A thesis submitted to the Department of Environmental Sciences and Policy of Central European University in part fulfilment of the Degree of Master of Science

The Future of Organic Agriculture in the EU: The Intersection Between Regulation (EU) 2018/848, the Sustainable Development Goals, Environmental Justice, and Just Transitions

Leah Marie MARTIN

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#### ABSTRACT OF THESIS submitted by:

Leah Marie MARTIN

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Organic agricultural production is essential for our future. The European Union aims to increase the amount of land used for organic production to 25% of total agriculture land by 2030. To support this goal and improve regulations for organic production and labelling, the European Commission created Regulation (EU) 2018/848. Policies with strong commitments to environmental justice and just transitions are needed to ensure that organic production is promoted in a way that is beneficial and just for everyone. My research investigates how well the European Commission incorporates four SDGs (2, 5, 8 & 12) into Regulation (EU) 2018/848. Contextual similarity to the SDGs and theoretical framework is assessed through a contextual policy content analysis. I then discuss the results of my analysis and provide recommendations for improvement to the regulation. In conclusion, I find that the policy does not do a thorough job of including the four SDGs assessed through the framework of environmental justice and just transitions. SDGs 2, 8, and 12 are partially represented, with many opportunities for improvement, while SDG 5 on gender equality is not represented at all.

**Keywords:** Organic Agriculture, Policy, SDGs, Zero Hunger, Gender Equality, Decent Work and Economic Growth, Responsible Consumption and Production, Just Transitions, Environmental Justice, Content Analysis

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# List of Abbreviations

- EU European Union
- FAO Food and Agriculture Organization
- GMO Genetically Modified Organism
- ILO International Labor Organization
- JTI Just Transition Initiative
- NGO Non-Governmental Organization
- SDG Sustainable Development Goal
- UN United Nations

#### 1 Introduction

On a global scale, agriculture is essential for life, but current industrial agriculture practices are unsustainable and damaging the environment (Horrigan, Lawrence, and Walker 2002). In order to move into a sustainable future, the European Commission has written much legislation to promote sustainability, including the Sustainable Development Goals (SDGs), and sustainability in agriculture and food systems (the Farm to Fork Initiative). Well written legislation is essential for promoting sustainability, environmental justice, and just transitions for the future. My research aims to determine if the European Union (EU) has effectively incorporated SDGs into the new organic agriculture legislation, Regulation (EU) 2018/848, in a way that supports environmental justice and just transitions.

#### 1.1 Background

#### 1.1.1 Sustainable Development Goals

The Sustainable Development Goals are a group of seventeen goals and one hundred and sixty-nine targets that were built from the work of the UN and partner countries. These goals were adopted in 2015 after the end of the timeline given to meet the Millennium Development Goals, which focused on addressing poverty in developing countries (Halkos and Gkampoura 2021). The SDGs were designed to be implemented globally to create policies and agendas which promote sustainable development (Hák et al. 2015). Van Zanten and van Tulder (2020) describe the SDGs as "[A] goal-based institution that mobilizes all actors in societies – including governmental, corporate, and civil society agents – to advance the specific dimensions of sustainable development." (van Zanten and van Tulder 2018 in van Zanten and van Tulder 2020, 454). According to Mensah (2019), the goal of sustainable development is to balance environmental, economic, and social sustainability. In his review on sustainable development literature, he finds intergenerational equity and the recognition of short and long-term effects of sustainability to be recurring themes.

Sustainable Development Goals are a call to action (Mensah 2019). These goals are meant to inspire and motivate change in policy that will ultimately bring about economic, social, and environmental sustainability in practice. Since the SDGs are still a relatively new initiative, it is difficult to quantify how effective they will be at creating long term change. Halkos and Gkampoura (2021) conclude from their analysis that progress on the SDGs has been made in certain categories, like economic sustainability, however there is still a long road ahead to achieve all targets of the seventeen SDGs. Social and environmental sustainability need a lot of improvement and current global crises like COVID-19 have set us back in achieving SDGs (Halkos and Gkampoura 2021).

Swain and Yang-Wallentin (2019) argue that the theoretical foundation for the SDGs is not very strong as there is no comprehensive theory for sustainable development and even the definition of sustainable development is debated throughout the literature. To give my research a stronger theoretical framework, I decided to use the theories of environmental justice and just transitions in my application and interpretation of the SDGs I selected to apply to Regulation (EU) 2018/848 on organic production and labelling of organic products. Because the SDGs are not a prescriptive 'one-size-fits-all' form of governance, they can be misused. However, van Zanten and van Tulder (2020) argue that this form of non-prescriptive, hybrid governance, is the most realistic, and possibly best, approach to tackling global sustainable development problems. Since Regulation (EU) 2018/848 is a multinational regulation created by the European Commission, and the European Commission states on their website: "We are committed to implementing the SDGs in all out policies and encourage EU countries to do the same" (European Commission 2022), it is imperative and relevant to assess the effectiveness of implementation of relevant SDGs into this policy.

#### 1.1.2 General importance of agriculture and problems within the agriculture sector

Agriculture is essential for food production, however the dominant mode of production, industrial agriculture, is highly problematic. Industrial production requires a high level of input,

such as increased irrigation; synthetic pesticides and fertilizers, which can be toxic to humans, livestock, and the environment; and a large amount of non-renewable energy sources and fossil-fuels to power all of the machinery necessary for large scale production. Industrial agricultural methods result in decreased biodiversity and environmental resilience due to monocultures, and soil erosion and degradation. The concentrated mass production of agricultural product by industrial agriculture operations often threatens rural communities and local food production, putting small and medium sized farms out of business (Horrigan, Lawrence, and Walker 2002).

