the supply of food through increasing local production or the global market, which is triggered by productivist/industrial agriculture (Jarosz, 2014).

In the discourse of liberal food security access to food is regarded as a key concern, and the way of ensuring that the population have access is to ensure that they are a part of the growing economy. With a corporatized food system, and with an emphasis on agricultural modernization and investment, there is an opportunity for increased employment, which ensures that the population have capital to buy the food, e.g. access to food. Therefore, there is a key focus in the discourse of liberal food security on production and transformation towards the modernisation of the agricultural model on a global scale.

5.2 Food Sovereignty

The discourse of food sovereignty is challenging the neoliberal development in the food sector and is an important discourse that social movements are using to organise (Anderson, *et al.*,2019). La Via Campesina was the first movement to bring food sovereignty to the attention of the international arena at the World Food Summit in Rome in 1996. The idea of food sovereignty was the result of farmers perceiving the international agricultural trade rules established at the WTO as unfair, and farmers wanting to reduce their dependence on the international

agromarket. Instead, they saw the opportunities in providing food to the local markets (Clapp, 2020:167). Since then, more organisations have joined the movement and established a definition of the concept. The definition, states that food sovereignty “... ensures that the rights to use and manage lands, territories, waters, seeds, livestock and biodiversity are in the hands of those of us who produce food.” (Clapp, 2020:168).

From the perspective of the discourse of food sovereignty, neoliberal trade relations and structural adjustments, such as subsidies on agriculture in developed countries, are seen as a way to erode the sovereignty of the state. The discourse of food sovereignty was initially based on the foundation that there should be national sovereignty within agriculture, and La Via Campesina argued that the liberalisation of the food market destroyed local productive capacities, as well as rural societies (Jarosz, 2014). La Via Campesina declared seven principles of food sovereignty to address the lack of decision-making for small-scale farmers, and its promotion of antiglobalization and a sustainable model of agricultural production. The seven principles are that:

- Food is a basic human right (Jarosz, 2014).
- Land reform must give ownership and control to those who work it and return territories to indigenous people (Jarosz, 2014).
- Food sovereignty is the sustainable care and use of land, water, and seeds to preserve biodiversity (Jarosz, 2014).
- The basis of food sovereignty is farming people’s right to freely use and protect genetic resources they have developed. The WTO’s Intellectual Property Rights agreement is rejected (Jarosz, 2014).
- National agricultural policies must prioritise production for domestic consumption and food self-sufficiency (Jarosz, 2014).
- Multilateral institutions and financial speculations undermine food sovereignty (Jarosz, 2014).
- An International Code of Conduct for transnational corporations and a system of regulation and taxation needs to be instituted and enforced (Jarosz, 2014).
- Food must not be used as a weapon. Food sovereignty means that peasants and small farmers must have direct input in formulating agricultural policies at all levels (Jarosz, 2014).

The food sovereignty movement is a broad peasant movement with a main focus on farmers’ rights and countries’ and communities’ rights to create and define their

food policies that match the local ecological circumstances. The food sovereignty movement also advocates that consumers in these communities should have the right to suitable food (Clapp, 2020:167). Urban and rural projects worldwide have adopted this discourse to transform the food system while stressing the importance of the right of producers of food (farmers), the democratisation of the food system and independence from external actors (Political elite, transnational agribusiness) with power over the food systems (Anderson, *et al.*,2019).

Lee (2013) defined the model of agriculture production in the food sovereignty discourse as agroecology. Anderson, *et al.*, (2019) found in a study that social movements argue that agroecology and food sovereignty are inseparable when discussing alternative food systems. The description of agroecology was developed by social movements and is instead of resource-intensive a knowledge-intensive agricultural system. Removing the vertical approach in education and promoting a peer-to-peer-based education, e.g. horizontal education (Anderson, *et al.*,2019).

The discourse of food sovereignty has a model of production that is orientated in agroecology. Farmers' right to decide what to produce and that they influence national agro-policies is seen as a key concern and ensuring that the population have access to culturally appropriate food and that the production of food is prioritised domestically. Food sovereignty is an antiglobalisation discourse and identifies that there are opportunities to provide the local market with food, which is where their economy is mainly based.

5.3 The definition of the discourses Food Security and Food Sovereignty

Several scientists identify different discourses within the sustainability field. Dryzek (2022) provided a high complexity and several dimensions to his classification of environmental discourses. He argued that all environmental discourses need to be placed within industrialism, with the characterizing terms of an overarching commitment to economic growth, the quantity of goods and services, and that well-being is connected to having enough materials (Dryzek, 2022:14). The environmental concern and motivation within this discourse is focused on ensuring that resources always benefit the growing economy. This is the first dimension that needs to be applied when analysing environmental discourses.

The second dimension that needs to be applied according to Dryzek (2022), is that the industrialism perspective can either be prosaic or imaginative. The prosaic dimension considers the political economy as a given; environmental problems are in terms of troubles encountered by industrial political economy; environmental

problems require action, which can be radical and work towards a big change, but not a new society. The imaginative dimension does not consider the political economy as a given but seeks to redefine it; environmental problems are not seen as problems but as opportunities; treating environmental concerns is not in opposition to economic concerns, but has the potential of harmonizing; the environment is at the heart of society, economy, culture and moral system (Dryzek, 2022:14-15).

