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A Health Impact Assessment of the 2024 Climate Action Plan's Measure to Expand Ireland's Organic Sector

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Acronyms

HIA: Health Impact Assessment

DOH: Government Ministerial **Department of Health** in Ireland (name at the time of writing)

DOH&C: Government Ministerial **Department of Health and Children** in Ireland (previous name for the Department)

DAFM: Government Ministerial **Department of Agriculture, Food and the Marine** in Ireland

DECC: Government Ministerial **Department of Environment, Climate and Communications** in Ireland*

IPH: All Island Institute of Public Health in Ireland

OFS: Organic Farming Scheme in Ireland

* Since finalising the report, the Department has been renamed as the Department of Climate, Energy and the Environment. It continues to be the Government Department publishing the Climate Action Plans.

Summary

The Climate Action Plan is the Irish Government's roadmap to reducing greenhouse gas emissions (GHG) by 51% against 2018 levels by 2030 and achieving carbon neutrality by 2050. Under the national Climate Action Plan (DECC, 2024), the agriculture sector must achieve a 25% reduction in GHG by 2030. One of the policy objectives[1] to support this target is the expansion of Ireland's organic sector (DECC, 2024). To implement this objective, the Plan includes a specific action for the provision of "financial support to farmers who convert to organic farming," (DECC, 2024: 295). The fourth Climate Action Plan (2025) was published while undertaking this HIA, with a continuation of the action to support organic farming through financial support to farmers (DECC, 2025: 126). It is expected that expanding the organic sector will assist in reducing fertiliser and pesticide use (DECC, 2024) and contribute to improved ecosystem health.

A health impact assessment (HIA) has been undertaken on the policy objective 'Expanding our Organic Sector' from the Climate Action Plan (2024: 295). The **purpose of this HIA** is to (i) assess and report on the likely significant effects on the health of organic and conventional farmers in Ireland stemming from the objective to expand the organic sector, (ii) make recommendations to negate adverse health impacts and enhance opportunities for health gain and (iii) identify any health inequalities and recommended how these inequalities can be mitigated and addressed.

Evidence appraised during the HIA included:

- lived experience gathered through interviewing 24 farmers in Ireland.
- evidence from reviewing scientific literature and relevant reports.
- published studies reporting on the health of farmers and a farming profile.

The HIA reaffirms the difficult and stressful nature of farming in Ireland. Likely significant health impacts identified in the HIA include livelihood risks associated with converting to organics without adequate supports, which may add to the stress and financial insecurity experienced by some farmers. There are gaps in market infrastructure and a lack of supports for farmers transitioning to organic farming.

1 The policy objective 'Expanding our Organic Sector' is called a measure within the Climate Action Plan (2024), (DECC, 2024: 295). For the purpose of this HIA report, we refer to the measure as a policy objective.

Eleven evidence-based recommendations were developed to support the transition to organic farming as a viable option—without adding to the financial insecurity and risk already experienced by many farmers. These include guaranteeing fair organic farmgate prices[2]; coordinating government and industry support; incorporating broader indicators of agricultural success beyond land area farmed; mainstreaming the reporting of data on farmer health; introducing measures targeting dairy farmers; co-developing a research agenda with farmers; increasing farmer participation in policy processes; reducing administrative burdens; protecting land in organic production; promoting and incentivising organic fruit, vegetables and legume growers; reducing the minimum land requirement to participate in the Organic Farming Scheme; and expanding organic education and advisory services.

Livelihoods are a key determinant of health, and a secure income is a central component of livelihoods. These recommendations aim to address the potential health impacts that may be experienced by farmers when implementing the policy measure 'Expanding our Organic Sector' in the Climate Action Plan 2024. This HIA affirms the difficult and stressful situation in which many Irish conventional and organic farmers are living and are expected to operate within as food producers. Providing financial incentives alone are insufficient to protect the livelihoods of current organic farmers or to facilitate a wider transition to organic farming. Long-term support in the form of recommendations outlined in this report are needed.

Members of the HIA steering group

(in alphabetical order):

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Aoife Deane (Sustainability Institute, University College Cork)
Tara Kenny (School of Public Health, University College Cork)
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(Chair of the HIA Steering Group)
Bridget Murphy (Talamh Beo)
Erin O'Brien (Organic Growers Ireland)
Phillip O'Brien (Climate Change Advisory Council)
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Marian O'Reilly (Health Improvement, Health Services Executive)
Donal Sheehan (Farmer)
Andrew Sulley (National Environmental Health Service (NEHS),
Health Services Executive)

2 The value of agricultural products at the moment they leave the farm, for organic food products.

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1. Health Impact Assessment (HIA) and the HIA-IM research project: Learning by doing HIA to inform practice in Ireland

The places where we live, our livelihoods, our environment, the food available to us, our family circumstances, our homes, transport and active travel options, the community in which we live, access to healthcare, and the educational opportunities accessible to us, influence our health (Dahlgren and Whitehead, 2021) Collectively, these are known as the determinants of health (Figure 1). Most of these determinants of health are influenced by actors and decisions made outside the traditional health sector.

Health Impact Assessment (HIA) is an approach endorsed by the World Health Organisation (WHO, 2023) that enables diverse organisations and stakeholders to systematically examine the potential impacts of their policies, plans, programmes, or projects on people's health and wellbeing. Principles underpinning HIA include

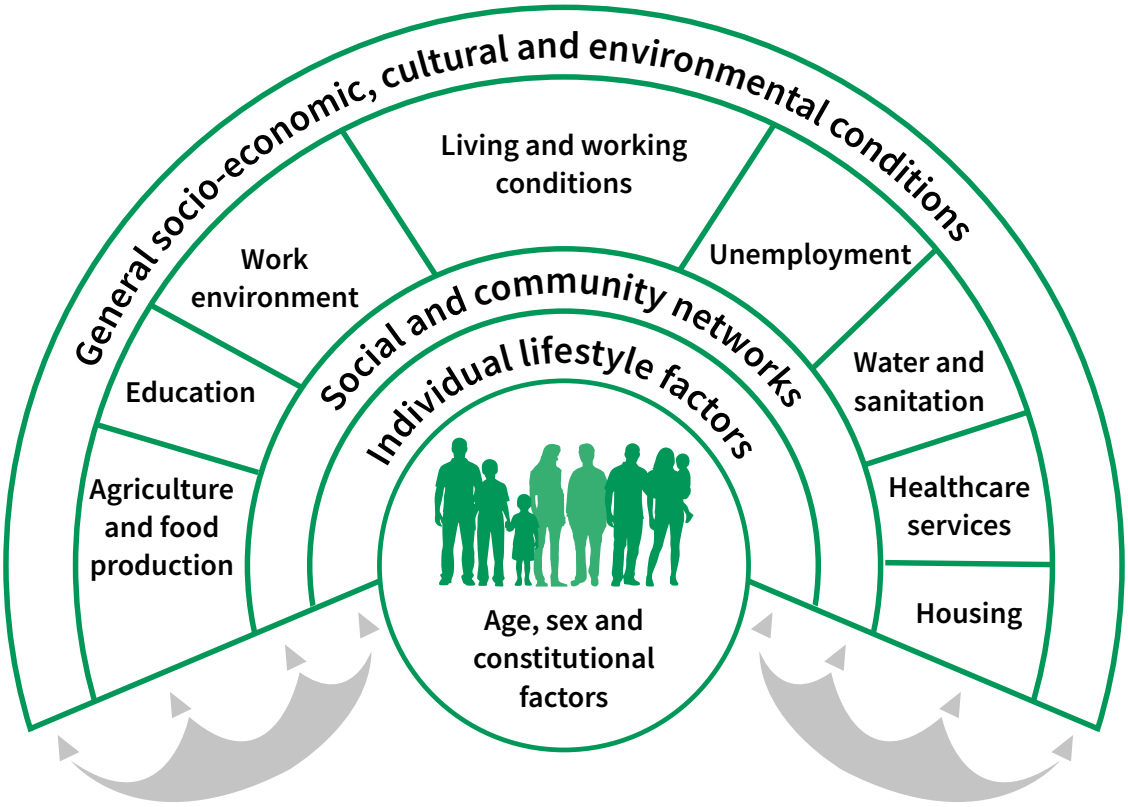


Figure 1: The Dahlgren-Whitehead model of health determinants (Dahlgren & Whitehead, 2021: 22).

equity and equality, participation, sustainable development, a broad understanding of health, and ethical use of evidence (WHO, 1999, Winkler et al., 2021). While HIA is currently non statutory in Ireland, it is an established way to promote Health in All Policies which is an "approach to public policies across sectors that systematically takes into account the health implications of decisions, seeks synergies, and avoids harmful health impacts in order to improve population health and health equity" (WHO, 2013: 2).

HIA is endorsed in the public health policy, *Healthy Ireland Framework* (2013-2025) (DoH, 2013) with the *Healthy Ireland Strategic Action Plan* (2021–2025) (DOH, 2021), which aims to provide a roadmap for building a healthier Ireland. The *Healthy Ireland Framework* endorses the HIA approach being undertaken as a way to embed a health assessment across public policies beyond the healthcare sector (*ibid*: 13), as there are significant connections between health policy and policies relating to areas such as the environment that require an intersectoral response (*ibid*: 47).

HIA involves examining potential health impacts across population groups as opposed to examining individuals for impacts. It makes relevant links to potential changes in health outcomes and considering the impacts of these changes on health status inequality, whilst maintaining the focus of the effects that are likely significant on health (Pyper et al., 2021). In terms of process, proportionality is an important principle when planning and undertaking a HIA. Proportionality means that the HIA process is fit-for-purpose (Pyper et al., 2021: 11) and proportionate in terms of "time available, resources, and (according to) proposal (policy) complexity" (*ibid*: 30).

This HIA on the policy objective 'Expanding our Organic Sector' included in the agriculture chapter of the Climate Action Plan (2024) has been carried out as part of a research project entitled *Development of a Health Impact Assessment Implementation Model (HIA-IM): Enhancing Intersectoral Approaches in Tackling Health Inequalities.* **HIA-IM** is based in University College Cork (UCC), co-hosted between the School of Public Health and the Institute for Social Science in the 21st Century (ISS21). The project is funded by the Health Research Board (grant number EIA-2022-001). The research team is made up of Dr Monica O'Mullane (Principal Investigator), Dr Tara Kenny (Postdoctoral Researcher) and Caithlín Sheehan (Student Research Assistant). The project has ethics approval from the Social Research Ethics Committee in UCC (Log # 2023-019).

The overarching goal of the HIA-IM project is to create an implementation model to guide future HIA practice and policy in Ireland. The model will be developed based on a 'learning by doing' approach to generating key findings in undertaking two HIAs, namely the HIA on the Core Strategy of the Cork City Development Plan (2022-2028) (O'Mullane et al., 2024) and this HIA on the Climate Action Plan's policy objective to expand the organic sector.