# 1.1.3 Organic farming: Why does the EU want to promote and increase organic farming?

According to the European Commission's (2022) website, "Organics at a Glance", Agriculture and Rural Development, "Organic farming is an agricultural method that aims to produce food using natural substances and processes." The site claims that organic farming will tend to have "…limited environmental impact" due to responsible energy and natural resource use, maintaining biodiversity, preserving ecological balance, and enhancing or maintaining soil and water quality. The purpose of EU regulations for organic farming is to provide a heterogeneous structure for organic production that will ensure consumer trust and create a fair marketplace throughout the EU member states (European Commission 2022).

In 2017 the European Parliament decided to revise current EU rules on organic production and labelling to encourage development, guarantee fair competition, prevent fraud, and improve consumer confidence in organic products in the EU. Changes to the new EU organic legislation were made to strengthen control systems, simplify the organic conversion process for smallholder farms, update organic import standards, and increase the number of products which can be labeled as organic (European Commission 2022).

Regulation (EU) 2018/848 was finally put into effect in January of 2022 after being delayed due to COVID-19. The European Commission's goal is to convert at least 25% of agricultural land in the EU to organic farming practices by 2030 and they expect the new legislation to help

achieve this goal. According to the European Comission's (2022) website, "Organic Action Plan", Agriculture and Rural Development, land under organic farming is steadily increasing and currently makes up 8.5% of the EU's total agricultural area.

## 2 Theoretical Framing

#### 2.1 Introduction

In this section, I discuss the theory of environmental justice and just transitions, and their respective movements. I provide a background to understand a brief history of these theories and then elaborate on how they apply to the SDGs and agriculture.

#### 2.2 Environmental Justice

In order to understand just transitions, it is important to understand environmental justice. We cannot conceptualize an environmentally just transition without having a concept of environmental justice. Environmental justice is both a theoretical concept and a social movement. The theoretical concept has evolved over time. The movement is just as important to understand as the theoretical concept because the movement has influenced the modern conceptualization of environmental justice.

The environmental justice movement started in the late 1970s and early 1980s in the United States. In the late 70s a lawsuit was filed to block a waste facility from being constructed after researchers from the United Church of Christ released their report, *Taxic Wastes and Race in the United States* (Gellers and Cheatham 2019). The report systematically demonstrated that environmentally harmful infrastructure was constructed more frequently in African-American and minority communities (Bullard 1983). A few years later, in 1982, the environmental justice movement was brought to national attention when a predominantly African-American community in Warren County, North Carolina, protested a hazardous landfill that was to be designated for storing soil contaminated by toxic waste. Over 500 protestors were arrested and the plans for the landfill were carried out, but the protest paved the way for further studies concerning environmental justice to take place (Bullard and Write 1993).

Even though the modern movement started around the 1980s, Taylor (2000) points out that environmental activists have been using injustice arguments to advocate for environmental policy and action for over a century. The older, turn of the century, discourses revolved primarily around humans harming nature and resource consumption, preservation, and generational usage rights. Midcentury discourse, by environmentalists like Rachel Carson, framed injustice in terms of governments and industry endangering human and wildlife health and breaking the social contract in which citizens placed trust in government and companies to not cause them harm (Taylor 2000). Bullard (2001) reminds us that civil rights leaders such as Dr. Martin Luther King Jr. advocated for environmental and economic justice for people of color.

At the end of the 20<sup>th</sup> century the environmental justice movement framed injustice through a lens incorporating race, class, and gender, and how these identities can intersect and compound the effects of discrimination. Like activists before them, they focused on discriminatory, environmentally harmful practices of corporations and the government, but Taylor argues that turn of the century activists make their framing of injustice more explicit than before. Kuehn (2000), on the other hand, argues that efforts to understand environmental justice and communicate the various facets of injustice at international, national, and local levels have failed.

A number of more focused movements resulted from the latter environmental justice movement. Energy justice and climate justice are two of these movements that are relevant to the sustainable development goals. Another movement that shows how agricultural production and SDG 2 specifically can be incorporated into the environmental justice framework is the food justice movement. This movement focuses on food insecurity and food sovereignty, using environmental justice to understand inequities between the global North and the global South in the food system (Gellers and Cheatham 2019).

Bullard (1996, 493) provides a simple definition of environmental justice: "Environmental justice embraces the principle that all people and communities are entitled to equal protection of environmental and public health laws and regulation." While this is an accurate definition, it doesn't help us to understand what equal protection looks like in practice or what should happen when equal protection doesn't occur. In order to remedy the failure of past proponents to describe

the depth and breadth of environmental justice, Kuehn proposes a taxonomy of four categories to describe environmental justice issues. His categories aim to identify the common causes of and potential solutions to environmental injustice. The categories Kuehn (2000) proposes are distributive justice, procedural justice, corrective justice, and social justice.

Distributive justice, in an environmental context, focuses on the equitable distribution of environmental aid from government and private-sector initiatives, and on equal protection and reduction, or ideally elimination, of exposure to environmental hazards for all. In addressing issues of distributive injustice, one can focus on a group's geographic proximity to environmental hazards, but they should also address how identities such as race, gender, ethnicity, socioeconomic status, disability, and sexual orientation increase exposure to injustices. Distributive injustice can manifest as minorities being disproportionately exposed to toxic chemicals and waste, but also as minorities being overlooked or left out of beneficial environmental programs and policies.

Procedural justice is the right to equal consideration, representation, inclusion, communication, and respect in political decision-making processes. Participation of all parties effected in a democratic way is key, however, it is also important to look at the fairness of the decision-making process used. To achieve procedural justice, decision-makers must implement more equitable models for decision-making. Disadvantaged stakeholders must not only be included in policy making, but also be provided with the necessary resources and tools to allow them to participate at an equal level to other stakeholders.