Furthermore, Dryzek (2022) presented in a table how the imaginative and prosaic dimensions can differ when being radical or reformist (see Table 1.).

Table 1. Dryzek's box of classifying environmental discourses (Dryzek, 2022:15-16)

	Reformist	Radical
<i>Prosaic</i>	<p>Environmental problem solving</p> <ul style="list-style-type: none"> • The political-economic status quo is the norm but in need of adjustment • Environmental problems are solved using public policy 	<p>Limits, boundaries, and survival</p> <ul style="list-style-type: none"> • Economic growth will result in exceeding the planetary boundaries • Seeks a wholesale redistribution of power within the industrial political economy
<i>Imaginative</i>	<p>Sustainability</p> <ul style="list-style-type: none"> • Wants to solve the conflict between economic value and environmental value • A confirmed discourse (Brundtland Report) 	<p>Green radicalism</p> <ul style="list-style-type: none"> • Rejects the basic structure of industrial society • Rejects the conceptualisation of the environment in favour of human well-being

When applying Dryzeks (2022) dimensions to the discourses of liberal food security and food sovereignty, a certain pattern begins to emerge. Holt- Giménez (2010) described in The Food Regime - Food Movement Matrix how the politics in the discourse of liberal food security can be seen as reformist, and how food sovereignty can be seen as radical. According to Holt-Giménez (2010), there is another distinction between the two discourses: Food Security is a part of the Corporate Food Regime, and Food Sovereignty is a Food Movement, see Table 2. This implies that liberal food security is prosaic and sees the political economy as a given, and food sovereignty is imaginative and does not see the political economy

as a given and that it requires a new society. Based on Dryzek’s (2020) classifications of environmental discourses, and Holt- Giménez (2010) we can place liberal food security in Dryzek’s (2022) section “Environmental problem solving”, and food sovereignty as “Green Radicalism”. Based on these different sections there will be different approaches to solving problems surrounding the food crisis, e.g., both the aim of reaching zero hunger, ensuring a thriving economy, and reaching environmental goals.

Table 2.. Based on Holt-Gimenez (2010) *The Food Regime – Food Movement Matrix*.

	Corporate Food Regime	Food Movement
<i>Discourse</i>	Food Security	Food Sovereignty
<i>Politics</i>	Reformist	Radical
<i>Model</i>	<ul style="list-style-type: none"> • Promoting certification of niche markets, such as organic, fair, local • Continue northern agricultural subsidies. • “Sustainable” roundtables for agrofuels, soy, forest products, etc. • Market-led land reform 	<ul style="list-style-type: none"> • Dismantle corporate agrifoods monopoly power • Equity • Communities should have the right to seed. • The food systems should be regionally based and governed democratically. • Sustainable livelihoods • Protection from overproduction and dumping of food to fuel local food systems. • Revival of agro-ecologically agriculture • Regulated markets and supply
<i>Approach to solving the food crisis</i>	<ul style="list-style-type: none"> • Increased industrial production and locally sourced food aid • Unregulated corporate monopolies • Expansion of GMOs and “bio-fortified/climate-resistant” crops • Public-private partnerships • Liberal markets • International sourced food aid 	<ul style="list-style-type: none"> • Locally sourced, sustainably produced, culturally appropriate, democratically controlled food

Lee (2013), provided an analytical framework for trade-oriented food security and food sovereignty, which was also based on Dryzek’s (2022, previous edition from 1997) and several other scientific discourses. This research includes the model of agri-trade and the approach to genetic materials (Table 3.).

Table 3. Based on Lee’s (2013) table of main elements of food security and food sovereignty

	Food Security	Food Sovereignty
<i>Model of agricultural production</i>	Productivism/Industrial	Agro-ecological
<i>Model of agri-food trade</i>	Liberalism	Protectionism
<i>Approach to genetic resources</i>	Private property rights	Anti-patent, communal

Lee (2013) argued that the definition of trade-oriented food security could include economic rationalism, e.g. that natural relationships are competitive and that the motivation of actors is driven by rational self-interest. This motivation of rational self-interest can be noted in the lack of solutions to environmental issues, except in the context of agricultural productivity and recognising private property. Within the discourse of liberal food security, there can be found motivation that international trade is the solution to the issues concerning SDG 2, Zero Hunger, by arguing that international trade would reduce food prices and enhance competitiveness in the food market, thereby rejecting a protectionist model of agri-food trade e.g. food sovereignty (Lee, 2013). According to Lee (2013), worries about global food security revived the discussion on various biotechnical techniques on plant-based materials to increase productivity and yields.

Lee (2013) argued that food sovereignty attaches great importance to the interrelationship between farmers and nature and the rejection of the normative political-economic system. With the rejection of the political-economic system, Lee (2013) defined that food sovereignty can be defined as a ‘populist’ discourse, and placed local actors, e.g. farmers, as victims. In the discourse, there is an argument that food sovereignty is the keyway to reach food security, that there must be a shift from international trade, and that national self-sufficiency must be met. Another important issue in the food sovereignty discourse was the property regimes of plant-based materials. According to Lee (2013), the food sovereignty movement focuses on the discussions regarding access to plant-based materials for farmers, e.g. non-patent seeds.

5.4 The Discursive Framework

Based on the material from Dryzek (2020), Holt-Giménez (2010) and Lee (2013) it is possible to interlink the information and provide a distinction between the two discourses (Table 4.) This chapter presents the table of the discursive framework

that will be the base for the analysis of the proposed legislation, found in Chapter 6, Results.