1.1 Ireland's Climate Action Plan (2024) and the objective to expand the organic sector: Rationale for the HIA focus

Climate change presents significant health challenges. Mitigation measures aimed at reducing greenhouse gas emissions (GHG) are expected to result in considerable direct and indirect health co-benefits (Ammann, Dietler and Winkler, 2021; Khanal et al., 2022, Romanello et al., 2024).

The first National Climate Change Risk Assessment (EPA, 2025b) outlines 115 identified risks of climate change, 43 significant risks and five opportunities. It indicates that the impact of climate change on population health will materialise in the form of regular flooding events, severe heat events, risk of antimicrobial conditions due to climate change and risk in vector-borne disease due to climate change (EPA, 2025b: 13).

The Climate Action Plan is the Irish Government's roadmap to reducing GHG by 51% against 2018 levels by 2030 and achieving carbon neutrality by 2050. The targets are aligned with Ireland's obligations under EU and international treaties, including the Paris Agreement (2015) and the European Green Deal (2020).

The Climate Action Plan (2024) is the third annual update to Ireland's Climate Action Plan 2019 and the second to be prepared under the Climate Action and Low Carbon Development (Amendment) Act 2021. The fourth Climate Action Plan (2025) was published while undertaking this HIA, with a continuation of the action to support organic farming through financial support to farmers (DECC, 2025: 126).

The Climate Action Plan (2024) sets out the roadmap to deliver on Ireland's climate ambition, including actions for sectors across the public sector, electricity, industry, built environment, transport, agriculture, land use and forestry, marine environment, and local government. Ireland's GHG have reduced in all sectors except agriculture which also accounts for the largest share of Ireland's emissions profile (37.8%) and places Ireland as an outlier in the EU context in terms of GHG emissions per capita (EPA, 2024). Ireland's Climate Change Assessment report 'Achieving Neutrality by 2050' (EPA, 2023b) identifies the urgent need for 'deep emission reductions' within agriculture and land use sectors. The primary pathways to achieve net zero within this sector is 'through unprecedented rates of afforestation and rewetting of organic soil along with a significant reduction in herd numbers' (McGookin et al. 2023: 11).

Given the importance of the agriculture sector in the reducing Ireland's GHG, the decision was made to focus on the agricultural chapter of the Climate Action Plan, and specifically the policy objective to expand Ireland's organic sector (DECC, 2024). This objective is primarily actioned through the provision of 'financial support to farmers who convert to organic farming (DECC, 2024: 295). It is expected that the

policy objective will assist in reducing fertiliser and pesticide use (DECC, 2024) and contribute to improved ecosystem health and reducing GHGs. Currently, Ireland is not projected to achieve its 2030 goal even when the most ambitious modelling scenario is applied [1]. Importantly, diversification measures were not modelled due to the lack of 'sufficiently elaborated implementation pathway' (EPA, 2024: 96).

Under the national Climate Action Plan (2024) (DECC, 2024), the agriculture sector must achieve a 25% reduction in GHG by 2030. These reduced GHG emissions are required across Ireland's agriculture and food production systems. The Climate Action Plan (2024) notes the following in relation to specific action identified for delivering on the reduction in GHGe.

> "Guided by the Food Vision 2030 Strategy, Irish farmers and food producers will further prioritise delivery of environmental, social and economic sustainability. We are doing this through actions in the following areas:
>
> - Reducing nitrous oxide emissions
> - Reducing methane emissions
> - Increasing carbon capture
> - Enhancing biodiversity
> - Providing diversification options for livestock farmers
> - Enhancing adaptation
> - Supporting the development of new research"
>
> (DECC, 2024: 276)

These actions are implemented through five policy objectives (DECC, 2024: 273-275)

- Changing how we Fertilise Our Land
- Improving the Efficiency of Our Animals
- Expanding Our Organic Sector
- Providing options to livestock farmers to voluntarily reduce livestock numbers and diversify land use
- Expanding Our Domestic Biomethane Industry

The policy objective to expand the organic sector through organic production is identified in the Climate Action Plan (2024) is being actioned by "providing financial support to farmers who convert to organic farming" (DECC, 2024: 295).
The population of interest within this HIA are farmers.

1 Expected decrease of between 1% and 18%, excluding diversification measures.

As a result of their occupation, farmers have been shown to be adversely affected by noncommunicable diseases such as cardiovascular diseases, cancers and chronic respiratory diseases (van Doorn et al., 2020) as well as experiencing musculoskeletal conditions (Osborne et al., 2014). They also experience distinct mental health challenges compared to the general population (Hammersley et al., 2021). As the group expected to transition to organic farming, farmers remain understudied in terms of how this shift might impact their health.

According to a recent sectoral review of Irish agriculture there is a 'need to ensure that the changes in practices and land use required continue to be supported, including the design of longer-term incentives and market structures that reward good practices and provision of ecosystem services' (Climate Change Advisory Council, 2024: 5).

Previous attempts at encouraging farm level diversification were not well received and further research exploring the barriers to diversifying farming systems will be necessary to facilitate a just transition in Ireland (EPA, 2023a: 80). Additional research priorities outlined in Irelands Climate Change Assessment (ICCA) include research required to ensure future policies and measures or policy objectives are equitable to facilitate wider engagement in proposed Climate actions (EPA, 2023b: 213).

By exploring the potential health impacts that may be associated with implementing the measure to expand the organic sector, on farmers in Ireland, this HIA will provide valuable evidence to support achieving this measure while mitigating adverse health impacts within the farming community.

Social Justice Ireland (2020) highlight the need to support the move to more sustainable agricultural practices for farmers. This move is one of the main tenets of the four Just Transition principles in the Climate Action Plan (2024), as outlined below. These principles underpin all statutory Climate Action Plans in Ireland so far:

Principle 1: An integrated, structured and evidence-based approach to respond to just transition needs as they emerge.
Principle 2: People are equipped with the right skills to be able to participate and benefit from the future net zero economy
Principle 3: The costs are shared so that the impact is equitable, and existing inequalities are not exacerbated.
Principle 4: Social dialogue to ensure impacted citizens and communities are empowered and are core to the transition process.

One of the fundamental principles of a Just Transition is to ensure that no people, communities, economic sectors or regions are left behind as we transition to a low carbon future (SJI, 2020). A clear pathway for the farming community, outlining how they will be supported as part of a Just Transition, in relation to principles 2 and 3 in particular, is critical. Ensuring farmers reap the benefits of sustainable farming practice is an important part of the Just Transition framework. An integral part of which is the transition to organic farming, given the significant impact of this transition to the environment (Vickneswaran et al., 2023), natural capital and potentially to farm income. The recommendations created in this HIA report (Section 8) are aligned with these four Just Transition principles, indicating the association between the actions that are recommended, with a focus on farmers in Ireland, and the principles of Just Transition.

HIA is a way to systematically examine potential health impacts of implementing a policy objective on a particular population group. Previous research or work examining the health impacts of policy implementation on farmers in Ireland in relation to this policy objective was not identified, or beyond Ireland. Also, this significant knowledge gap provided greater impetus to carry out the HIA.

2. Health Impact Assessment (HIA) Process: Key stages, activities and decisions made

2.1 Introduction

This section outlines each of the stages of the HIA, the activities and decisions made at each stage, which informed the direction and scope of the process.

The Steering Group (listed on page 5 in this report) for undertaking this HIA was brought together in early 2025 by the HIA-IM researchers, Dr Monica O'Mullane and Dr Tara Kenny. The HIA was planned to take place from March to July 2025, over five months. In this time, three Steering Group meetings were planned by the HIA-IM researchers, who were also members of the Steering Group. These meetings took place online with Microsoft Teams, lasted two and a half hours each, with time allocated for members to review documents before meetings.

The All Island Institute of Public Health HIA guidance (Pyper et al., 2021) was used to inform the approach to this HIA, drawing on practice from Wales and Scotland, where HIA has been undertaken for more than two decades.

2.2 HIA Steering Group

The Steering Group is composed of 12 people with a wide range of expertise, knowledge and experience relevant to the policy objective seeking to expand the organic sector as outlined in the agriculture chapter of the Climate Action Plan (2024: 295). The members of the Steering Group participated in the HIA via their input and decisions made at three Steering Group meetings on 20th March, 27th June and 25th July 2025. Members also contributed to the process by reviewing draft working documents and the final report, before Steering Group meetings.

2.3 Screening

According to the IPH HIA guidance (Pyper et al. 2021: 110), the **screening** stage of a HIA is when a decision is made as to whether a HIA will go ahead or not.

The screening exercise, carried out by Dr Monica O'Mullane, met the guidance criteria (Pyper et al. 2021: 31) that "based on available information, does the proposal have the potential to change 'risks to human health' in a way 'likely' to 'significantly' affect population health?" The outcome of the screening exercise indicated that there are potential likely significant health impacts of implementing

the policy objective on farmers as the primary target population group for implementing the policy objective. Section 1 of this Report's Technical Annex[1] provides the completed screening tool.

From September to December 2024, Dr Monica O'Mullane and Dr Tara Kenny assessed the Climate Action Plan (2024) as a policy focus for the upcoming HIA. Given that the agriculture sector is the highest emitting sector for GHGe (EPA, 2025a) and diversification including the transition to organic food production in farming is a critical component in reducing emissions in agriculture, it was decided to focus on the policy objective 'Expanding our Organic Sector.'

2.4 Scoping- Focus on Livelihood as a determinant of health for Irish farmers

The **scoping** stage of a HIA is an integral part of the process, because this is the point at which the governance arrangements for the Steering Group is established and agreed upon by the members. This is also the stage when the scope, remit and boundaries of the HIA is decided upon, in terms of the determinants of health, population groups and policy focus for the assessment, respectively. Proportionality and prioritisation are key at this point. Decisions are required in terms of what is included in a HIA and what is not included.

In terms of the governance arrangements for this HIA, the terms of reference was agreed upon at the first meeting on 20th March 2025 (Sections 2 and 4 of the Technical Annex). The Chair of the HIA Steering Group was nominated and elected, namely Dr Ger Mullally (UCC). HIA-IM researchers (Dr O'Mullane and Dr Kenny) organised the meetings and circulated agendas, minutes and documents before each meeting.

The scoping stage for the HIA involved a workshop with the Steering Group, during which the determinant of health focus was decided upon by the group (20th March). The members of the Steering Group used their experience and knowledge to discuss together and consider how the policy objective to increase land under organic production outlined in the Climate Action Plan (2024) is likely to have health impacts on the farming community. Section 2 in the Technical Annex provides the Scoping Report arising from this exercise. Section 8 in the Technical Annex provides an overview of farming systems in Ireland, which was used to inform and guide decision making in identifying a broad range of farmers to interview in the evidence gathering stage. The All Island Institute of Public Health HIA guidance checklist (Pyper et al. 2021: 122) was used to frame the questions and structured discussion with the Steering Group including the determinants

1 The Technical Annex is available on the UCC CORA weblink where the Report is archived.

of health of livelihood, environmental conditions, health behaviours, safe and cohesive communities, and health and social care services. After the discussion, a vote was taken for deciding the determinant of health focus for the HIA. Livelihood was chosen as the determinant of health with the majority vote.