Corrective environmental justice means holding people, corporations, and governments responsible for environmental damages. Holding perpetrators of environmental injustice responsible includes just and unbiased punishment, full compensation, and reparation for damages. Those who commit injustices should not benefit from their actions.

The social justice category of environmental justice is the realization that the same identities that cause higher levels of exposure to environmental injustices are likely to have similar effects regarding social injustice. In order to address and get to the root of environmental injustice, we must also acknowledge the economic and social impacts on those effected. In order to realize social justice, we must take a holistic approach that does not neglect one's rights to economic, political, or cultural justice in the name of environmental protection.

The SDGs do not directly mention environmental justice, however the empirical analysis done by Gellers and Cheatham (2019) suggests that states are implementing the SDGs in ways which promote distributive justice and promote the enhancement of individual capabilities. How states apply SDGs could change in the future, as the UN has given states the liberty of choosing which SDGs to prioritize in their reporting and application (Gellers and Cheatham 2019). Research by Hope (2020) on environmental justice in Bolivia, provides an example of how the SDGs can be used to hinder environmental justice in struggles for land rights by indigenous peoples. In this case, the SDGs, in the name of "sustainable development", were used by the state to minimize local claims to land in favor of extractive development on indigenous land (Hope 2020). These examples show the importance of applying environmental justice theory to the SDGs. The SDGs are a tool to be used by states as common guidelines to follow based on the needs of the country or region, but to ensure these tools are used appropriately, an environmental justice framework should be applied to their use in both policy and application.

#### 2.3 Just Transitions

Just as environmental justice should be applied to the SDGs, so should just transitions theory. Just transitions theory recognizes that the effort to move towards a more sustainable, low-carbon society, will create a great burden for many people and communities. Eisenberg (2019) identifies two primary uses of the term. Transitions to decrease carbon emissions should be equitable for the most vulnerable people groups, and workers and communities depending on high-carbon industry should not be unjustly burdened by the process of decarbonization. Her proposed definition for just transitions: "[A]n equitable principle of easing the burden decarbonization poses to workers and communities who depend on carbon-heavy industries." combines these two uses (Eisenberg 2019, 329).

This definition acknowledges the history of the just transitions movement, beginning with the labor movement's advocacy for the integration of workers' rights with environmental wellbeing. It also allows for the recognition of socioecological systems and interdependency, and the need for economic equity, as well as incorporating the distributive side of environmental justice (Eisenberg 2019).

One organization working to address just transitions is the Just Transition Initiative (JTI): a partnership between the Energy Security & Climate Change Program at the Center for Strategic and International Studies and Climate Investment Funds. JTI emphasizes social inclusion and distributional impacts as two key concepts within the just transition's movement. Their framework for applying just transitions does a good job of incorporating environmental justice as well. Some aspects of their framework that is relevant to just transitions in policy includes the following. Through social inclusion, marginalized groups should be recognized and participate in discussion and decision-making processes surrounding transitions at local, national, and international levels of governance. Through distributional impacts, decision makers consider what is a fair allocation of the benefits and harms brought on by transitions. These considerations include accessibility, restorative justice based on past injustices, current distribution of transition outcomes, and future outcomes of transition processes.

The International Labor Organization (ILO) is another organization with a written resolution to define and support a just transition. Their publication "Guidelines for a just transition towards environmentally sustainable economies and societies for all" is referenced often in academic papers on sustainability and just transitions (Markkanen and Anger-Kraavi 2019; Snell 2018; Sharpe and Martinez-Fernandez 2021; Rogers et al. 2021). When discussing a just transition to sustainable society and economy the ILO emphasizes that policies must promote workers' rights. Two more notable guiding principles of the ILO's document are to address how gender is tied to environmental challenges and opportunities in policy, and to use a just transition framework in policy increase the creation of decent jobs (ILO 2015).

When applying just transitions to sustainable development goals, Swilling (2020 p.3) argues that a just transition is the realization of the UN's statement in the preamble of the official SDG document which declares, "[w]e are resolved to free the human race from the tyranny of poverty and want to heal and secure our planet". It is "...a process of increasingly radical incremental changes that accumulate over time in the actually emergent transformed world envisaged by the SDGs and sustainability" (Swilling 2020 p. 6). Committing to eradicate poverty while maintaining the integrity of the natural world is a sustainable, just transition. However, Swilling (2020) believes that in practice a just transition is not very likely to happen. Based on political trajectories and discourse in the global North an unjust transition where nature will be saved at the convenience and benefit of the elites while poverty persists is more likely to occur, especially if the global North ignores commitments to social justice.

#### 2.4 Conclusion

Environmental justice and just transitions are essential frameworks to apply to the SDGs. Both are needed to ensure that the SDGs are applied to sustainable development policy and projects in a just and equitable way for humans and the environment. Applying SDGs to policy without clearly including these additional frameworks leaves space for governments, corporations, and individuals to be excused of actions that cause injustices under the protection of following policies and regulations. Achieving sustainable development is important for the future of humanity, however it is just as important to achieve these goals in an ethical way.

#### 3 Methods

#### 3.1 Research Design

To conduct my research, I referred to Columbia University's (2022) webpage on content analysis and referred to some studies which used similar methodology of policy content analysis (Horne et al. 2020; and Eichler and Schwarz 2019). After identifying four relevant SDGs to compare to Regulation (EU) 2018/848, I used open coding (Williams and Moser 2019) to select key words and themes from the SDGs using the UN's Sustainable Development Goals website (United Nations 2022). I then used these keywords as a coding frame for deductive contextual policy content analysis of Regulation (EU) 2018/848. The context of SDG keywords, with environmental justice and just transitions theories, was then applied to the analysis of the regulation to determine how well the policy reflects this framework.