Table 4. The discursive framework

	Liberal Food Security	Food Sovereignty
<i>Dryzek's differentiation</i>	Prosaic, Reformist - <i>Environmental problem solving</i>	Imaginative, Radical – <i>Green radicalism</i>
<i>Model of agricultural production</i>	Industrial, productivism	Agroecological
<i>Model of agricultural trade</i>	Liberalism	Protectionism
<i>Model of the market</i>	<ul style="list-style-type: none"> • Promoting certification of niche markets, such as organic, fair, local • Continue northern agricultural subsidies • “Sustainable” roundtables for agrofuels, soy, forest products, etc. • Market-led land reform 	<ul style="list-style-type: none"> • Dismantle corporate agrifoods monopoly power • Equity • Communities should have rights to seed • The food systems should be regionally based and governed democratically • Sustainable livelihoods • Revival of agro-ecologically agriculture • Regulated markets and supply
<i>Approach to the food crisis</i>	<ul style="list-style-type: none"> • Increased industrial production and locally sourced food aid • Unregulated corporate monopolies • Expansion of GMOs and “bio-fortified/climate-resistant” crops • Public-private partnerships • Liberal markets • International sourced food aid 	<ul style="list-style-type: none"> • Locally sourced, sustainably produced, culturally appropriate, democratically controlled food
<i>Approach to genetic materials</i>	Private property	Communal, anti-patent

6. Results

This chapter is an analysis of the Proposal for a Regulation of the European Parliament and of the Council on the production and marketing of plant reproductive material in the Union, written by the European Commission, and published on the 5th of July 2023, Brussels (European Commission, 2023). The analysis was done by adapting the analytical framework compiled by other scientists, see Chapter 5.4. This chapter is analysed by adapting “theoretical glasses” and does not consist of any of the authors' opinions. All text is based on the legislation (European Commission, 2023) and analytical framework if nothing else is specified.

The European Commission's proposal for plant reproductive material (PRM) directive has three options, Option 1 has the Highest degree of flexibility, Option 2 is Balancing flexibility and harmonisation, and is the preferred option, and Option 3 has the Highest degree of harmonisation.

These are the Options found in the European Commission's proposal for PRM:

1. **“Option 1 - Highest degree of flexibility:** Option 1 would lay down minimum requirements for official controls on plant reproductive material, but without linking them to the Official Controls Regulation. Guidelines on the use of innovative production processes, bio-molecular techniques and digital solutions would be adopted. The existing assessment of new varieties of agricultural plant species for characteristics contributing to sustainable production would be strengthened. A voluntary assessment would be introduced for vegetables and fruit plants. The activities of seed conservation networks, marketing to amateur gardeners and exchange in kind of PRM between farmers would be exempted from the legislation’s scope.
2. **Option 2 - Balancing flexibility and harmonisation (preferred option):** Option 2 would bring the official controls on plant reproductive material under the scope of the Official Controls Regulation, but with simplified import controls at appropriate places within the Union to ensure a more targeted and efficient enforcement of the existing rules. Basic principles for the use of innovative production processes, bio-molecular techniques

and digital solutions would be included in the legislation. The assessment of new varieties for characteristics contributing to sustainable production would become a requirement for all crop groups, but with flexibility for Member States to implement it according to their own agroecological conditions. The activities of seed conservation networks, marketing to amateur gardeners and exchanges in kind between farmers would be subject to lighter rules to stimulate the increase in genetic diversity of PRM but also to guarantee a minimum quality.

3. **Option 3 - Highest degree of harmonisation:** Option 3 would bring the official controls on PRM/FRM under the scope of the Official Controls Regulation, with stricter import controls at border control posts requiring special import documentation to strengthen and fully harmonise enforcement. Detailed and binding rules for the use of innovative production processes, bio-molecular techniques and digital solutions would be included in the legislation. The assessment of new varieties for characteristics contributing to sustainable production would become a requirement for all crops, with detailed and harmonised requirements and methodologies for all Member States. The activities of seed conservation networks, marketing to amateur gardeners and exchanges in kind between farmers would be subject to the general requirements of the PRM legislation to achieve homogenous rules for all market segments.”

The legislative proposal has several sections and articles, where articles 5 to 25 are the basic legislative for seeds that have been systematic plant breeding, whereas section 7, concerning articles 26-38, are derogations from the previous requirements presented in the previous articles. The derogations from the requirements are, among other things, for conservation varieties, heterogeneous material, gene banks, networks, organisations, seed exchange between farmers, and breeder’s seed. The requirements in articles 5 to 25 are the proposal to ensure a level playing field in the marketing of seeds between member states.

The legislative is based on Option 2, “Balancing flexibility and harmonisation”, while in Option 1 section 7 would be removed since all seed exchange would be exempted from the directive, and also from Option 3 since all seeds would have to follow the PRM without derogations. Therefore, the discourse analysis will be based on the legislation, Option 2, and then a further analysis of what would happen from a discourse perspective if the EU chose Option 1 or Option 3.