Type of employment, working conditions, work-related physical and mental health stressors, income earned and income security, all impact on health and wellbeing (Frank et al., 2023). **Farmer livelihoods** encompass the various ways farmers secure their income, often involving a combination of agricultural practices, diversification, and engagement with local and global markets. Farmers generally live on their farms, meaning their livelihood is associated with their home physical and social environment. Factors such as climate change, economic instability, experience of health and wellbeing, and gender inequality significantly impact farmers' livelihoods (Ding et al., 2022).

At the end of the scoping stage, the decision was confirmed to focus the HIA on the policy objective 'Expanding our Organic Sector' (DECC, 2024: 295) in the agriculture chapter of the Climate Action Plan (2024), on farmers working in Ireland, and to examine the potential impact of the policy objective on the livelihood of farmers.

2.5 Analysis

The **analysis** stage of a HIA is when "evidence of potential health effects are gathered and considered and when conclusions are drawn" (Pyper et al., 2021: 43). For this stage, the decisions made at the scoping stage, during the first Steering Group meeting on 20th March, determined the plan of work in gathering, collating, and analysing data. The work required for this stage was carried out by the HIA-IM researchers. The data collated at this analysis stage inform the recommendations created at the end of the process.

Evidence from the analysis of interviews with farmers, with a view to eliciting their lived experience and insight into this policy objective implementation, was carried out as part of the HIA process. It is detailed in Section 7 of this report. At the first Steering Group meeting on 20th March, the group was presented with a draft list of interview questions to review and discuss, with input incorporated from the group into the questions where possible, in line with our ethics approval from the Social Research Ethics Committee at University College Cork.

A review of scientific literature was gathered according to the determinant of health 'livelihood' scoped into the HIA and the farmer population group in Ireland. The review carried out was not exhaustive. Systematic reviews were prioritised first, as suggested in the IPH HIA guidance (Pyper et al. 2021: 149), then original

peer review studies relevant to the Irish context, where available. Relevant grey literature reports were included also.

During the second Steering Group meeting on 27th June, an overview of the literature and a preliminary analysis of the interview findings and draft recommendations were presented to the Steering Group to inform decision making at this analysis stage. Led by the HIA-IM researchers, members worked together in assessing the likelihood of impact of the policy objective on farmers using the models included in the IPH HIA guidance (Pyper et al. 2021) to assess the potential **sensitivity** of the policy objective on farmer's health (p. 141), the **scale or magnitude** of the impact (p. 145) and **overall significance or importance** of the impact on farmer's health (p. 148). The completed models are provided in Section 6 of the report's Technical Annex. Based on the outcome of this exercise, the tables recording the likelihood of impact was amended with the group input and is included in the Technical Annex, Section 7. The tables were created based on a template provided by Dr Liz Green, Director of the Wales HIA Support Unit, Public Health Wales, using the terminology (magnitude of impact, sensitivity of population, significance of impact) from the IPH HIA guidance.

These tables altogether informed the assessment of impact as outlined in Section 7 of this report and informed the creation of the HIA report recommendations in Section 8.

2.6 Reporting and Implementation

The **reporting** stage of a HIA is when a report is created on the purpose, scope and findings of the assessment. Recommendations are discussed and finalised with the group during the reporting stage, based on the findings from the Analysis stage. The recommendations developed for this HIA are detailed in section 8 of this report.

The **implementation** stage refers to the recommendations being incorporated during the policy design or policy implementation phase (Pyper et al. 2021). Although implementation of this report's recommendations is not a specific part of this HIA's time-bound process, the report will be submitted via the public consultation process.

2.7 Monitoring and Evaluation

Monitoring of the HIA relates to analyses after the assessment report has been completed, in tracking the health impacts identified in the HIA of the policy under assessment (Pyper et al. 2021). As this body of work is beyond the timeframe of our HIA, this step will be not carried out.

Also, as part of the **evaluation** stage of the HIA, a peer review of the report will be carried out by Dr Fiona Haigh (School of Population Health, University of New South Wales, Australia) who has vast experience in carrying out and reviewing HIAs for over twenty years, once the final report is complete. This will involve a quality assurance review of the HIA report. The review will be circulated to the Steering Group once completed by Dr Haigh.

Review questions are included in the Section 5 of the Technical Annex. These questions came from the quality appraisal template published by Public Health Scotland (PHS, 2025) with an additional question included on composition of the Steering Group, as suggested by the HIA team who undertook the HIA on the Core Strategy of the Cork City Development Plan (2022-2028) (O'Mullane et al., 2024), as part of the HIA-IM project.

3. Public Health Policy Context

Emissions from agriculture are a significant concern for human health due to their direct and indirect impacts on water, air, and soil quality, and climate change. This section provides an overview of the Strategic Environmental Assessment carried out on the Climate Action Plan, the link between agriculture and environmental and human health and associated EU and national policies, and legislation aimed at addressing these challenges. It also provides a summary of relevant population-based health promotion and protection policies along with programmes targeting farmers as a population group.

A statutorily required **Strategic Environmental Assessment** was carried out on the Climate Action Plan (2024) by the RPS consultancy company in 2024 (RPS, 2024). This informed the development of the Climate Action Plan (2024). It describes and evaluates likely and significant effects of the Climate Action Plan (2024) on the physical environment, and to provide an opportunity for statutory authorities and the public to offer views on the draft SEA report and the draft Climate Action Plan (2024). Human health on an aggregate population basis is considered in the SEA in relation to population level impacts but does not include a population-group focus when assessing potential impacts, as this is not required in an SEA. The SEA asserts that the Climate Action Plan (2024) would result in a wide range of decarbonisation activities that impact positively on health, in particular in improving air and water quality enabling human health to be addressed "holistically via the coordinated approach under the Climate Action Plan" (RPS, 2024: 10).

Emissions from agriculture include carbon dioxide (via liming, application of urea fertiliser and fuel), nitrous oxide (via manure management and agricultural soils) and methane (enteric fermentation and manure management). Methane is the most potent gas at trapping heat in the atmosphere and due to the scale of livestock production in Ireland, accounts for 72.1% of agricultural emissions (EPA, 2024).

Ireland's water resources are important from the perspective of amenity value, agriculture, industry and environmental sustainability, but most fundamentally they are an essential prerequisite for good health and wellbeing (Cormican and Cummins, 2021). EU water directives form the legal requirements for the protection and management of drinking water sources and drinking water quality. They are important as legal requirements for government policy in water protection. In particular, the **EU Water Framework Directive** (WFD) (EC, 2000), and the Drinking Water Directive (EC, 2020) significantly impact on public health by ensuring safe and clean drinking water and reducing the presence of harmful pollutants in wastewater, including the protection of waters against nutrient pollution, in particular nitrate and phosphorous, from agricultural runoff.

Nutrient losses from agriculture are a main driver of poor water quality in Ireland. Overall water quality in Ireland is in decline (EPA, 2022) with just over half of all rivers and lakes, and only 36% of estuaries classified as being in satisfactory ecological health (EPA, 2025). While a 10 percent national reduction in river nitrate concentrations was recorded during 2024, nitrate concentrations in the south and midlands and eastern regions remain too high and further reductions are necessary (EPA, 2025b). Agriculture leads to nutrient pollution in waterbodies, mainly from excess nitrogen and phosphorus from fertilizers and animal waste. This pollution can harm water bodies, causing eutrophication and water quality degradation. Fine sediment loss and hazardous chemicals from pesticides and veterinary medicines further impact water quality. **The Nitrates Directive (91/676/EEC)** aims to reduce water pollution from agriculture by limiting nutrient loading (EPA, 2024).

The agricultural sector is responsible for 99.4% of ammonia (NH_3) emissions in Ireland, contributing to nitrogen deposition, acid rain, and the formation of particulate matter. Despite national commitments to reduce ammonia emissions, Ireland has not met its reduction targets for 2020-2029. The size of the cattle herd and fertilizer use significantly influence ammonia levels. Agriculture also contributes to other air pollutants like nitrogen oxides (NOx) and non-methane volatile organic compounds (NMVOCs). These are linked to synthetic fertilizer use, livestock waste, and manure application. Agriculture is the second-largest source of NOx emissions in Ireland, contributing 36.4% of the total, and the largest source of NMVOCs, accounting for 39.1%. These pollutants can cause soil acidification, air pollution, and biodiversity loss (EPA, 2024). **The Clean Air Strategy for Ireland** was published in 2023. It provides the high-level strategic policy framework necessary to identify and promote the integrated measures across government policy that are required to reduce air pollution and promote cleaner ambient air, while delivering on wider national objectives (Government of Ireland, 2023a).

Excessive nitrogen deposition from ammonia and nitrogen oxide can damage terrestrial ecosystems and lead to biodiversity loss through eutrophication and acidification. While Ireland aims to reduce ammonia emissions, certain regions may still experience harmful nitrogen levels. **Ireland's 4th National Biodiversity Action Plan 2023–2030** (Government of Ireland, 2023b: 75) supports a 10% expansion of land farmed organically by 2030 to help mitigate these issues. Over the last decade there has been an increase in habitat destruction (EPA, 2024). Agricultural expansion and intensification, particularly the conversion of semi-natural grasslands and peatlands for farming, have directly resulted in habitat loss (*ibid*). As outlined in the Climate Action Plan, the Department of Housing, Local Government and Heritage is implementing nature restoration measures, on the basis of a whole-of-government approach (DECC, 2024).

Antibiotic or antimicrobial resistance (AMR) is a major public health risk associated with the prevalent use of antimicrobials in animal agriculture. In 2021 the Government of Ireland published the Second ***One Health National Action Plan*** on Antimicrobial Resistance (AMR) 2021-2025 One Health Policy (Government of Ireland, 2021). The plan provides for a "coordinated cross-sectorial response to the very real dangers posed by AMR" (*ibid*: 4). The Plan aims to ensure the availability of effective antimicrobial treatment options for both human and animal populations. This plan is focused on

> "achieving the highest international standards of animal health, improving productivity and profitability, and the economic, environmental, and social sustainability of Irish farms. Ensuring sustainability of the agri-food sector in relation to AMR also serves to protect public health and our shared environment" (*ibid*: 51).

3.1. National population-based strategies

In comparison to other occupations, farmers in Ireland experience a disproportionate burden of physical and mental health challenges (van Doorn et al., 2020; Hammersley, 2022). ***The Healthy Ireland Framework (2013-2025)*** (DoH, 2013) aims to improve health and wellbeing of all people living in Ireland with the focus on improving the health of the entire population. The main aims of Healthy Ireland (2013-2025) are to increase the numbers of people experiencing good health (mental and physical) at all life stages; reduce health inequalities with a focus on social factors; protect the public from threats to health and wellbeing; and to encourage every individual and society as a whole to collaboratively engage with its own health and wellbeing.

Irish farmers have a higher prevalence of overweight and obesity compared to the general population (van Doorn et al., 2020). ***A Healthy Weight for Ireland - Obesity Policy and Action Plan (2019-2025)*** (DOH, 2016) is a population-based strategy published by the government Department of Health. The Obesity Plan is life-course oriented, with a focus on children and families; and prevention focused, with an emphasis on targeting inequalities across all population groups.