#### 3.2 Methods

In order to identify the most relevant SDGs in the agriculture sector, I started by consulting the United Nation's Partnership Platform. This is a global registry of stakeholders with projects committed to advancing and implementing the sustainable development goals (United Nations Department of Economic and Social Affairs 2022). From the results of this analysis, I selected the top most frequently used SDG in both my search for "organic agriculture" and "agriculture" projects. I also identified three other SDGs that are relevant to the policy and environmental justice and just transitions. From these SDGs I coded for key words and phrases that represented important themes for each SDG and its respective targets.

After identifying key words and phrases, I systematically searched for them and coded for the relevant terms within Regulation (EU) 2018/848. I created an excel sheet with information from each search including the term searched, the number of times the term is found in the policy, the page number(s) the term is found on, and any notes. Finally, I analyzed each section of the policy that each word or term was found in, and I described the relevant context of the word within the policy.

Using conceptual content analysis provided a way to systematically narrow my search results into manageable categories that were related to the specific SDG concepts I was looking for in the policy. I identified both individual words and short phrases to search for in the policy. I did not have a pre-determined number of keywords and phrases selected for each SDG. Rather, I allowed for flexibility in identifying key concepts within each goal. Even though I noted the number of times each word or phrase occurred, I was more interested in whether a word or phrase was present within the policy, and if the context of that word or phrase in the policy matched the context of the background and targets for the SDG or SDGs.

#### 4 **Results and Analysis**

#### 4.1 Introduction

The results and analysis section identifies the results of my analysis of Regulation (EU) 2018/848 on organic production and labelling of organic products. Policy content analysis methods were used, and I performed a conceptual analysis of key words in each SDG assessed. The key words, once identified in the policy, were counted as either present or absent in the text, and present key words were analyzed for their contextual relevance to the corresponding SDG. The results of the analysis are presented in this section.

#### 4.2 **Results of Preliminary Analysis**

My first set of results are from my preliminary analysis to identify the SDGs most relevant to the policy. For this I used the United Nation's Partnership Platform registry. This registry contains over 6650 results. I started my search by searching for the key word "agriculture". This search gave me 1422 results. I used the SDG filter on the webpage to find how many projects included each of the 17 SDGs (See figure 1.). After this, I narrowed my search results by entering the key words "organic agriculture" into the search bar. This led to 73 results. To determine which goals were identified in projects most frequently, I used the SDG filter on the webpage for each goal and recorded the number of projects including organic agriculture per goal (See figure 2.). The results of my search showed that SDG 2, Zero Hunger, and SDG 1, No Poverty, were the top two categories for both groups. Goal 1, No Poverty, is a very broad goal, and is not measured by looking at one industry alone. Of course, implementing fair working conditions and fair wages will decrease poverty in general, but a more focused SDG to assess in this policy would be SDG 8, "Decent work and economic growth".



Figure 1. Frequency of each SDG mentioned in agriculture projects on the Partnership Platform



Figure 2. Frequency of each SDG mentioned in organic agriculture projects on the Partnership Platform

I also identified two other SDGs which I believe best represent the spirit of environmental justice and just transitions in agriculture: SDGs 5 and 12, "Gender equality" and "Responsible consumption and production". There is a huge gender imbalance within farming in the EU, with only 28% female farmers in 2016 (Eurostat 2018). New polices should be making a strong effort to encourage more women to be farmers and help those who are already farming to succeed. One of the main goals of organic agriculture is to limit negative impact on the environment and to use natural inputs sustainably and responsibly. Responsible consumption and production are necessary

for an environmentally just transition and (as specifically identified on the UN sustainable development webpage) a low-carbon transition, especially in agriculture.

#### 4.3 Identifying Key Terms

Next, I identified keywords in each of the four SDGs by using the UN's webpage on sustainable development goals <u>https://www.un.org/sustainabledevelopment/sustainable-development-goals/</u>. I looked for key terms not only in the general description for each goal, but also within each of the specific goal targets.

For SDG 2 "Zero Hunger", I identified the terms: "hunger", "undernourishment", "starvation", "malnutrition", "nutrition/nutritional", "agricultural productivity", "productivity", "sustainable food production", "resilient agricultural practices", "genetic diversity", "plant banks", "traditional knowledge", "traditions/traditional/traditionally", "agricultural research", "extension services", "food waste", "food security", "food access", "trade restrictions", "trade distortions", "trade", "agricultural export subsidies", and "food price volatility.

For SDG 5 "Gender Equality", I identified the terms: "women", "female", "gender", "gender equality", "women's rights", "discrimination", "equal opportunities", and "land ownership". It should also be noted that for SDG 2, target 2.3 emphasizes doubling agricultural productivity and incomes of small-scale food producers, specifically women and other minority farming groups.

For SDG 8 "Decent Work and Economic Growth", I identified the terms: "economic growth", "economic productivity", "economic", "innovation", "job creation", "financial services", "entrepreneurship", "resource efficiency", "resources", "sustainable production", "employment", "education/educational", "training/trainings", "equal pay", "forced labor", "slavery", "human trafficking", "child labor", "labor rights", "labor", "working environment", "migrant workers", "sustainable tourism", "financial services", "trade", "youth employment", "workers' safety", and "sustainable management".

For SDG 12 "Responsible Consumption and Production", I identified the terms: "environmental degradation", "food waste", "food losses", "post-harvest losses", "resource efficiency", "sustainable", "low-carbon", "green economies", "sustainable consumption", "sustainable production", "sustainable management", "waste generation", "recycled/recycling", "reuse", "harmony with nature", "market distortion", "waste", "fossil-fuel", and "renewable".

#### 4.4 Coding

#### 4.4.1 SDG 2:

Out of the twenty-four terms searched for SDG 2, four terms were found in the policy. The terms "nutrition/nutritional", "genetic diversity", "tradition/traditional/traditionally", and "trade" were present.