6.1 Option 2

6.1.1 Liberal Food Security

Model of agricultural production

The Commission's proposal is highly focused on motivating the transformation towards sustainable agriculture with innovation, creating a will towards competitiveness and economic gain. The availability of food is still a main concern, but there is a focus on ensuring that the food that is produced is sustainable from an ecological perspective. Industrial processing is a big part of the proposal and making sure that all the seeds are registered to ensure they have a 'distinctness, uniformity and stability' (DUS) and 'Value of sustainable cultivation use' (VSCU) (p.13). The certification of VSCU is new in this legislation, earlier it was called 'Value of cultivation use'. There is a shift in focus toward a sustainable transformation, but the main focus on large-scale production and industrial and market innovation is still seen as the main way to reach food security in the legislative.

Model of agricultural trade

Liberalism and economic interests of corporations can be found in the proposal for PRM legislation. Innovation and competitiveness are seen as the main ways to ensure a transformation towards sustainable agriculture in the EU. Innovating seeds that require low input and are resilient, especially in climate change and abiotic stress, can provide a win-win situation for a private corporation, a patented seed which will provide economic growth, and the EU member states, who can ensure that there is food available on the market.

Model of market

The first bullet in the 'Model of the Market' is regarding the mainstreaming and certification of niche markets. In the early paragraphs of the directive, the Commission highlights the importance of professional operators performing the certification of seeds and categorising them properly. These categorisations should aim to be produced and marketed in international standards to ensure that the seeds have as high identification and quality as possible, and to ensure that they are in line with the latest technical and scientific developments. The categories are also to ensure quality, and identity and promote transparency, to enable the user to make an informed choice about seeds. The categories are 'pre-basic', 'basic', 'certified', and 'standard seeds'.

The second bullet in the ‘Model of Market’ is the maintenance of northern agricultural subsidies. In the proposal there is no mention of subsidies for agriculture, there is however a paragraph stating that the production and marketing of PRM within the European Union needs to comply with the highest possible standards. This is further motivated by stating that the import of PRM from third countries (countries that are not member states) needs to be at the same level as the PRM within the Union and that they shall be allowed an assessment of the identification and certification of the seed to ensure that it fulfils the requirements of the PRM.

The third bullet in the ‘Model of Market’ is the ‘Sustainable’ round tables for agrofuels, soy, forest, products, etc. The new PRM does not include legislation on forests, and the production of agrofuels is not a part of this legislation. However, the motivation for this proposal is to ensure that the agricultural production in the EU achieves the transition towards sustainability. The Commission emphasises higher efficiency in the use of plant resources and the motivation is environmental protection and higher quality in the food and feed supply. The utmost importance is placed on the availability, quality, and diversity of the PRM to attain the sustainable transition called for in the Farm to Fork Strategy, food and feed security, agriculture, environmental protection, the economy in general, etcetera.

The fourth bullet in the ‘Model of market’ is the question of market-led land reform. This proposal does not discuss land reform of any kind.

Approach to food crisis

The first bullet in ‘Approach to food crisis’ is the increased industrial production, increased medium farmer production, and some locally sourced food aid. The implementation of the previously mentioned categories would increase industrial seed processing, and the Commission considers that the categories will provide defined importance to achieve food security and the protection of the interest of the farmers using the seeds. The different categories will be a factor of proportionate costs to ensure the quality of the seeds, to reach food security or to ensure the high value of industrial processing, e.g., the importance of the seeds is valued according to the ensuring of reaching food security. The processing of seeds into categories is also a way to ensure equal conditions for competition of professional operators in the Union and a means to support competitiveness and innovation in the food system that will contribute to sustainable agriculture and food security.

The second bullet in ‘Approach to food crisis’ is about unregulated corporate monopolies. The proposal for the PRM is focused on innovation to achieve sustainable agriculture, however, the new categories are a means to level the playing field which is closely related to the fifth bullet on Liberal markets.

However, it is important to keep in mind that the bigger corporations will have higher economic advantages to ensure the products they have are more innovative and advanced than a small operator, ensuring that their seeds will get a high value when contributing to food security.

The third bullet is about the expansion of GMOs and more agricultural aid tied to GMO and bio-fortified/climate-resistant crops. To contribute to a more sustainable agriculture, new varieties are needed. These varieties should be improved in certain aspects, such as higher yields and yield stability, high yields under low-input conditions, better resilience to diseases, pests and fungi, and higher resilience in abiotic stress, such as in climate change. Genetically modified crops are not included in this proposal.

The fourth bullet is connected to the first bullet in the Model of the market and is regarding public-private partnerships. The categorisation is to be made by professional operators, and these operators can be in the private market in cooperation with the public sector. These operators in the private sector are seen as qualified to carry out the technical examination to certify the seeds and give them the examination of their ‘distinctness, uniformity and stability’ (DUS) and ‘Value of sustainable cultivation use’ (VSCU) (p.13).

As discussed, the fifth bullet about liberal markets is included in the proposal. Mainly to ensure innovation, competitiveness and levelling the playing field on the market. This is evident in the first, second and third points of the ‘Approach to the food crises’.

The sixth bullet regards the international sourced food aid. This regulation does not cover export to third countries, and therefore cannot be discussed.

Approach to genetic materials

Article 5-25 of the proposal does not cover whether genetic materials are private property and can be patented or not. However, there is a big push in the proposed legislation for corporations to innovate and for the market to drive for competitiveness, which would not be possible without “getting there first” and patenting the innovated seed.