One in four farmers have four or more risk factors for cardiovascular disease (CVD) (Van Doorn et al. (2020). The ***National Cardiovascular Health Policy (2010-2019***) (DOH&C, 2010) provides an integrated and quality-assured policy framework for the prevention, detection and treatment of cardiovascular disease.

3.2. Farmer-targeted strategies

Farming in Ireland is a highly gendered sector, based on the data available, with 115,655 (86.8%) male farm holders and 17,519 (13.2%) female farm holders report in 2023 (CSO, 2024). In relation to men's health, the ***National Men's Health Action Plan (2024-2028)*** was published in 2024 and outlines the coordination of plans to support farmer health and wellbeing, including the coordination of existing programmes including Farmers Have Hearts Cardiovascular Health Programme, On Feirm Ground, FarmConnect, Farming Minds, and FarMHealth (Richardson, 2024). The **Women's Health Action Plan (2024-2025)** the current health plan for women's health at the time of writing, without a specific reference to women farmers (Department of Health, 2024).

Farming is the highest risk occupation in Ireland (HSA, 2024). Regulations for *Farm Safety* in Ireland also has an impact on the health of farmers, their families and communities (DAFM, 2019). Farmers are required according to the Safety, Health and Welfare at Work Act (2005) to provide a safe working environment, which includes revised Farm Safety Code of Practice and Risk Assessment Document was introduced by the Health and Safety Authority (HSA) in Ireland.

The average age of farm holders in Ireland is 59.4 years (CSO, 2023). ***The National Age Friendly Ireland Programme*** (Age Friendly Ireland, 2023) sets out a range of policy supports aimed at improving and sustaining health. The Age Friendly Cities and Counties Programme Handbook outlines specific programmes designed to enhance farmer health and wellbeing in rural settings (Age Friendly Ireland, 2021).

3.3. EU and national policies and legislation supporting organic agriculture

Organic food production has been regulated at European Union (EU) level since 1991. The EU requirements for organic food are set by regulation (EC) No834/2007 outlining the principles of organic food production. The latest organic regulation (EU) 2018/848 was published in 2018 and applied from January 1st, 2022 (Hashemi et al. 2024).

Under the EU ***Farm to Fork Strategy***, and the ***EU Biodiversity Strategy***, the EU has committed to an overall target of reaching at least 25% organic farming by 2030. However, research examining the growth of organic farming in EU countries from 2004 to 2021 indicates that achieving this target will be difficult, particularly for countries such as Ireland, in the absence of significant policy changes, increased financial support and investment in organic research and development (Krajewski et al. 2024).

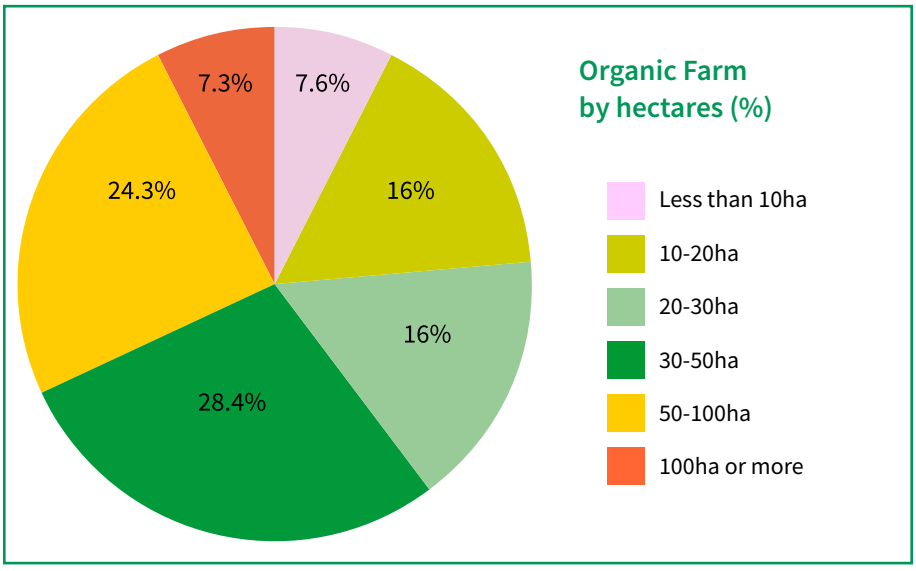
Ireland's organic expansion target is to achieve 250,000 ha of land under organic production by 2025 and 450,000 ha (10%) by 2030. Under the EU ***Common Agricultural Policy*** (2023-2027), a budget of 256 million has been allocated to drive the development of the organic sector in Ireland. In 2022, a standalone division was established within DAFM to promote and develop the organic sector. In 2024, the ***National Irish Organic Strategy 2024-2030*** was released (DAFM, 2024). This strategy identified key priorities to support growth and sustainability of the organic sector. These priorities include (1) supporting participation in Organic Farming, (2) co-ordinating the Value Chain, (3) Growing the Irish Market, (4) Driving Export Growth, (5) Expanding Public Procurement and (5) Boosting skills and supports (DAFM, 2024).

4. Organic farming in Ireland

In 2023, total Utilised Agriculture Area (UAA) on organic farms was almost 180,000 ha up from approximately 75,000 ha recorded in 2020. UAA on organic farms represented 3.9% of total UAA (CSO, 2024[1]). More recent figures suggest that there are approximately 5,000 farmers engaged in the **Organic Farming Scheme** (OFS). This equates to about 5% of total agricultural land area (225,500 hectares) and halfway towards achieving the 10% goal by 2030 (DAFM, 2024). The majority of new entrants into organic farming are livestock farmers. In 2022 and 2023 more than 85% of OFS applications were from livestock farms. Mixed enterprises accounted for 7% of applications, Tillage 5%, Dairy less than 2% and Horticulture less than 1% (DAFM, 2024).

In 2023, over half of organic farms were classified as Specialist Beef production (55%), specialist sheep farms comprised 26.5% while specialist dairy accounted for 1.6%. Just over 30% or organic farms were larger than 50ha while 7.6% were less than 10 ha (Figure 2). The mean farm size for organic farms was 43.2 ha. Organic livestock farms comprise over 10,000 cattle, 500,000 sheep and 500,000 poultry (CSO, 2024). The total number of animals in organic systems is 1209936. The majority of organic poultry production (67%) and organic sheep (50.9%) take place in the Northern and Western region of Ireland while the Southern regions hold the largest share of organic cattle production (41.8%) (CSO, 2024).

Figure 2: Organic Farm by hectares (%), created by researchers using data from the CSO Farm Structure Survey 2024



1 Organic Farming Farm Structure Survey 2023 - Central Statistics Office

The 2030 goal is to increase the wholesale organic food value from 200 million to 750 million by 2030 via the increased supply of mostly organic beef, sheep meat, dairy and poultry (Teagasc, 2024b). According to the National Organic Strategy, export markets will becoming increasingly important for organic meat, dairy, seafood and cereal and are expected to comprise almost 50% of the value of the overall sector by 2030 (DAFM, 2024). However, there is a gap in data concerning organic fresh produce production in Ireland. Based on the assumption of reduced reliance on imported organic crops to less than 50% (currently over 70%) and an increase in the number of growers with access to the retail sector, the output of fresh organic produce 'could treble' by 2030 (DAFM, 2024: 26).

In 2025 Teagasc published a report on the 'Feasibility Study on Producer Organisations[2] in the Irish Organic Sector' (Teagasc, 2025). The purpose of the study was to provide insights and actionable recommendations to support the growth and sustainability of Ireland's organic agricultural sector. The report identifies a number of barriers and opportunities for producer organisations in the organic sector. Barriers included regulatory complexity, lack of specialised skills, supply availability, lack of scale, trust issues, and financial risks. Opportunities identified included improved shared purchases, supply coordination, joint marketing efforts, shared resources, and collaborative research and development (Teagasc, 2025).

4.1. Potential human health impacts of organic farming

Organic agriculture is defined by the Food and Agriculture Organization of the United Nations (FAO) as 'a system that relies on ecosystem management rather than external agricultural inputs' (FAO, 2021). The goal of organic farming 'is to maintain soil health, sustain ecological systems, maintain fairness in its relationship with the environment and protect the environment in its entirety' (Rhaman et al., 2004: 1). Organic farming practices prioritise soil health, reducing synthetic chemicals, and protecting and supporting biodiversity which assist in mitigating water pollution, soil erosion and GHG emissions (Baidala et al. 2024) and in protecting public health.

Reducing emissions from agriculture is critical for protecting human health in the context of climate change. Organic farming is associated with lower GHG emissions such as methane (CH_4) and carbon dioxide (CO_2) compared to conventional farming[3] (Skinner et al. 2019; Linehan et al. 2024). The absence of chemical fertilizers, herbicides, and pesticides is associated with improved soil health (Linehan et al, 2024), water quality, biodiversity and animal welfare (EC, 2023; Markiewicz-

2 A producer organisation is defined "as a group of farmers or agricultural producers that come together to collaborate and improve their collective bargaining power" (Teagasc, 2025:8).

3 Also known as industrial agriculture.

Keszycka et al. 2023). For example, nitrate leaching is one of the core negative impacts leading to environmental degradation and affecting health. Long-term organic farming can reduce nitrate leaching (Han et al. 2025).

Additional human health implications associated with organic food production and consumption include reduced exposure to pesticides and potential nutritional gains (Rhaman et al 2024). For example, epidemiological studies identify the negative effects of certain insecticides on children's cognitive development, thus the consumption of organic food, particularly during pregnancy and infancy can reduce this risk (EPRS, 2016). Organic milk tends to contain higher levels of beneficial fatty acids[4] and a lower and healthier ratio of omega-6 to omega-3 fatty acids, higher concentrations of vitamins A, E, and D3 and lower levels of heavy metals (Linehan et al., 2024). Additional studies included in a literature review, although with noted limitations, suggests organically produced foods have higher levels of magnesium, iron and Vitamin C (Rhaman et al. 2024). There are also indications that organic crops have lower cadmium levels in comparison to crops grown conventionally which is considered 'highly relevant to human health because food is the dominant route of human exposure to cadmium in non-smokers.' (EPRS, 2016:7).

Antibiotic or antimicrobial resistance (AMR) is a major public health risk associated with the prevalent use of antimicrobials in animal agriculture. This can lead to the development of AMR in animals that can be transmitted to humans through direct contact with affected animals, the food chain or the environment (Martin et al. 2024). Thus, the restricted use of antimicrobials in organic farming, can minimise this risk and play a key role in mitigating the spread of antimicrobial resistance (EC, 2023). However, as noted by Martin et al. 2024, there is significant lack of data on antimicrobial use at the farm and sector level in farmed animals in the Republic of Ireland (RoI).