"Nutrition" and "nutritional" were found primarily in the context of referring to animal/livestock feed criteria. For example, livestock must be fed primarily with high quality, local, organic (or in conversion), feed meeting the animals' nutritional requirements. Feeding practices must follow "normal nutritional patterns" (p87) to promote the animal's welfare.

Another mention of nutrition/nutritional is in reference to adding vitamins, minerals, amino acids, and micronutrients to organic processed foods. These food additives are allowed to be added to food in which they are legally required or in foods marketed specifically in relation to particular health or nutritional needs. The policy advocates for minimal use of food additives, which are only to be added for nutritional value.

The final context of "nutrition/nutritional" used in the policy is in reference to the nutrition of seeds and plants. The policy makes clear that The Commission may authorize certain products such as fertilizers, soil nutrients and conditioners, etc. to be used in organic production because their use is necessary to fulfill nutritional requirements of crops. Only products that are authorized may be used. Records of application of these fertilizers and nutritional soil additives must be maintained by farmers.

The next term identified in the policy is "genetic diversity". This term was found four times. In article 6, letter e, the policy states that using genetically diverse seeds and animals is an important principle to follow in organic agricultural. Again, in article 6, letter j, it is emphasized that livestock breeds should be selected based on genetic diversity, adaptability to local conditions, breeding value, longevity, vitality, and disease resistance. In reference to breeding organic crops, focus should be placed on genetic diversity, natural reproductive ability, crop performance, disease resistance and adaptation to local environmental conditions. This sentiment is reiterated a fourth and final time in regard to choosing animal breeds along with the addition of preference for indigenous and local breeds.

"Traditions", "traditional", and "traditionally", are clumped together as one term since they connote the same meaning. They were found in the policy primarily in the context of making exceptions for traditions or traditional practices. For example, in relation to imports, article 45 part 2, "The Commission may...grant specific authorizations for the use of products and substances...taking into account differences in ...traditions and local conditions..." We also see an allowance for physical castration of livestock (as long as suffering is minimized as much as possible) for traditional production practices in annex 2, part 2, 1.7.10. In part 4 of annex 2 we see that natural colors and coatings are allowed for the traditional decorating of boiled eggs.

The last term found in SDG 2 is "trade". We find the subject of chapter seven to be on trade with third countries. Organic products can be imported from countries outside of the EU as long as they comply with trade agreements and the operators have gone through controls to ensure the products meet the same standards and requirements to be considered organic under the EU policy.

#### 4.4.2 SDG 5:

Out of the eight terms identified for SDG 5, only one term was found. The word "female" was found in the policy five times. Each occurrence of the word was found solely in reference to female livestock.

#### 4.4.3 SDG 8:

Out of 28 terms identified for SDG 8, eight were found in the policy: "economic", "innovation", "resources", "educational", training/trainings", "trade", "workers' safety", and "sustainable management".

The term "economic" is found once in the policy. In article 4 on the objectives and principles of organic production, part j, the policy states that organic production should include plant breeding to increase economic perspectives in the organic sector.

Next, we have "innovation", which is also present one time in the policy. "Innovation" is found in annex 2, part 1, on plant production rules. The policy is making an exception for the use of non-organic plant reproductive material for the purpose of product innovation if agreed on by authorities of the Member State.

"Resources" was found a total of six times. The term "natural resources" makes up two of the six times "resources" was found. "The responsible use of energy and natural resources, such as water, soil, organic matter and air" is identified as a general principle of organic production under article 5 c. Letter f, under the same article, states that another general principle is to have an appropriate design and management which uses natural resources.

Part ii of letter f encourages using "sustainable exploitation of aquatic resources" within aquaculture systems as an example of a method for using natural resources and limited external inputs. In article 6, letter b, entitled "Specific principles applicable to agricultural activities and aquaculture", the policy states that one should limit the use of external inputs and non-renewable resources. Later on, the policy mentions that farmers can use plant material from their own farm to create more genetic resources for organic production.

The policy uses the term "educational" twice. The first time in reference to exceptions for research and educational centers, and the second time in reference to the organic production logo. Article 33 section 1, gives the EU the right to use the organic production logo for educational and informational purposes as long as it does not mislead consumers into thinking a product is organic.

"Training/trainings" is found four times in reference to documented procedures for internal controls. It is found once for the training of inspectors, once for the training of members on the internal controls, procedures, and requirements, and once in regards to ensuring the internal controls manager has adequate trainings and assessments for the inspectors' qualifications and competences. Lastly, it is mentioned that the internal controls inspector must also participate in trainings.

The other topic in which we find "training" is concerning animal welfare, under part 2: Livestock production rules, 1.7.1. "All persons involved in keeping animals and in handling animals during transport and slaughter shall possess the necessary basic knowledge and skills as regards the health and the welfare needs of the animals and shall have followed adequate training..."

The results for the term "trade" are the same as the results that can be found above under results for SDG 2.

We find the term "workers' safety" a total of three times. Each time "workers' safety" is used in reference to the workers' safety when jeopardized by livestock. "Workers' safety" is found under sections 1.7.5 and 1.7.8 of part 2. The policy gives allowance for livestock to be isolated for a short period of time under specific conditions including where workers' safety is compromised. The same allowance is given for other practices such as dehorning and beak trimming for various reasons including workers' safety.

"Sustainable management" occurs six times. Organic production is described as a "sustainable management system" under article 5, General principles. Under part 3: Production rules for algae and aquaculture animals, section 1.5 calls for operators to have a sustainable management plan for their aquaculture and algae harvesting activities. It is also mentioned, in 1.7, that measures are to be taken against predators and, in 1.9, that a waste reduction plan should both be a part of the sustainable management plan. Further mentions of sustainable management are related to what aspects of aquiculture production should be included in the required sustainable management plan.