6.1.2 Food Sovereignty

Model of agricultural production

The agroecological approach to farming is the preferred way of farming from a Food Sovereignty discourse. In the proposed PRM nothing is preventing the

farmers from using this method. Besides ensuring the requirement for sustainability, there a flexibility in the legislation for member states to adapt to the local agroecology condition to contribute to higher sustainability. The motivation for agroecology might not match, since the EU's motivation is to ensure that varieties will have a stable yield and higher production.

Model of agricultural trade

In the Food Sovereignty discourse, there is a protectionist approach to agricultural trade. One could argue that the EU provides this in the PRM. Seeds that are exchanged between farmers are not allowed to use public offers or commercial intermediates, which will in some way exclude this material from entering the market on a global scale. This could stop the product from entering the global market, ensuring that it only stays within the member state, e.g., a protectionist approach.

Model of the market

In Table 4., The discursive framework, the Food Sovereignty, in Model of the market, seven bullets define how the market should be designed, according to the food movement Food Sovereignty. Even though the EU proposal for PRM, article 26-38, are derogations which include seed exchange, there is not much that correspond with the bullets. The bullets that are relevant when discussing this section are; the dismantlement of agri-foods monopoly power; equity; sustainable livelihoods; and regionally based food systems.

According to Article 30, farmers are allowed to exchange seeds without costs. However, some conditions need to be fulfilled; they have to be produced on the farmer's premises; have to derive from the farmer's harvest; the farmer does not have a service contract with a professional operator performing seed production; the seeds are used dynamic management of farmer's own seed to contribute to agro-diversity.

Furthermore, these seeds need to fulfil some requirements; they cannot belong to a variety where plant variety rights have been granted in accordance with EU Regulation 2100/94; the seeds should be limited to small quantities, which is defined by competent authorities, and the farmer cannot use public offers for marketing or commercial intermediaries; the seeds need to be free from pests and defects which can impact the quality.

The dismantlement of the agri-food monopoly power lies mainly in the right to exchange non-patented seeds free of charge. That the seeds need to be grown by

the farmer and that they come from their harvest is not unusual for a farmer (Peschard and Randeria, 2020).

Not having a service contract agrees with the bullet of 'Regionally based food systems' but can be seen as a point that may contribute to imparity, which might concern the bullet on 'Equity'. Farmers active in the food movement might want to expand and be active in both exchanging seeds they have on their farms, and at the same time contribute to new seed varieties that can be sold on the market. Furthermore, the requirement that the farmers cannot use public offers or commercial intermediaries can also be seen as a point of inequality. The ambition in Food Sovereignty seems to lie in making the food system more just and more local, however, it is a global economy and not being able to get help for marketing or being able to provide food in the public sector, which potentially could damage the farmers' possibility to provide financially, and thereby might defy the possibility of sustainable livelihoods.

Approach to the food crisis

In the discourse on Food Sovereignty, there is an emphasis on food sovereignty as a human right, and that this food should be produced locally, sustainably produced, culturally appropriate and democratically controlled. In the EU proposal, there is a big focus on ensuring that food production is to become more sustainable, but not necessarily more local, democratic, or culturally appropriate.

Approach to genetic materials

In the discursive framework, Table 4. , presents that in approach to genetic materials in Food Sovereignty is that it should be non-patented seeds and communal. When reading Article 3, 'Definitions', in the EU proposal for PRM, they have the definition for 'conservation variety' as: "traditionally *grown or locally newly bred under specific local conditions in the Union and adapted to those conditions*". This enables the farmers interested in exchanging conservation varieties that are locally bred for marketing. It is however important that the conservation variety is registered by a professional operator, including the historical data, such that concern the practical use of the variety.

There are several Articles differentiating how seeds can be used, depending on where they come from. 'Conservation varieties' can be sold under the registration of 'standard seeds' if they comply with the requirements. Heterogeneous materials (high genetic diversity) can be sold without belonging to a variety, but bear the label "Seeds for final users, not officially certified", and a notification has to be sent to the national authority and the professional operator shall ensure traceability of the material.

Getting heterogeneous material can come from gene banks, organisations, or networks (Peschard and Randeria, 2020). In Article 29 there are some requirements on how the material should be handled. Gene banks, organisations and networks can market or exchange seeds for a non-profit purpose, both in a statutory objective and in an objective notified by a competent authority, for conservation purposes. This makes it possible to get and exchange traditional, local and non-patented seeds.

Table 5: Discursive tendencies in Option 2

	Liberal Food Security	Food Sovereignty
<i>Model of agricultural production</i>	Industrial, productivism ✓	Agroecological ✓
<i>Model of agricultural trade</i>	Liberalism ✓	Protectionism ✓
<i>Model of the market</i>	<ul style="list-style-type: none"> • Promoting certification of niche markets, ✓ such as organic, fair, local • Continue northern agricultural subsidies ✓ • “Sustainable” roundtables for agrofuels, soy, forest ✓ products, etc. • Market led land reform 	<ul style="list-style-type: none"> • Dismantle corporate agrifoods monopoly power. ✓ • Equity ✗ • Communities should have rights to seed • The food systems should be regionally based and governed democratically ✓ • Sustainable livelihoods ✗ • Revival of agro-ecologically agriculture • Regulated markets and supply
<i>Approach to the food crisis</i>	<ul style="list-style-type: none"> • Increased industrial production and ✓ locally sourced food aid. • Unregulated corporate monopolies. ✓ • Expansion of GMOs and “bio-fortified/climate-resistant” crops ✓ • Public-private partnerships. ✓ • Liberal markets. ✓ • International sourced food aid 	<ul style="list-style-type: none"> • Locally sourced, ✓ • sustainably produced, ✓ • culturally appropriate, ✗ • democratically controlled ✗ food