As outlined above, organic farming is associated with several positive human and environmental health impacts. However, the magnitude of these potential impacts may vary according to the local context, farm practices, food produced, and indicators or measurements used. For example, Life-cycle Assessment is an established tool for assessing the environmental impacts of food and food systems. A recent quantitative review of 100 LCA studies [5] on organic food from 'cradle to

4 Such as omega-3 and conjugated linoleic acid (CLA).

5 Eight impact categories were considered in this review including global warming potential (GWP), acidification potential, eutrophication potential, eco-toxicity potential, biodiversity Impacts, energy use, water use and land use GWP is reported in carbon dioxide equivalents and includes greenhouse gas emissions (GHG) mainly in the form of N2O, CH_4 and CO_2. However, most studies examined climate impacts and lack of studies on biodiversity and ecotoxicity. None of the included life cycle assessment studies were from Ireland.

farm gate[6]' (Hashemi et al., 2024) identify that in comparison to conventional food, organic food has lower global warming, eutrophication potential, and energy use per area unit but also higher land use. Organic farming is also associated with a lower potential for biodiversity loss and ecotoxicity. However, the type of functional unit (ha or kg) influences the results. For example, no significant differences were observed between organic and conventional farming in global warming, eutrophication potential, and energy use per mass unit highlighting the importance of including multiple units when evaluating the environmental impact of organic food production and consumption (Hashemi et al., 2024).

According to a review of seven studies from the UK and Ireland (Markiewicz-Keszycka et al. 2023), organic farming supports multiple positive impacts on biodiversity[7] and animal welfare[8]. However, research specific to the impact of alternative dairy and beef farming methods, including organic production, 'on product quality, animal productivity and performance, GHG emissions and soil or water quality were not identified' noting a significant gap in the research and public research and development funding afforded to organic production (Markiewicz-Keszycka et al. 2023*:* 18-19).

6 This point relates to impacts after the food has left the farm were not incorporated.

7 Higher plant diversity and insect abundance.

8 Lower culling rates due to health problems, and fewer health related issues in cows, reduction in risk of non-compliance with animal welfare regulations.

4.2. Factors associated with transitioning to organic farming for farmers

Leduc (2023: 6) carried out a study of mixed-farm and livestock farmers in France, Sweden and Ireland, examining farmers' perceived values in conventional and organic farming. Irish farmers in the study across both organic and conventional farming systems 'earning a living' indicating the importance **of financial security** in livelihood.
Studies examining organic farming in Ireland highlight **the importance of farm viability and generational renewal in organic production transition** (Farrell et al., 2022) with **social acceptance of organic farming constraining transition and adoption** to a different production approach, indicating that "subsidy payments may be insufficient to increase the organic sector in the presence of social and technical barriers" (Läpple and Kelley, 2013: 1).

In their review of factors influencing farmers' (of any country) adoption of organic farming, Sapbamrer and Thammachai (2021) found that **technical training and support** are important factors enabling the transition, as well as governmental support in the form of resources such as access to **markets for organic produce, marketing strategies**, **and subsidization** are crucial. The impact of the farming culture and social capital has been found to influence farmer's decision-making when considering changing farming practices (McAloon et al., 2017), which is an important consideration when designing or implementing any programme or policy implementation. A number of studies carried out in Ireland indicate that **participatory approaches that involve farmers** in the design of new practices and initiatives promotes long-term sustainability and adoption (Richardson et al. 2015; Boyle, et al. 2022; Schillings et al. 2024; McGrath et al. 2024; Surendran et al. 2023; van den Berg et al. 2023). Additionally, studies found that enhancing farmer knowledge when embedding a new practice (Shahvi et al., 2021) and incorporating peer learning and peer-led action within the farmer community can also promote the embedding of new practices (Huey et al., 2021). The sustainability and uptake in new practices depends in large part on **farmer's trust in the government** (Nguyen-Trung, et al. 2024; Gao et al. 2025) if initiatives or practices are state-supported or state-led.

5. Population profile as baseline evidence

Data reporting on Irish farmer health **were not publicly available** at the time of writing this HIA report. Healthy Ireland survey results, and central statistics based on nationwide census (CSO) data currently do not report disaggregated data on farmer's health and wellbeing. Therefore, to understand farmers' health and wellbeing in Ireland, including income, several relevant published studies have been drawn on, as described in this section 5.

5.1 Age and sex profile for farmers in Ireland

As noted earlier in the report, in 2023 there were 115,655 (86.8%) male farm holders and 17,519 (13.2%) female farm holders. The average age of farmers is 59.4 years (CSO, 2024). More than one third (37.8%) of farm holders were aged 65 and over, while 4.3% were aged under 35 years, reflecting the older age profile of farmers in Ireland. Over the period of 2013 and 2023 the number of farmers in the 65 years and over age group has increased by 33.6% (CSO, 2024). Larger farms (50 ha plus) are more likely to have a male holder. Smaller farms (less than 10ha) have a higher proportion of female holders (17.4%) when compared with all farm sizes (13.2%) (CSO, 2024).

5.2 Health inequalities, farmers' health and wellbeing challenges

Farming is the highest risk occupation in Ireland, according to latest health Safety Authority figures (HSA, 2024). **Farm safety**, in particular safe tractor use, is a particular occupational concern for farmers and families living on the farm in Ireland (Surendran et al., 2023).

In comparison to other occupations, **farmers in Ireland experience a disproportionate burden of health problems,** which impact farmers' livelihoods and farming sustainability (Hammersley et al. 2021; 2022). **Physical ailments impact farmers regarding musculoskeletal disorders** including lower back pain (Osborne et al., 2014, Richardson et al., 2015) and physical fatigue (Tone and Irwin, 2022). Additional research suggests that older farmers, by virtue of their age and the nature of farm work, are vulnerable to **Musculoskeletal Disorders** (MSDs) which are a risk factor for workplace accidents.

Irish male livestock farmers (beef and dairy) also have a higher prevalence of **overweight/obesity compared** to the national average of Irish males (85.9% versus 68% respectively) as well as one in four farmers (73.9%) having four or more risk factors **for cardiovascular disease (CVD**) (van Doorn et al. (2020). Overweight/

obesity has also been linked to a higher incidence of injury in farming (King et al., 2016), putting farmers at higher occupation safety risk. This study also reports that **58% of Irish farmers are classified as having average, below average or poor wellbeing** [1]. **Dietary habits** consisting of low intake of fruit, vegetables, and dairy and a high intake of meat, fried and processed foods, salt, and sugary and/or salty snacks is also a concern (van Doorn et al, 2021).

Smyth et al. (2013) carried out a study analysing mortality trends in Irish farmers in the years between 2000 and 2010. **Farmers were found to be 5.1 times more likely to die** from any cause than salaried employees. This was mainly attributed to increased **circulatory disease and cancers** as well as **increased workplace accidents**. Cushen et al (2016) carried out a study of Irish farmers specifically examining the prevalence of obstructive lung disease in non-smoking farmers. The study concluded with the finding that although the majority of Irish farmers were **never smokers,** they have **a high prevalence of respiratory symptoms**. The presence of **airflow obstruction is significantly associated with self-reported allergy history and prior airway disease**.

Farmers, as an occupational group at an international level, experience a higher burden of health problems including mental health (Roy et al., 2013) and suicide as found in a study of farmers in Britain (Roberts et al., 2013). **Farmers face significant mental health issues, including depression, anxiety and suicidal ideation in Ireland** (Firnhaber et al., 2024). Russell et al. (2023) carried out a study examining risk factors associated with suicide among Irish farmers. The study found a number of factors contributed to farmer's wellbeing, distress and suicidality, including (i) identity, relationships with land, (ii) government policies designed to reduce climate change, (iii) representation of farmers in the media, (iv) outsiders not understanding the nature of farming, and (v) concern over the future of the farm (*ibid*: 2).

An estimated 57% of Irish farmers experience **stress** (Brennan et al. 2022). Occupational factors specific to Irish farming that are likely to increase stress include financial pressures, poor weather, farm workload, availability of additional labour, occurrences of poor animal health, compliance with government regulations, farm succession and a decline in the sense of security in rural areas (Brennan et al. 2022)**.** Experiencing **stress** directly as a result of farming is highlighted in studies carried out in Ireland, one of which found the lack of control and autonomy farmers experience in a sector which is highly regulated, as well as including challenges associated with scale and succession (Hammersley et al., 2021). Hammersley et al. (2021) found that farming masculinities were closely aligned with farming practices and health practices, conflicting with any suggestion to prioritise health needs or show vulnerability or signs of needing help.

1 Using the Warwick Edinburgh Mental Wellbeing Scale to assess such wellbeing.

Conway and O'Mullane (2025) highlighted in their study a **gendered impact on women working in agriculture** in Ireland, including a number of stressors facing women. This includes feeling marginalised in a predominantly masculine sector, facing stress from deeply ingrained misogyny, and a lack of recognition for their contributions. The Women in Agriculture Stakeholder's Group raised the gendered nature of agriculture to the Oireachtas Committee on Gender Equality with a submission in 2022, raising a number of concerning issues such as over 90% of Single Farm Payments going to men (WASG, 2022). The group recommends an introduction of the incentivisation and support for women in farming around the areas of taxation, the targeted agricultural modernisation scheme (TAMS) and knowledge transfer (KT) groups.

Hammersley et al. (2021) found that **isolation** and the demise of rural communities was found to be a consequence of the impact of reduced social engagement and **loneliness** amongst farmers, in particular for at risk or vulnerable older and single farmers. This vulnerability within the farming community according to age was also found in other studies (Surendran et al., 2024, van den Berg et al., 2023).

Several studies have highlighted the health impacts of farming as a livelihood on farmer health and wellbeing. A scoping review carried out by Watanabe-Galloway et al. (2022) summarized the current knowledge base on **substance use disorders** in the farming population in order to make recommendations for prevention and treatment of substance use disorders amongst farming populations Farmers face a wide range of stressors. While not exhaustive, the following examples highlight key categories of stress: **economic uncertainty**, vulnerability to weather events and government policies, financial pressures, extreme work conditions, excessive workloads, risk of farm accidents and fatalities, isolation, loneliness and fatigue (*ibid*). Miller (2023: 45) found that although broadly speaking the Irish farming population report healthy alcohol and substance use, "2 of every 5 farmers who used alcohol and 4 of every 5 farmers who used drugs did so to harmful levels, potentially indicative of a substance use disorder." Also, age was found to be the most important risk factor for disordered alcohol and substance use and associated with other main risk factors or vulnerabilities, including: no children, part-time farmer, and full-time off-farm roles. The study authors suggest that young farmers are especially at risk of harmful alcohol and substance use behaviours.

Cost and income uncertainties are a cause for concern and stress for Irish farmers, as found in a study of Irish beef farmers in relation to dairy beef integration (Maher et al., 2021), and in a study of farmers using veterinary medicines (Magalhães-Sant'Ana et al., 2017). Farm and income viability is an important component of implementing the Just Transition as part of climate actions plan in Ireland. Lack of land ownership is a concern for Irish farmers who are renting land without security of tenure or have not yet inherited land, as highlighted in a study by van den Berg (2023) on the adoption of water quality-enhancing practices for sustainable land management.

