



Opinion

Volume 28 Issue 1 - February 2024  
DOI: 10.19080/ARTOAJ.2024.28.556401

Agri Res & Tech: Open Access J

Copyright © All rights are reserved by Corona Ramirez Armando

# The Sustainability of Agriculture in Ireland



Corona Ramirez Armando<sup>1\*</sup> and Gilmer Alan<sup>2</sup>

<sup>1</sup>Environmental Sustainability and Health Institute Greenway Hub, Grangegorman, Dublin 7, D07 H6K8, Ireland

<sup>2</sup>Technological University Dublin, Grangegorman, Dublin 7, D07 H6K8, Ireland

**Submission:** January 19, 2024; **Published:** February 26, 2024

\*Corresponding author: Corona Ramirez Armando, Environmental Sustainability and Health Institute Greenway Hub, Grangegorman, Dublin 7, D07 H6K8, Ireland

## Abstract

This opinion reviews the effects of agriculture and consumption in today's society by emphasizing the importance of adequate execution of proposed policies and strategies, as well as the effects and challenges that societal behaviour bring while aiming for a sustainable life within Irish and European communities alike.

**Keywords:** Agriculture; Sustainability; Environmental Pollution; Climate Change

## Introduction

Agriculture in Ireland is currently facing greater scrutiny in light of sustainability goals and policies being established. As of now, it is not being considered a fully sustainable practice, since uncontrolled consumption and click-culture lifestyle (as online shopping has become a major platform for not just clothing but now also groceries in a world post-COVID-19), and environmental pressures (e.g.: environmental pollution and climate change.) continue to remain as significant obstacles. While this sector is considered crucial to society, it has to reform into a more sustainable system in order to continue to function. The impacts of agriculture that have been recognized as significant including climate change, water pollution, soil degradation, eutrophication of water bodies and loss of biodiversity [1]. These issues need to be directly addressed by further policies which adopt EU and national guidelines which seek to reduce environmental pollution and promote a more sustainable industry. This is particularly important for Ireland, given that agri-food industries in Ireland represents a €19 billion sector [2].

This is particularly true for agriculture, given that requirements established by recent policies in Ireland, such as the 'Food Wise 2025' Department of Agriculture [3] and the 'Food Harvest 2020' [4] nudge farmers into increasing food production. This in turn can lead to over-intensification of the entire sector, as production yields increase to meet demand, with increasing production,

the side-effects of food processing will also increase, such as the release of pollutants. The constant food demand increase due to natural population growth also results in the equal increase in the effects of agricultural activities on the natural environment around it, placing increasing strain on resources such as soil (through increased damage to soil fertility, erodibility, etc.) and water (through the release of pollutants from fertilizer applications).

Ireland has seen an explosive increase in nitrogen-based pollutant emissions from agriculture. Excessive use of nitrogen-based fertilisers, alongside the production of manures and slurries which are a byproduct of animal husbandry resulted in the excessive release of nitrogen components such as ammonia, nitrate and nitrite being released into the environment, including ecosystems which have relatively low levels of these components from natural sources [5]. The imbalance introduced in these system results in the toppling of the biogeochemical cycling of nitrogen components throughout the water-soil-atmosphere biome [6]. The excessive release of these components results in the to the eutrophication of lakes (excessive algae growth on the surface of the water), which affect the ecosystem by disturbing the oxygen levels thus affecting the wildlife inhabiting it (Noel Culleton, 2009).

With the need to control the unwanted side-effects of the newly promoted expansion of the agricultural sector, the European Union

has introduced the Nitrates and Water Framework Directives (Directive 91/676/EEC, Directive 2000/60/EC) and the National Emissions Ceilings Directive (NECD) (Directive 2001/81/EC). The Nitrates and Water Framework Directives focus on the reduction of ammonia and nitrate in water bodies, while the NECD establishes pollutant emission ceilings to the atmosphere, including nitrogen pollutants (ammonia, nitrogen monoxide). These legislative measures aim to reduce the impact agriculture has on the surrounding natural environment. However, recently publications show a continued rise in ammonia emissions to the atmosphere. Ireland has exceeded the NEC limits in 2012, 2013, 2015, 2016, 2017, 2018, and 2019. Additionally, Ireland has received an infringement notice from the European Commission due to non-compliance with the NECD limits set forth for ammonia [7]. In a similar line, nitrate levels in water bodies fail to meet the requirements of the Nitrates and Water Framework Directives, with 40 per cent of monitored river sites having unsatisfactory nitrate concentration levels nation-wide [8]. Thus, while efforts are currently being made to curb emissions, these are marginal to the exponential growth of the agricultural sector.

Currently, Ireland and the EU have a variety of policies in place which aim to combat the issues of climate change, protection of natural resources and the enhancement of biodiversity in agriculture such as the Common Agricultural Policy (CAP) which focuses on a catering to the needs of farmers while addressing environmental concerns [9]. CAP's main goal is to generate the opportunity for farm owners to abide by the policies established by regulators through measures that seek to influence the decision of producers to undertake the task of becoming more environmentally sustainable. This is addressed by the provision of direct payments which should allow for more reliable regulation

of market prices and when paired with the EU 'Farm to Fork' strategy, aims to achieve carbon neutral production in agriculture by 2030 [10]. Indeed, the European Green Deal sets the context in which agricultural policy is being framed in the drive for a climate-neutral agricultural sector by 2050. The question that is most crucial in terms of translating these aspirations into tangible sustainable returns is whether such policies can genuinely deliver true sustainable and inclusive growth and support economic stability while promoting health and well-being for all.

### References

1. Reisch L, Eberle U, Lorek S (2013) Sustainable food consumption: an overview of contemporary issues and policies. *Sustainability: Science, Practice and Policy* 9(2): 7-25.
2. Department of Agriculture, F and the M (2023) Annual Review and Outlook for Agriculture and the Marine.
3. Department of Agriculture, F and the M (2015) Local Roots A vision for growth for the Irish agricultural economy for the next 10 years. Terms of reference for the 2025 Agri-Food Strategy Committee.
4. Department of Agriculture, F & F (2010) Food Harvest 2020.
5. Kellegghan, D. B. et al. (2019) Mapping ammonia risk on sensitive habitats in Ireland. *Science of The Total Environment*. Elsevier, 649: 1580-1589.
6. Widdison PE, Burt TP (2008) Nitrogen Cycle'. In: Jørgensen SE, Fath BDB (Eds). Academic Press, Oxford, pp. 2526-2533.
7. Environmental Protection Agency (2021) Ireland's Air Pollutant Emissions, ppp. 1990-2030.
8. Environmental Protection Agency (2023) Water Quality in 2022: An Indicators Report.
9. Conor Dowling. (2020) Sustainability in Irish agriculture.
10. European Commission (2020) Farm to Fork strategy, For a fair, healthy and environmentally-friendly food system.



This work is licensed under Creative Commons Attribution 4.0 License  
DOI: [10.19080/ARTOAJ.2024.28.556401](https://doi.org/10.19080/ARTOAJ.2024.28.556401)

#### Your next submission with Juniper Publishers will reach you the below assets

- Quality Editorial service
- Swift Peer Review
- Reprints availability
- E-prints Service
- Manuscript Podcast for convenient understanding
- Global attainment for your research
- Manuscript accessibility in different formats  
( Pdf, E-pub, Full Text, Audio)
- Unceasing customer service

Track the below URL for one-step submission  
<https://juniperpublishers.com/online-submission.php>