#### 4.4.4 SDG 12:

Out of nineteen key words searched for SDG 12, five were found in the policy: "sustainable", "sustainable management", "recycled/recycling", "waste", and "renewable".

"Sustainable management" is included under the search for the word "sustainable" and consists of six of the fifteen times the word "sustainable" is found. The results for the term "sustainable management" are found above under the results for SDG 8 and will not be discussed again under "sustainable".

The word "sustainable" was found fifteen times in total. Once, the word was used to describe the principle of sustainable exploitation of aquatic resources. It is found in part 3, section 2.2.2, to mandate the use of sustainable practices in algae harvesting and part 2.4 for the sustainable collection of wild algae. In the same part, section 3.1.2.1 on the origin of aquaculture animals, letter e, part ii, the term "sustainable exploitation" is used a second time in reference to restocking practices. We see "sustainable" again under part 3, section 3.1.3.1, letter c, to state that aquatic animals used as feed must be sourced and certified as sustainable. Sustainable sourcing of feed for carnivorous aquaculture animals, and other specific aquaculture livestock, is reiterated again, with priorities of feed sources in section 3.1.3.3, letters c and d, and section 3.1.3.4, letter c, i and ii.

"Recycled/recycling" appears twice in the policy. The first mention is in article 6 under specific principles of agricultural and aquaculture activities. Letter c mentions the recycling of waste and by-products from plants and animals to be used as inputs in production. Part 3, section 2.3.4, mentions that equipment used for algae production, such as ropes, should be reused or recycled when possible.

"Waste" occurs three times in the policy. First, we find it mentioned in article 6, part c, as one of the principles the policy identifies as being applicable to organic agricultural and aquacultural production. This principle is "the recycling of waste and by-products of plant and animal origin as input in plant and livestock production." Later, we see a requirement for aquaculture and algae businesses to create and implement a waste reduction schedule as part of their sustainable management plan (which is mentioned previously in the policy as a requirement for aquaculture and algae harvesting). Lastly, we see waste mentioned in reference to using mechanical filters or bivalves to collect waste nutrients accumulating in aquacultural structures.

Lastly, we have the word "renewable". This word was found eight times, but I was looking for it in the context of renewable resources. The first time it is found in this context is in article 3 on definitions. Point 35 describes that "energy from renewable sources" means any sort of energy from "renewable non-fossil sources", and then examples of these are given. Later in Article 6 on the specific principles of organic production, letter b states that there should be a limit to the use of non-renewable resources and external inputs in production.

Under part 3 of the policy, on aquaculture production, section 1.9 emphasizes that operators should use residual heat from renewable energy sources when possible. Later in the same part, section 3.1.6.4 mentions that mechanical aerators should be run on renewable energy if possible.

Three times the policy used renewable in reference to specific exceptions to the policy. These are not related conceptually to renewable resources so I will not go into further detail.

#### 5 Discussion

In this section I will discuss my findings for each SDG and how they relate to my theoretical framework of environmental justice and just transitions.

#### 5.1 SDG 2:

Overall, the key word "nutrition/nutritional" was present but did not conceptually match the overall theme of SDG 2 and its targets. SDG 2 focuses on meeting the nutritional needs of the human population. Regulation (EU) 2018/848 addresses nutritional needs of livestock and crops, along with regulations on nutritional additives to soil and processed foods but does not address how organic production will increase human access to nutrition, especially within marginalized groups.

One could argue that target 2.2 "End all forms of malnutrition...", could and should be applied to animals under human care. One could also argue that an environmentally just transition should include humane treatment of the animals who provide us with resources to help us achieve the goal of zero hunger. We cannot monetarily pay non-human animals, of whom we benefit from, for their labor and bodies as we can with our fellow humans, so the least we should do is treat them humanely and meet their basic needs.

For the second term "genetic diversity", a strong commitment to target 2.5 "Maintain the genetic diversity of seeds, cultivated plants, and farmed and domesticated animals and their related wild species..." is displayed. The policy encourages producers to value genetic diversity in their crop and livestock selection and breeding practices, and stresses that genetic diversity is a core principle of organic production. Missing from the policy, however, is any mention of seed banks or resources to help farmers obtain knowledge or resources on genetic diversity in crops and livestock available in their region. Many of these resources may be part of local policies, however, target 2.5 mentions creation and management of seed and plant banks at a national, regional, and

international level. Since this is an international policy, I would expect to find a mention of seed and plant banks to preserve genetic resources.

Under the term "traditions/traditional/traditionally" we see a number of allowances made for "traditional" practices. These allowances must still follow the underlying regulations of organic production, such as minimizing the physical suffering of livestock. While it's good to have allowances for tradition, the policy itself does not make any statements in terms of supporting tradition. It makes no mention of traditional knowledge or how traditional knowledge should be valued and passed down, especially regarding organic farming values such as sustainable farming techniques, or the cultivation of traditional and local varieties of crops and livestock. Promoting and preserving traditional methods that align with organic production values can provide a form of environmental justice and social justice by helping to keep alive cultural practices of groups who may be marginalized.

"Waste" is an important concept for both SDG 2 and SDG 12. Even though "food waste" and "waste" do not have their own specific target under SDG 2, the need to fight food waste is mentioned on the "Why It Matters" info sheet for SDG 2 under the section "What can we do to help?". Decreasing the amount of food waste is essential for ending hunger and promoting environmental justice, and fighting food waste should start with production.

SDG 12 mentions under facts and figures that each year around one third of all food produced is wasted due to poor transportation and harvesting practices. One would assume that since food waste is such a large threat to achieving zero hunger and sustainable consumption and production, that a policy on agricultural production would mention this issue. However, we find no mention of food waste and only the mention of waste in regard to recycling and aquaculture production.