<i>Approach to genetic materials</i>	Private property. ✓	Communal, anti-patent. ✓
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6.2 Option 1

6.2.1 Liberal food security

In Option 1 there would still be a push for new varieties and innovation strengthens sustainability in the agro-sector, much like in Option 2, hence the result found in **Models of agricultural production** and **Models of agricultural trade** would be the same in Option 1. However, the requirements for official controls would be held at a minimum. This would change the **Model of the Market**, mostly by loosening the certification of seeds, e.g., the categories presented. The **Approach to the food crisis** and **Approach to genetic materials** would still be the same as presented in Option 2.

6.2.2 Food Sovereignty

Option 1 in the proposal there will be no need for the derogations, found in Article 26-38, since all seed conservation regarding networks and exchange in kind would be exempted from the legislation. This implies that there would be no legislation from the EU in this matter, which could get a double-edged result. The farmers will have to comply with the national law in the matter if they have one, and in the best-case scenario, they could exchange seeds in kind without the need for registration, providing a high form of flexibility. In the worst-case scenario the seed exchange in kind could be forbidden, giving them no chance to exchange seeds.

To get a real answer on how Option 1 would affect the points from Table 4. regarding the **Model of agricultural production**, **Model of agricultural trade**, **Model of the market**, **Approach to the food crisis** and **Approach to genetic materials**, there would be a need to compile another form of examination, where one would investigate every member states legislation in the matter.

Table 6: Discursive tendencies in Option 1

	Liberal Food Security	Food Sovereignty
<i>Model of agricultural production</i>	Industrial, productivism ✓	Agroecological (?)
<i>Model of agricultural trade</i>	Liberalism ✓	Protectionism (?)
<i>Model of the market</i>	<ul style="list-style-type: none"> • Promoting certification of niche markets, such as organic, fair, local ✓ • Continue northern agricultural subsidies ✓ • “Sustainable” roundtables for agrofuels, soy, forest products, etc. ✓ • Market led land reform 	<ul style="list-style-type: none"> • Dismantle corporate agrifoods monopoly power • Equity • Communities should have rights to seed • The food systems should be regionally based and governed democratically • Sustainable livelihoods • Revival of agro-ecologically agriculture • Regulated markets and supply <p>(?) (?) (?)</p>
<i>Approach to the food crisis</i>	<ul style="list-style-type: none"> • Increased industrial production and locally sourced food aid ✓ • Unregulated corporate monopolies. ✓ • Expansion of GMOs and “bio-fortified/climate-resistant” crops. ✓ • Public-private partnerships. ✓ • Liberal markets. ✓ • International sourced food aid 	<ul style="list-style-type: none"> • Locally sourced, • sustainably produced, • culturally appropriate, • democratically controlled food <p>(?) (?) (?)</p>
<i>Approach to genetic materials</i>	Private property. ✓	Communal, anti-patent (?)

6.3 Option 3

6.3.1 Liberal Food Security

Option 3 in the proposal would be much like Option 2, but less flexible. The import controls at the border would be stricter, and the innovation process of new varieties would be more rigid, provided with detailed binding rules. The characteristics of new varieties would have to contribute to sustainability, which will be the requirements for all crops. This means that there will be a small change in the **Model of agricultural production**, corporations will not only have to be motivated to innovate a sustainable product, but they will also have to be required to. The **Model of agricultural trade** will not have that much of a difference, only the win-win effect for corporations and the EU of providing a sustainable product will be a requirement instead of a financial motivation. The **Model of the market** will stay the same as In Option 2, however, the **Approach to the food crisis** would have to ensure that the new varieties both give a high yield and are sustainable, e.g., pushing towards finding a seed variety that is low-input-high in yield and is resilient towards abiotic stress. The **Approach to genetic materials** would be the same in Option 3 as in Option 2.

6.3.2 Food Sovereignty

In Option 3 there would be no derogations, all would have to comply with the legislation. The result of this would be that seed exchange in kind would have to comply with the PRM without derogations, meaning that all seeds would have to be registered, free from pests, and have to comply with DUS and VSCU, e.g., no heterogeneous materials could be used since none of the material would be distinct, uniformed, or stable enough.

With Option 3 there would be no change in **Model of agricultural production**, since an agroecological approach to farming would still be possible, or in the **Model of agricultural trade**. However, the few bullets that are relevant in the **Models of Market** in Option 2 would all disappear, and none of the bullets in the Food Sovereignty discourse would be relevant. The **Approach to the food crisis** would be the same. The **Approach to genetic materials** remains unclear. It might still be possible to grow seeds from the gene bank for conservation purposes, but if there is a will to exchange seeds for a profit purpose all seeds need to comply with the Official Control Regulation, and as previously stated, they would most likely not pass the DUS-control.