In relation to **income inequalities** in the farming sector in Ireland, there are significant variations in income between farming and other occupations in Ireland and also between the various farm types. The average salaried income in Ireland was €53,987 euros per year in 2023 (Clark, 2025) whereas the average Family Farm Income in 2023 was less than €20,000 with notable variations between farm types. However, preliminary results from the National Farm Survey 2025 identifies an 87% increase in average Family Farm Income (€35,937). The average Family Farm Income is highest in the South-East region (€57,500) and lowest in the West of Ireland (€17,500). On average, 60% of farm households (farmer or spouse) was employed in off-farm employment and over half (53%) of farms represented in the National Farm Survey had a farm income of less than €20,000 (Dillon et al, 2025).

Table 1 provides an overview of each farm type in conventional systems. Income across all farming systems increased in 2024 due to a decrease in productions costs (all farm types), higher yields (Tillage) an increase in support payments (Cattle rearing, Cattle other, sheep) and higher output prices (all farm types). In 2023, about 48 percent of the farms represented in the National Farm Survey had a farm income of less than less than €10,000, a further 17 reported a farm income of between €10,000 and €20,000. Less than 12 percent of farms report a farm income of more than €50,000 (Dillon et al. 2024). In 2024, roughly 34 percent of farms had an income of less than 10,000, 18 percent had a farm income of between €10,000 and €20,000 and 22 percent report and income over more than €50,000. The percentage of those reporting an income in excess of €100,000 has increased from 4% in 2023 to 10% in 2024 (Dillon et al. 2024). Accordingly, the economic viability has increased insignificantly in comparison to previous years. In 2024, **42% of the farms were classified as economically viable**[2], 34% as economically sustainable[3]

2 A farm business is defined as being economically viable if FFI is sufficient to remunerate family labour at the minimum wage in 2024 (€22,860 per labour unit) and provide a 5 percent return on the capital invested in non-land assets, i.e. machinery and livestock

3 Farms that are found not to be economically viable, but have an off-farm income source within the household (i.e. either the farmer or spouse are employed off-farm) are considered to be economically sustainable.

and 24% were considered economically vulnerable[4]. Relative to other farm types, Dairy farming continues to be the most profitable farming system in Ireland, however this farming system is also the most heavily indebted (Table 1).

Table 1

2023 Overview of Farm Systems in Ireland (National Farm Survey (NFS), 2025)

Farming system	%	Average size	Average Livestock Units	Average income per ha	Direct Payment % of FFI	Average farm income	Borrowings	Ave. debt	Viability
Dairy	17	70ha	141Lu	€1,552	23%	€108,189	70%	€148,158	82%
Cattle Rearing	18	32ha	34 Lu	€422	132%	€13,547	27%	€32,169	28%
Cattle Other	40	32ha	43 Lu	€560	87%	€18,101	30%	€40,224	31%
Sheep	16	47ha	55 Lu	€586	103%	€27,796	19%	€38,713	37%
Tillage	17	69ha	30 Lu	€560	84%	€38,685	38%	€94,199	57%

The impact of **excessive workload** on Irish farmers was highlighted in a number of studies (Mulkerrins et al., 2022, Burrell et al., 2024, Schillings et al., 2024), with a number of strategies to address such intense workload including the increase in use of relevant technologies to lower labour demand on farms (Hogan et al., 2023), enhance herd testing (McGrath et al., 2024), reduce paperwork through the use of technology and sharing of relevant data (Martin et al., 2024, Sinnott et al., 2023) and in the establishment of a support hub for dairy farmers (Boyle et al., 2022).

While not conclusive, it is worth noting that evidence from countries outside of Ireland **suggests an association between organic models of production and improved mental, psychological and physical health outcomes**. David et al. (2024) examined French livestock farmer's mental health according to their production model, conventional or organic, with the study suggesting that organic farming was associated with better mental health than conventional farming. The results revealed that organic farmers scored significantly lower in anxiety and higher in positive emotions than conventional farmers. A literature review of 29 studies comparing the health of organic farmers to conventional farmers also indicates that that overall, organic farmers have better psychological and physical health outcomes. However, the strength of the health effect varied by target outcome (David et al. 2023).

4 Farm households are considered to be economically vulnerable if they are operating non-viable farm businesses and neither the farmer or spouse have an off-farm job.

5.3 Summary of the Population Profile and organic farming

The population baseline presented an overview of demographics, health, and wellbeing challenges faced by Irish farmers. According to national statistics, the farming population is predominantly male and aging, with a large portion over the age of 65, and with significant variance in average farm income and debt across experienced by different farm types. There are approximately 5,000 farmers engaged in the Organic Farming Scheme (OFS). This equates to about 5% of total agricultural land area and halfway towards achieving the 10% goal by 2030 (DAFM, 2024). The majority of organic farmers are beef farmers.

The evidence presented suggests a range of health issues prevalent among farmers, including a high incidence of workplace accidents, musculoskeletal disorders, obesity, cardiovascular diseases, and respiratory problems. The evidence also indicates significant mental health challenges within the farming community including stress, isolation, and suicidal ideation associated with factors such as financial insecurity, excessive workloads, and societal pressures. While no evidence was available comparing farmer health benefits associated with farming organically versus conventionally in Ireland, some international evidence suggests that organic farming can contribute to mental, psychological and physical health benefits for farmers.

6. Interviews with farmers in Ireland

This section discusses the analysis carried out on interviews conducted with farmers in Ireland. Interviews were undertaken by Dr Tara Kenny and Dr Monica O'Mullane. Including the lived experience of Irish farmers specifically through interviews provides a strong evidence base for informing this HIA.

Semi-structured interviews were conducted in April and May 2025 with 24 farmers across ten counties[1] in Ireland. Interview questions centred on the familiarity and awareness of the Climate Action Plan and the policy objective to expand organic production, perceptions and experiences of organic farming, perceived and experienced challenges and potential livelihood impacts stemming from, or converting to, organic agriculture, and opportunities to encourage farmers to convert to organics.

In order to obtain a diverse sample reflecting a variety of farm types, size, age categories, and sex, targeted emails were sent to farming organisations including the Irish Natura & Hill Farmers Association (INFHA), Irish Creamery Milk Supplier Association (ICMSA), UCC mailing list, Irish Farmers Association (IFA), Farmers for Nature, Macra na Feirme, Irish Farmer's Association, Irish Cooperative Organisation Society (ICOS), Carberry cooperative, Co Cork, lecturers on the Agricultural Science degree in MTU, Irish Cattle and Sheep Farmers Association (ICSA), Irish Organic Association and Ólas Hill farms.

Potential interviewees were also referred via farming members of the HIA's Steering Group. Each farmer was sent an information sheet and an informed consent form via email or post prior to the interview. All interviews took place online or on the phone and were recorded with consent for accurate transcription. All audio recordings were deleted once anonymised transcripts were generated. Interviews lasted between 15 and 118 minutes.

As illustrated in Table 2, the farmers interviewed are predominantly dairy (n=12) and beef farmers (n= 5), male (n=18), aged between 45–54 (n=7) and 55-64 (n=8), and farming between 50 and 100ha (n=11) and 30-50ha (n=6) of land. Farming is the sole occupation for 16 interviewees while 8 are also engaged in off-farm employment. Organic farming is practiced by 10 participants, with experience ranging from 2 to 23 years, however only eight are certified organic. One of these farmers is in the process of leasing additional land to meet the minimum three-hectare requirement to participate in the organic farming scheme. The other farmer had their certification revoked because the overall space requirement fell short of

1 Cork, Mayo, Kerry, Wicklow, Leitrim, Limerick, Tipperary, Clare, Donegal, Galway.

the minimum six square metres per dairy cow and the cost of adding addressing this was not financially feasible.

Table 2: **Overview of interviewees**

Farm Type	Organic or conventional	Age group	Gender	Farm size including leased land (Hectares)
Mixed	Conventional	55-64	Male	30-50 ha
sheep	Organic	45-54	Female	30-50ha
Dairy	Practicing organic but not certified organic	65+	Female	Under 10ha
Sheep	Organic	65-69	Male	30-50 ha
Dairy	Organic	45-54	Female	100+ ha
Dairy	Organic	45-54	Male	50-100 ha
Dairy	Conventional	55-64	Male	50-100 ha
Dairy	Conventional	65-69	Male	50-100 ha
Beef	Conventional	45-54	Female	100+ ha
Beef	Conventional	55-64	Male	50-100 ha
Mixed grazing	Organic	35-44	Male	50-100 ha
Mixed grazing	Organic	55-64	Male	20-30 ha
Beef	Conventional	65+	Male	100+ ha
Dairy	Conventional	45-54	Male	50-100 ha
Mixed grazing	Organic	55-64	Male	50-100 ha
Dairy	Conventional	45-54	Female	30-50 ha
Dairy	Conventional	55-64	Male	50-100 ha
Tillage	Conventional	65+	Male	50-100ha
Dairy	Conventional	45-54	Male	100+ ha
Mixed grazing	Conventional	55-64	Male	30-50 ha
Mixed grazing	Conventional	35-44	Female	30-50 ha
Beef	Conventional	55-64	Male	50-100 ha
Dairy	Practicing organic but not certified	55-64	Male	100+ ha
Mixed grazing	Organic	55-64	Male	50-100 ha

6.1 Challenges within Ireland's farming sector and its impacts on farmers livelihoods

Conventional and organic farming was perceived as both rewarding and challenging, offering a fulfilling lifestyle, with benefits including being out in '… the fresh air…' (F21) and having a connection to nature, the land and its history (F21, F1, F23, F28, F8, F18, F10). Some farmers, both conventional and organic, spoke of health and emotional rewards in the form of a 'sense of gratitude and satisfaction..., particularly from doing something environmentally friendly' (F8)

> 'So you do forget like that's the best thing about it … it is very rewarding… when I see the like the lambs jumping around there, you can't put a price on that (F23)'

Several negative direct and indirect impacts stemming from the challenges within the farming sector were raised by the interviewees (Figure 3). This included the physical and mental toll stemming from long hours, financial insecurity, uncertainty within the sector and markets, increasing regulation, consolidation, isolation, administration workload, dealing with extreme weather events, intergenerational renewal, the loss of family farms and declining rural communities.

Physical, mental and emotional toll: Farming was described as a difficult livelihood that involves a lot of physical labour and long working hours (F13, F10, F21, F17, F23). In the context of off farm employment, it was noted as a 'dangerous, especially when tired' (F13). The physical demands of farming lead to **musculoskeletal disorders** and **substance use** 'because the workload is colossal, and they're taking something to keep them going' (F21). The demanding nature of the work also impacts potential **relationships** (F21), with some farmers described as being 'married to the cows and the land' with no time for dating or marriage.

> '… the guys that had 50 cows and they had a nice well life. They now have 150. Their shoulders are gone, their hips are gone, their knees are gone…(F21)

> '… even with all the tools and modern-day technologies that we have… dairy farmers are actually working longer hours than they did beforehand…we don't have the families of six anymore…. with all these tools and all these new mechanisms, we're still working those hours - whether that be working to fill out forms and make sure that we have cross the T's and dotted the I's…' (F17)

Contributing the physical wear and tear associated with farming, one farmer highlighted that some farms products and practices are designed for young, fit men, making tasks such a lifting heavy bags of fertiliser or buckets of minerals challenging for some farmers (F23).