Trade is mentioned in SDG 2 targets in reference to correcting and preventing trade restrictions and distortions in global agriculture markets. It is also mentioned under SDG 8. Target 8.A calls for an increase in trade support to developing countries which supports both the environmental justice and just transitions framework. Any mentions of trade in this policy deal solely with making sure products imported as organic meet the same standards as organic EU products. There is no mention of subsidies or trade support for developing countries. While providing developing countries with increased support to give them a more equal position to participate in global trade supports environmental justice and just transitions, I have concluded that anything outside of ensuring equivalent quality and ensuring organic production standards are followed in imported items is outside the scope of this policy. Fulfilling this aspect of SDG 2 must be achieved through reforming trade policies and is outside the scope of production and labeling policies.

#### 5.2 SDG 5:

There were no concepts found in this policy that were relevant to SDG 5. This is concerning for many reasons. As agriculture has developed into an industrial process, access to the field of agriculture has been restricted from women and other minorities. Feminist scholars argue that agriculture is framed by many cultures as a man's responsibility to feed the world (Sumner and Llewelyn 2011). According to the FAO (2022), 43 percent of agricultural laborers worldwide are women, however, they often face challenges when it comes to land ownership, wage equality, inclusion in decision-making, and access to financing.

Women have been a fundamental part of the organic movement from the beginning in both research and production. They are 17 times more likely than men to use organic methods for production, however, there is still a tendency in both traditional and organic agriculture to divide labor by gender (Sumner and Llewelyn 2011). Even though women are an essential part of organic agriculture, studies show that most organic farms still follow conventional gender roles and relationships (Hall and Mogyorody 2007). Due to the framing of the agriculture industry as primarily a masculine pursuit, ideas of gender roles within agriculture, and systems and policies that privilege men, men tend have more access, agency, and voice in the agriculture sector than women. To achieve a just transition and SDG 5 within agriculture, policy makers do not have the luxury of writing genderless policies. They cannot pretend that gender equality already exists or that women or gender-diverse individuals have the same experiences in their work and lives as men. Many researchers have concluded, as noted by Hall and Mogyorody (2007) that gender relationships will not be transformed by organic or alternative farming practices alone. It is essential to have policies which intentionally promote and support women and gender-diverse farmers and the unique challenges they face due to gender.

#### 5.3 SDG 8:

The term economic was found once in the policy in regard to creating economic growth through plant breeding. A large theme in SDG 8 is "sustained and inclusive economic growth". There is no mention in the policy of how economic growth will be supported in the organic sector besides this one time the term is used to encourage plant breeding.

The one-time mention of "innovation" is not strongly connected to SDG 8 either. Again, innovation is mentioned in reference to product innovation of crops. The European Commission takes a strong stance against using certain kinds of innovations, such as GMOs, however, there are many other types of technologies, such as precision agriculture, that could be mentioned as options for increasing organic crop yields and promoting economic growth. These innovations also promote just transitions as they can create better working conditions by reducing the amount of direct physical labor needed for daily farm operations.

Overall, the policy displays a commitment to encouraging the sustainable use of natural resources. There are no restrictions on using external inputs, when necessary, as long as they meet organic production requirements, however the policy encourages using natural resources and sustainable processes that reduce the need for non-renewable resources and external inputs. The use of "resources" in the policy has a positive correlation with the concept of resources presented in SDG 8 and environmental justice. Target 8.4 of SDG 8 mentions improving resource efficiency within production and consumption with the aim of separating environmental degradation from

economic growth. By promoting sustainable systems and resource use that minimize external inputs, the policy is aligned with SDG 8's goals for resource use.

"Educational" is found twice in our policy, but not in a way that conceptually relates to SDG 8 or just transitions. SDG 8's targets and goals focus on increasing the number of people (men, women, youth, etc.) who are employed or pursuing education or training. Part of the proposed solution to achieving this goal is to provide opportunities and investment in education and training that will provide youth with skills to gain productive employment. SDG 8 focuses on education for youth, but just transition movements and theory calls for education and training for all, regardless of age. Especially if a transition to a greener economy calls for a shift in how agriculture is produced. Our next term "training" ties into this theme and discussion on education, however, if I isolate my analysis to the term "education", the policy does not mention anyone, be it government, NGO, or organic farm owners, providing workers education on organic production.

The next term, "training", provides a little more of a connection with the concept of providing workers with the knowledge and skills they need for employment. We see training mentioned regarding training internal control workers and managers who are performing inspections on organic producers to verify they are following regulations. For internal control workers, ongoing training is mandated. It is also mandatory for people working with animals to have had necessary training according to the policy. Specifying that people working with animals should have basic knowledge, skills, and training for animal care and handling is good, but nothing is mentioned about providing opportunities for further training. There is also zero mention of producers and operators having training opportunities in equipment operation or crop production techniques, such as organic or sustainable production methods.

Within the policy, we see a prioritization of workers' safety over the comfort or ideal conditions for livestock when the animal is jeopardizing the workers' safety. This is a good start, but there is no mention of the safety of workers in other situations or a general prioritization of

safety. Both SDG 8 and just transitions emphasize labor rights and the right to a safe working environment for all, especially already marginalized groups who may be more vulnerable to unsafe working conditions.

Sustainable management may not be a term directly used in SDG 8; however, it is a concept that is strongly related to the purpose of this goal. Those who use sustainable management techniques aim to harvest and consume resources in a way that will not deplete the resource. Sustainable management is a way to achieve sustainable consumption and production, which is a part of target 8.4. The policy claims that organic agriculture in and of itself is a sustainable management system, however this is debated. Many academics argue about the inherent sustainability of organic agriculture, especially when policies, such as this one, do not specify what practices farmers should use or avoid to achieve sustainability (Seufert et al. 2017; Darnhofer et al. 2010; Trewavas 2001). This leaves the door open for some farms to fulfill the necessary regulations to be labeled organic without following the principles of organic agriculture and using sustainable practices (Darnhofer et al. 2010). The policy calls for a sustainable management plan to be a part of aquaculture operations, but what about sustainable management plans for livestock and crop production?