Table 7: Discursive tendencies in Option 3

	Liberal Food Security	Food Sovereignty
<i>Model of agricultural production</i>	Industrial, productivism ✓	Agroecological ✓
<i>Model of agricultural trade</i>	Liberalism ✓	Protectionism ✗
<i>Model of the market</i>	<ul style="list-style-type: none"> • Promoting certification of niche markets, such as organic, fair, local ✓ • Continue northern agricultural subsidies ✓ • “Sustainable” roundtables for agrofuels, soy, forest products, etc. ✓ • Market led land reform 	<ul style="list-style-type: none"> • Dismantle corporate agrifoods monopoly power. ✗ • Equity. ✗ • Communities should have rights to seed • The food systems should be regionally based and governed democratically ✗ • Sustainable livelihoods. ✗ • Revival of agro-ecologically agriculture • Regulated markets and supply
<i>Approach to the food crisis</i>	<ul style="list-style-type: none"> • Increased industrial production and locally sourced food aid. ✓ • Unregulated corporate monopolies. ✓ • Expansion of GMOs and “bio-fortified/climate-resistant” crops. ✓ • Public-private partnerships. ✓ • Liberal markets. ✓ • International sourced food aid 	<ul style="list-style-type: none"> • Locally sourced, ✗ • sustainably produced, ✓ • culturally appropriate, ✗ • democratically controlled food ✗
<i>Approach to genetic materials</i>	Private property. ✓	Communal, anti-patent ✗

7. Discussion

In this chapter, the result will be discussed relating to the information presented in the background, and also be discussed in the light of reactions to the legislation from a seed organisation in the EU.

The term Food Security includes both the liberal type of Food Security and the protectionist type, called Food Sovereignty. While both terms can be found in the preferred Option 2 in the legislation, there are still some subjects that never was mentioned in the proposal, mainly from the protectionist perspective. Some of the most prominent subjects in Food sovereignty are farmers' rights, agroecological food production system without pesticide use, the right to free seeds and seed exchange in kind, and food that is locally and culturally suitable.

The results show that liberal food security is the most prominent discursive tendency in the European Commission proposal, with some tendencies for food sovereignty. The discourse does differentiate in the options presented; the most possibilities for food sovereignty lay in Option 1 since member states are free to legislate; liberal food security is most prominent in Option 2, but shows a bit of food sovereignty discourse since the harmonisation of the legislation has to be implemented into national law, however, farmers don't have the right to sell their ancient seed in large quantities; and liberal food security is the only discourse prominent in Option 3 since all derogation of seed exchange in kind is excluded.

Shortly after the publication of the proposal, there was a critique published by ARCHE NOAH (2023), an organisation in Austria working towards the right to free seeds and seed exchange in kind. In a press release, they raised their fear that the new proposal will lead to deteriorations in the conservation of remaining diversity since Austria implemented a law in 2018 saying that farmers have the right to use, exchange and sell their own seeds. They mean that if this proposal is approved, it goes over national law and must be implemented and harmonized into national law, removing the farmers' rights in Austria. There is also a critique that farmers are no longer able to sell their seeds, only exchange in kind and small quantities. ARCHE NOAH (2023) also criticises the general push towards new engineering and argues that this will lead to the farmers being at the mercy of agrochemical corporations since they have more money and can, and are willing to,

innovate at a pace that will make it impossible for small-scale farmers to be competitive.

The legislation is reformed due to the Farm to Fork strategy, which is based on the European Green Deal, and needs to co-relate to CAP. In the Farm to Fork strategy, some aims relate to the liberal version of Food Security, such as ensuring that there is a sufficient amount of food, preserving affordability and fostering competitiveness and trade in the agro-food sector. In the proposal, especially in Option 2, there is an added protectionist approach toward seed exchange in kind since they have to be grown in local conditions and not sold throughout the EU. This does appeal to food movements, such as La Via Campesina. However, there is no protection against dumping and overproduction of food that is produced in large-scale production, or from food that is produced far away, which is rejected in food movements since it detaches people from the production and the cultural heritage and tradition.

However, in the new version of CAP, there is an aim to provide targeted support to small-scale farmers and to allow greater flexibility for member states to adapt to local conditions. This proposed legislation could need a greater amount of flexibility in implementation for local conditions to ensure that small-scale farmers are provided with more support. No matter what Option the EU chooses, this legislation could give a major economic blow to small-scale farmers if their income is dependent on the selling of their seeds.

A blowback like this could reduce the amounts of small-scale farmers in the EU, giving large-scale farmers the chance to buy the land and turning small plots of agriculture, with a high amount of biodiversity, into larger monocropping areas with pesticides. This in turn could have a big impact on ecosystems, which would go against the SDG's point of ensuring that the food systems have resilient agriculture and the maintenance of genetic diversity. Even if there is a push in the proposal for new plants to contribute to resilient agriculture and minimise the use of pesticides, there will most probably still be a need to use chemicals and artificial fertilisers on these fields. The fact remains that the use of seeds with non-genetic diversity increases the risks of pests, ergo it will be essential to use pesticides.