The **increased complexity of reporting required to access grants** was noted by several farmers as a **source of stress** (F13, F8, F10, F23, F21, F28, F29) particularly for those with lower computer skills and older farmers (F13, F21). The stress and fear associated with the **growing problem of TB** was also raised by several farmers (F6, F21, F21, F14, F29) along with the practical difficulties in restocking organic animals if TB was detected on an organic livestock farm (F17, F29)

> 'TB is always an issue here…we test a couple of times a year... and every time I'd be sick for a couple of days before it…it's a real struggle' (F6)

Isolation and loneliness and a declining rural community, linked to a decline in the family farm, and the difficulty in finding a neighbour to help with a simple farm task was also raised as a challenge. Likewise, the **loss of family farms**, linked to the difficulties in attracting younger people into farming, and the drive for larger farms, is also an issue that is negatively impacting the wider rural community leading to the loss of local schools, shops, and sports teams as people leave the countryside (F21, F13, F29). Conversely, it was suggested that when family farmers are doing well, they invest in local coops, shops, and services, which benefits the entire community. The decline of the family farm was also associated with a **loss of knowledge and skills** from farmers who have left the sector and there is concern about who will care for the land and grow food if the next generation is not encouraged into farming (F13). The challenging lifestyle (i.e. long working hours, stress and insecurity) was also associated with the challenge of attracting younger farmers into the sector (F21, F18, F13, F29). Correspondingly, the issue of successorship along with the **increasing cost of land** was also linked to **increasing consolidation** within the farming sector and the growth of 'corporate farming'.

> 'There are farms that have no successor because the wages and conditions are not attractive enough to encourage young people into the business so they're going to be consolidating to larger, larger farms. And larger farms and larger firms, so it's corporate farming by default…' (F18)

> '…I mean, the bigger farmers with these huge [farms], they're appalling environmentally. They're money oriented and there is no passion and there's no empathy for the land and the cows - it's awful. It's horrible farming…' (F8)

Several farmers interviewed have leased land which can add to the insecurity associated with farming as a livelihood. For example, one farmer described how the land they were leasing was put on the market before the lease ended. Due to the increasing cost of land, and the demand for it, this farmer was unable to purchase the land to maintain their farming system.

> 'It sold for a few thousand more per acre than I had offered and that's my farm halved now… expanding your farm means taking a neighbouring farm out. It's dog eat dog...I don't know if I will be able to continue farming and if I sell then that's another farm taken out of rural Ireland and another farmer getting bigger' (F29)

Concentration of power within the processing and retail sector was also raised as an issue impacting farmers (F29), who feel beef farmers in particular have been '*absolutely screwed and cleaned out with the last 30 years...*' (F14). These middlemen are seen as having excessive margins and as having 'literally destroyed' (F17) the horticultural sector in Ireland.

> 'It's just it's the middleman [processors and supermarkets] was having an absolute field day…. like supermarkets were having a 30 or 40% margin on all the products going through…. I started farming 30 years ago and we had 35 cows and we lived away fine…we made a good living of it. And we have 170 cows now like and we are still no better off' (F14)

Financial insecurity, volatile markets, and pressure to increase production to maintain incomes are significant challenges combined with what is perceived as a lack of alterative viable options for farmers. '*…this fella is 10 or 15 years younger than me but he has lines down his face that you could set spuds in. Just the worry and everything like so I think the system has to change*' (F16)

> 'It's like the hamster and the proverbial hamster wheel. Like they just can't get off. And it gets faster… they know it, but they don't know what else do you do to. What else do you do? So another scenario has to be presented to farmers and it's just not there yet…It's gappy and missing parts…' (F9)

Dealing with the **direct impacts of climate change** also adds to the burden of work, stress and risk carried by farmers (F17, F6, F11). The **cost of new technologies and complying with regulations** was also raised as a significant livelihood challenge in terms of costs and debts accrued (F17, F21, F10).

> '…to adhere to all the regulations…I've had to go and take loans out - which I would never have done…… it was costing 41 and a half thousand… I felt that the regulations didn't allow for the fact that I don't have an income for that, but I had to take out a five year loan… (F17)

Input costs, and in particular the cost of organic feed and **difficulties in restocking** due the increased price of cattle was also identified. A European scarcity in beef and the difficulties facing farmers in terms of restocking was partly attributed to buyers from elsewhere coming to Irish marts, buying stock, and taking them out of the country. There are also concerns about effects of climate action on land use, such as the **increasing cost and competing demand for land** which was associated with dairy farmers in derogation (F7, F21, F29), and non-food related production, such as forestry and energy sectors, perceived as potentially taking 'good land' out of food production which may be needed in the future (F21, F18).

Irish farms rely heavily on nitrogen-based fertilizer for grass growth, particularly dairy systems, and results in significant water pollution and habitat loss. It was felt that **the cost of land currently lends itself to supporting rather than disrupting the relationship between farming and environmental degradation**. 'to get a financial return on 24k an acre, the land has to be pumped with the nitrogen' (F29).

Some farmers spoke about the **lack of produce grown in Ireland** (F17), **future food shortages** potentially leading to further **increases in the cost of food** (F10) and the impacts of climate change disrupting the supply of imported food (F1) and ultimately jeopardising national food security. In light of the challenges facing the sector, the farming community was described by some as being **more divided than ever**. Key farming groups such as the Irish Farmers Organisation (IFA) and Irish Creamery Milk Suppliers Association (ICMSA) are reportedly lacking a united voice.

> '…we have never been more divided …there are two or three different groups and there are all kind of at loggerheads which is an awful pity. They are all doing their own thing… they've kind of developed a dairy versus beef or dairy versus the tillage men and I think that's an awful shame. There is no united voice and divided we fall…' (F7)

Public support for farmers was also perceived as lacking which leads to farmers feeling undervalued. *'People think we are environmental terrorists but were not like and we are making an effort too'* (F14). It was felt that the general population are increasingly removed from the reality of farming and food production and do not understand the work involved or the importance of **protecting the family farm**. However, the lack of consideration for income in the definition of the family farm was also seen as problematic in terms of contributing to 'notion' that farmers can financially support a family solely on farm income.

‘I don’t think they care. I think as long as food is cheap, people don’t give a damn… it is society that has a decision to make - do they want mega-farms?...or family farms and individual units’ (F18)

‘We are all talk about family farms in Ireland – but how is a family farm defined in terms of income? It’s not. But how much income is needed to sustain a family of two adults and two children on a farm? If family farms were defined by being able to raise a small family on a farm there would likely be very few family farms and they would probably the largest farms in Ireland’ (F29)

Figure 3: Pathways list the challenges within the farming community and impacts represent the effects of these challenges as outlined by the interviewees.

PATHWAYS
(interlinked)

- Long working hours
- Physical nature of work
- Increasing admin/reporting/audits
- Increasing complexity of admin work/ reporting/audits
- Increasing regulation
- Pressure to expand to maintain income
- Increasing cost of compliance
- Succession challenges
- Competing demand for land
- Increased reliance on off-farm employment
- Growing problem of TB
- Consolidation
- Increasing cost of inputs
- Loss of local infrastructure (i.e. Marts, Abattoirs)
- Climate change pressures (i.e. extreme weather events, supply chain impacts)
- Growing uncertainty in future of farming
- Lack of public/policy support/ understanding
- Lack of united farming voice/ representation
- Concentration of power in supply chains
- Low value placed on food
- Lack of infrastructure to support organic sector (processors, markets etc.)

↔

IMPACTS
(interlinked)

- Physical impacts
- Relationship impacts
- Substance use
- Increased stress, fear and anxiety
- Isolation
- Debt and uncertainty
- Increased cost of land
- Increased risk burden
- Loss of local knowledge and skills
- Declining rural communities & number of family farms
- Farming as a livelihood unattractive to younger generation
- Uncertainty in the future of farming
- Relatively lower farmgate prices for organically produced food)

↔

OUTCOMES
(interlinked)

- Financial insecurity and uncertainty
- Poorer physical and mental health

6.2 Motivations for converting to organic farming and livelihood impacts

For many farmers who have converted, the transition was natural as they were **already practicing low-intensity farming methods** and were **already 'fairly' or 'mostly' organic** before becoming certified (F16, F2, F3, F5, F28) and had 'no interest in intensive farming' (F28). **Financial incentives**, such as the organic grants, were a significant motivator for some. Other farmers who converted from conventional practices were motivated by **climate change, biodiversity loss** (F12, F29, F6), and '*being a relatively small farm…better served [being] something a bit more niche'* (F6). Personal observations also played a role, including **witnessing the impact of conventional practices on soil** health (F12). Some described organic farming as a **way of life, a lifestyle decision, and a continuation of traditional farming practices**. A **concern about the overuse of chemicals** and alignment with a certain way of thinking were also cited as motivations for converting.

While organic farmers described themselves as being mostly happy with their decision to farm organically, significant challenges within the organics sector were identified. Several noted the **lack of premium price** paid for food produced organically. The **absence of a market** and **infrastructure to support organic farmers is key challenge** that results in organic meat and milk going into conventional markets or to Northern Ireland. *'…I rang four or five companies there this year… and basically none of them were interested in the milk… so my milk is just going into conventional [market]'* (F16). The **extra inspections and associated paperwork** is also a source of stress.

The **lack of investment in research** on organic farming in Ireland was identified as contributing to the risk burden carried by the organic farmer (F6). Difficulties in **sourcing replacement stock and organic feed** was also raised along with the **increased cost** of organic feed, reportedly double the cost of conventional feed. Some organic farmers also felt there was an **added level of risk** associated with farming organically, and potentially more stress, particularly in the context of climate change (F28, F6) and the lack of organic dairy farms.

> 'when you're organic there are no kind of quick fix solutions…there's no kind of sticking plasters that we have in our toolkit to get us out of any of those holes. So, we take on a lot of the risk… I think all farmers are bearing the risk burden of climate change but it's just it's more apparent or it's more direct when you're farming organically'(F6)

With regards to the challenge of sourcing replacement organic stock, one organic farmer explained beef systems rely on dairy farms for replacement stock and the lack of organic dairy farmers **risks the long-term viability of sustaining** organic beef and dairy farms.

Dairy farmers in Ireland are paid mostly based on the protein and fat content of their milk, with protein being the more valuable component. As one organic farmer explained, since removing nitrogen from their farm, the protein content in their organically produced milk has reduced and this leads to a **lower price** being paid to the farmer further compounded by **the lack of a premium price for organic milk**.

The **cost of leasing land** was also noted as a particular challenge for organic dairy farms in the current system*'…you haven't a hope in making a [financial] return on [land leased for] 500 euro an acre in organic farming'* (F29). It was felt that the current **lack of protection for organic land** adds to the issue of leakage from the organic sector. '*it takes two years for your land to become organic but it can go back to conventional sector overnight*' (F29).

While the grants are very beneficial, they are not guaranteed and when plans fail, this can add a significant financial burden on the farmer.