#### 5.4 SDG 12:

Sustainable management and sustainability are also key concepts in SDG 12. Goal 12 is to "Ensure sustainable consumption and production patterns". Target 12.2 is to achieve sustainable management and use of natural resources by 2030. Target 12.6 is to encourage companies to use and report on sustainable practices. The word "sustainable" is mentioned at least once in seven out of eleven targets. It is safe to say that sustainability is the main theme of SDG 12.

I discussed sustainable management above, under SDG 8, so now I will elaborate on the other mentions of the term "sustainable" in the policy. Surprisingly, aside from the first mention of sustainable management in general principles, we only find the term "sustainable" in the sections on aquaculture. Twice we see the term "sustainable exploitation". Sustainable exploitation is a term

that may sound alarming; however, it simply means harvesting or using a population at the rate at which it increases (Caughley & Gunn 1995 in Sutherland 2001). It is important that sustainability is addressed in organic aquaculture regulations, but it is concerning to see it left out of the rest of the policy.

Waste was mentioned earlier under the discussion for SDG 2, specifically regarding food waste. SDG 12 discusses food waste, but it also targets the management of all wastes and aims to reduce harmful releases of waste into the environment through target 12.4. Target 12.5 aims to reduce the creation of waste. The organic agriculture policy supports target 12.5 by emphasizing that the recycling of plant and animal by-products as a general principle of organic agriculture that should be followed. There is some mention of creating a waste management plan for aquaculture production, but as before in other categories, a directive for waste management plans in general crop or livestock production is missing from the policy.

Renewable is another term that is not found directly in the SDG but relates to many of the concepts of SDG 12. I came to include the term "renewable" as I was searching for the term "fossil". I found one hit for the term "fossil". This hit was in article 3 of the policy, which is titled, "Definitions". Number 35 defines the term "energy from renewable sources" as meaning energy coming from renewable, non-fossil, sources. This led me to search for the term "renewable" instead, as it seemed to be a term more commonly used throughout the policy.

Target 12.C aims to remove subsidies on fossil-fuel and reduce use of fossil-fuel where possible. One way to reduce fossil-fuel consumption is to increase use of renewable energy sources. Limiting use of non-renewable resources is mentioned as a general principle of organic agriculture in the policy. This supports SDG 12. A few specific examples are mentioned in the policy with reference to using renewable energy sources when possible. These examples are to use residual heat from renewable sources when possible and use renewable energy sources to operate mechanical aerators when possible. I would say the policy does an adequate job to support the use

of renewable resources, however., this could always be improved upon by adding more examples of steps farmers could take to reduce their use of fossil-fuels.

#### 6 Conclusion and Recommendations

In order to assess if the EU has effectively incorporated the SDGs into Regulation (EU) 2018/848 on organic production and labeling, I used keywords from four SDGs as a coding frame and conducted a contextual policy content analysis, looking for the presence of key concepts from the SDGs and my theoretical framework in the regulation. The results of my analysis were quite interesting, showing that parts of SDGs 2, 8, and 12 were present in the policy, while SDG 5 was completely absent. Some instances of absence of keywords are most likely due to the limitations of the policy to discuss topics with relevance to production and labeling. This analysis corroborates that not all aspects of each SDG are relevant to every policy, even when attempting to select for the most relevant SDGs. The SDGs are not a black and white code that can be equally applied to everything. However, the absence of certain topics could also be due to a lack of prioritization of certain aspects of the SDGs in the final iteration of the policy, or perhaps, an assumption that the nature of organic production would lead to the achievement of certain SDGs without needing to be included in policy. Maybe the European Commission was not considering the SDGs at all, despite claims to being committed to incorporating them in its policies. It is impossible to know for sure why some key themes within the four SDGs analyzed were not included without research into the decision-making processes that went into the creation of the policy. This topic is beyond the scope of this thesis but is an interesting topic for future research.

After completing my analysis, I have many policy recommendations to improve Regulation (EU) 2018/848. To make the policy align better with SDGs 2, 5, 8, and 12 and a framework of environmental justice and just transitions, the following recommendations should be considered:

- In regard to promoting genetic diversity, the policy should make reference of where to find external resources, such as info on local seed banks.
- The policy should explicitly promote the preservation, and recognize the value, of traditional practices and knowledge that align with organic agriculture values.

- Take a stance on food waste. Encourage producers to create a management plan for preventing food waste at the level of production.
- Explicitly mention support for women and gender-diverse organic farmers. Even though this policy is about production, expressing support and providing a link to resources for women and gender-diverse producers would help this policy to address SDG 5 and gender aspects of environmental justice and just transitions.
- Include more ways in which economic growth will be supported, in addition to plant breeding.
- To promote innovation, provide options for innovations that can be used in organic production, such as precision agriculture. Give producers ideas of what they can use instead of only mentioning what is prohibited.
- Encourage organic producers to provide internships, educational opportunities, and continual training for their employees, along with information for external training and educational opportunities.
- Require a sustainable management plan for all organic production operations, not just aquaculture.

Regulation (EU) 2018/848 has a good start at incorporating some of the SDGs 2, 8, and 12, however there is too much left unstated in this policy that could give organic producers and state governments the ability to claim the organic label and the name of organic production while violating principles of the SDGs, environmental justice, and just transitions. By writing regulations that are more inclusive of the SDGs, environmental justice, and just transitions, the European Commission can lead organic agriculture production in the EU into a more equitable future.

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