The power dynamic in the food systems is prominent, as McMichael (2013) points out. For small-scale farmers in the corporate food regime, there is a challenge regarding having the right to exchange seeds in kind and making sure that the seed is without a corporate patent. With Option 1 in the EU proposal, there could be no change in exchanging seed, heritage cereals and such, however, it is quite possible that without any legislation and regulation on seed change in kind at all can do the complete opposite of giving more freedom. If a member state aims to become more

agrotechnical advanced and ensure high efficiency in agriculture, a member state can ban seed exchange in kind altogether. But, with Option 2 in the EU proposal, farmers have the right to exchange seeds in kind since this legislation would go above national law. From a power perspective, farmers working mainly with heritage and ancient seeds would have more power in the food system since they have the legal right to do so, and no member state could prohibit it in national law. However, they do not have the chance to sell their seeds, and can only change seeds in small quantities, which gives a sense that the EU's aim is rather to control the free-seed market than enable the farmers to enter the market. In Option 3 in the EU proposal, there could be a tipping of power towards corporations, since the heritage seeds would also have to comply with EU DUS (distinct, uniform, and stable). Since heritage seeds have a high genetic diversity and are changing with evolution, they can be considered being neither distinct, uniform, or stable. This could prove challenging for farmers using heritage cereals to enter the market, and they would not be able to exchange seeds in kind meaning that ancient seeds would stay in the gene bank, and possibly remove a part of the national culture. From the perspective of small-scale farmers and their power in the food systems, Option 2 is probably the most secure way of ensuring they can exchange seeds in kind. There is a question that needs to be taken into consideration by the EU: will it be worth ensuring that all farmers have the right to exchange seed in kind, as in Option 2, and risking economic, social and ecologic degradation, or to give member states the choice to implement their own rules, as in Option 1, and risking that seed exchange in kind be banned in national law.

8. Conclusion

High-input agriculture and monocropping have significantly changed the choice of seeds in the food systems, pushing for higher productivity and efficiency. The use of hybrid seeds has decreased the amount of crop diversity, biodiversity, and nutritional diversity. The discontent can be seen in social movements working towards farmers' right to choose their seeds and to exchange seeds in kind.

In the Sustainable Development Goals, there is a goal towards “Zero Hunger” which has influenced the EU Green Deal, which includes the Farm to Fork Strategy. The Green Deal includes both goals for high efficiency and high productivity, and the right for farmers to choose what to grow, and that food should be culturally appropriate. This is where we find two world views, two discourses; Liberal food security with an acceptance of the neoliberal economy and the global food system; and Food Sovereignty which does not accept the neoliberal economy and global trade of food but aims for a local, agroecology system that dismantles corporate powers and promotes food networks.

The European Commission has considered this in the latest proposal, published on the 5th of July 2023, of the Plant Reproductive Material, which presents three options. The first option gives member states in the EU high flexibility when implementing the legislation into national law, with no suggested legislation on seed exchange in kind or for networks, organisations, and seed banks. The discursive tendencies in Option 1 are mostly Liberal Food Security, however, there are possibilities for Food Sovereignty tendencies, but since member states would implement these laws, the outcome is unclear.

In the second option, there is a balance between flexibility and harmonisation, and option two includes a derogation in the legislation which gives the member states a suggestion on how to legislate concerning seed exchange in kind, network, organisations, and seed banks. The second option is the preferred option by the European Commission. In this option, Liberal Food Security is the most prominent discursive tendency, and the derogation does provide some discursive tendencies of Food Sovereignty. However, it could have an economic impact on small-scale

farmers who exchange seeds in kind, since they cannot sell seeds on the market, and only exchange seeds in small quantities.

The third option promotes the highest degree of harmonisation, meaning that the laws that are presented in the proposal will have to be implemented into national law with little, to no, flexibility. The discursive tendencies can be seen as only Liberal Food Security. This is mostly due to that in option three the derogations that are included in option two will be taken away, which means that all seeds will need to comply with the DUS, and since seeds that are exchanged in kind mostly consists of heterogeneous material, they are not known for their distinctness, uniformity, or stability.

In this study, there has been an attempt to understand how this legislation proposal by the European Commission could impact farmers in reality. These two discourses have been applied to the material to understand if the legislation would be accepted by these two world views. All of the conclusions from this research are strictly theoretical. To understand how this legislation actually would impact farmers further research is needed. There is a need for interview studies with farmers after the legislation is in place to understand the impact, and also survey studies to understand the impact on farmers' economy. A market analysis of heterogeneous seeds before and after the implementation of the legislation could be beneficial to truly understand the impact on this niche market.

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Popular science summary

In 2008 the EU started a process of updating the current Plant Reproductive Material Directive, which are laws over what kinds of seeds and plant material, and how they can be used, within the EU. In this thesis, the latest proposal published on the 5th of July 2023 by the European Commission, is being studied to understand what discursive tendencies of food security can be seen in the European Commission's proposal for a directive on plant reproductive materials, and how the discourse of food security differentiates between options 1, 2, and 3 in the proposal.

To research and understand these discourses there has been made an analytical framework which is based on other scientific research, which has helped to put on “glasses”, to see the proposal through that discourses point of view. In the study, there are two discourses, two world views, that are being analysed. One of them is Liberal Food Security, which is what most people think about when they hear the term Food Security, to produce enough food for everyone, and the other is Food Sovereignty, which is focused on farmers' rights, and farmers' rights to exchange seeds without any costs.

The result showed that both Liberal Food Security and Food Sovereignty can be found in the materials, but that it does differentiate a bit between the Options. The first option has mostly a Liberal Food Security approach, but it has the potential of a Food Sovereignty approach as well, however, there might be some legal complications in national law. The second option has more of a Liberal Food Security approach but with some tendencies of Food Sovereignty. The third option has only a Liberal Food Security approach with no tendencies of Food Sovereignty.

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Appendix 1

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