> '…it's got a lot harder to grow tillage the last couple of years with all the rain …last year I actually bought a new Harrow…. didn't get to use it …the rain kept coming …I didn't get to harrow at all…I took it [field] out of organics. I rented it out to a dairy farmer. I actually had to pay back two years of the payment in that field … after paying €10,000 for a new harrow, I was expecting to get the grant money back. I didn't get it' (F11)

In the case of the farmer whose organic licence was revoked due to financial constraints preventing compliance with spatial housing requirements, the financial burden is especially severe because they are unwilling to revert to conventional farming which they perceive to be damaging to environmental and human health. This farmer explained that they must repay thousands of euros in grants received, while still farming a reduced number of cows (required to enter the organic farming scheme), receiving a lower price for their milk due to the reduced protein content, and still face the higher costs associated with organic feed.

Despite the significant lack of competitive advantage in the organic sector, **the lack of financial reward and risk borne by the organic farmers,** most report some positive livelihood impacts associated with organic farming, and some felt that the grants contribute to reducing the income gap associated with lower stocking rates. For some organic farmers this included **less stress** due to lack of exposure to fluctuating fertilizers costs, less work when using breeds suitable for organic systems, lower veterinary bills and improved animal heath, a healthier lifestyle, and a sense of fulfilment and satisfaction associated with reducing the environmental impacts of agriculture**.**

Most organic farmers felt that organic farming is, or could be, an option for all farmers if the correct industry and state supports were in place. However, it was also recognised that organic farming 'is not for everyone' (F16), can be 'knowledge intensive' (F6) and that there is a fear associated with converting to a new practice that has not be mainstreamed, promoted or supported by agricultural services in the past.

> 'There's a lot of fear in farmers. They've seen something done and they've been educated by Teagasc for the last 30 years to do it in a particular way and to go against that grain or to be seen by the neighbours, to go against that grain… you know, fear of change, fear of doing something different…' (F2)

In light of the challenges faced by farmers in derogation, in particular, it was felt organics could offer a means to protect their livelihoods and should form part of the just transition *'to give those farmers an option to keep farming…'* (F6)

> '…the skills involved in farming livestock [are] learned over a lifetime so these guys can't just pivot with policy… all these people need to be given need to be given options… not just a kind of hell to Connaught approach…(F6)

Several organic farmers spoke about neighbouring farms and farmer friends converting to organics on account of observing their farms or vice versa (F11, F6, F16). '*I went to a farm walk on a neighbour's organic farm …and that dispels maybe some of the myths or some of the notions that you might have about organic farming*' (F16). The practical support that comes with come from 'clusters' of organic farms was also raised. For example, one organic dairy farmer supplying his neighbouring organic farms with calves.

> '…We're kind of working together like a Meitheal… kind of going back to what our Parents and grandparents did…and we're getting subsidised for it. So obviously everyone is happy' (F16).

Introducing organic practices within existing mainstream agricultural education, such as the Green Certificate and in third level institutions offering agricultural courses, was identified as a mechanism to mainstream organic farming. It was felt by some farmers that organic farming is not promoted as a 'serious option' for younger farmers which contributes to organic farming being viewed as 'not real farming'.

6.3 Conventional farmers views on organic farming and its potential impacts

Conventional farmers expressed diverse views on organic farming. While acknowledging the 'wonderful principle' (F19) and the 'passion' (F17) of farmers who do farm organically, the majority of conventional farmers perceive several challenges with organic farming (Figure 4). It is associated with more **paperwork**, **regulation, risk, lower profits, higher cost, less income security, lower production** (F13, F14, F18, F19, F10) that could negatively impact livelihoods, employment and national and global **food security** (F13, F18).

> 'If we all turned organic in the morning, it would be brilliant for the environment, but only if 20% of the population dies off from starvation. Those are the hard facts. They either starve or we take over more land that's not in production…(F18)

Organic farming was perceived as being **more labour intensive** by some potentially contributing to a high physical toll already experienced by farmers (F17), a waste of money due to lower productivity, associated with **poorer animal welfare outcomes** (F13) and catering to 'hobby farmers' who are not reliant on farming for their livelihood or do not want to farm (F21, F13). It was also viewed as **unsuitable for some farms** depending on the farm layout, existing physical assets, location and circumstances of the farmer (F20, F23, F10, F25).

> 'I see the cattle going into the mart, for example, in the organic sale… They're not fed, they're very poor, the horns are left on them in some of the cases. They're not looked after. They're very poor, type of cattle…' (F13)

In the case of animal-based farms, organic farming was perceived by some as **potentially less work and stress** (F25, F13, F10) because the farmers would '*not be putting out fertiliser or worried about weed control…they wouldn't be feeding any meal and the animals would look after themselves*' (F10). Several conventional farmers were also aware of the challenges for organic farmers and spoke about farmers who were organic and reverted to conventional methods (F19) or organic farmers who are reliant on direct sales which **increases the workload for the farmers** (F7, F17).

> 'Another neighbour of mine was organic…he just wasn't making enough money from it …he has turned to milk production in the conventional way, and he is delighted because now he has an income and he feels he is being rewarded for his work' (F19)

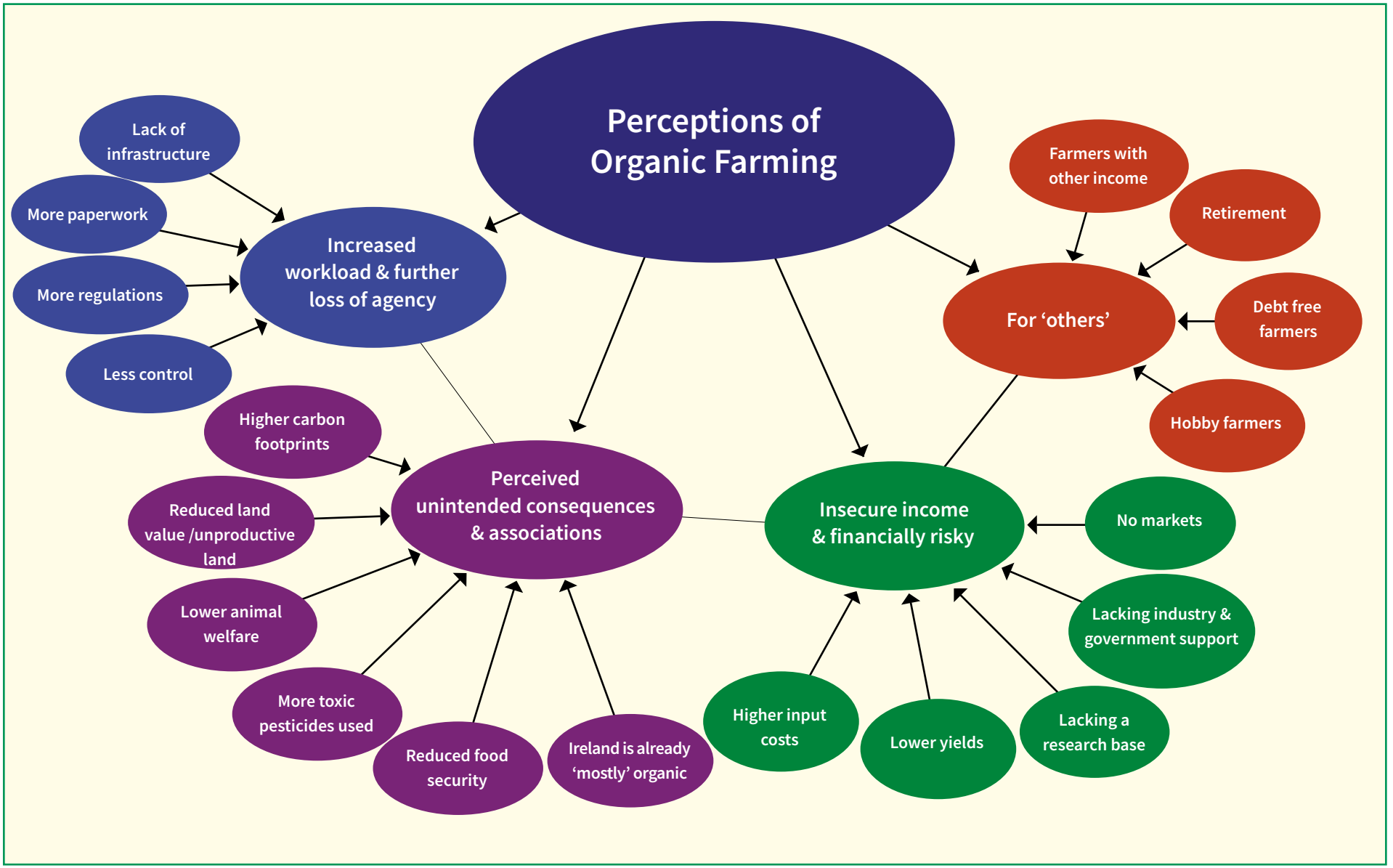
Some farmers suggested that organic farming may have potentially higher carbon footprints due to the need to import organic feed (F17) or transport products further (F19) and technological advances in conventional farming (F18). While others considered organic farming as a step backwards that could devalue their land and undo the work and time already invested in their land (F4, F1).

Other farmers expressed frustration with the organics being presented as the 'only solution' (F18) and suggested a '…misunderstanding between sustainability and organics' (F20) where it is assumed that organic is more sustainable. Whereas an organic farmer expressed frustration with the term sustainability describing it as a 'biggest buzz word…' associated with carbon footprints – a concept developed by British Petroleum (F28). Some farmers also expressed frustration with what they perceive as inaccurate or misleading information about organic farming's benefits and conventional farming drawbacks.

> '....This all organic really annoys me for the way it portrays itself as being … the saviour of the universe….we're treated as if we don't know how to farm the land…Organic probably use worst pesticides than conventional agriculture. Copper sulphate is highly toxic…' (F18).

Figure 4 presents an overview of the perceptions and perceived challenges associated with organic farming. As illustrated below, organic farming was associated with increased workload and further loss of agency due to for example, more regulation. It was associated with some potential unintended consequences such as reduced food security and reduced financial security and increased risk due to the lack of markets and industry and government support. It was also perceived as a way of farming more suited to 'other farmers' such as those in pre-retirement stage or 'hobby farmers', who are perceived as people who are not really interested in producing food for a living.

Figure 4: An overview of conventional farmers' perceptions of organic farming



The general sentiment among conventional farmers is that converting to organics is **not seen a viable option for all types of farmers** and is particularly unattractive to dairy farmers (F25, F9, F11).

> 'It wouldn't really be an option at all for dairy farmers, or even an option for all beef farmers…. could be …an option on land that's not producing too much anyway, on poorer land or hilly land, but … the hilly land is getting no fertiliser anyway' (F25)

Along with major barriers making a business case for organic difficult such as the **lack of markets and premium pricing paid to farmers for food produced organically**, a question was raised as to how organics could be marketed in the future.

> '…We are telling everyone we are sustainable with years with our Kerrygold brand and that it's a very sustainable brand and product. So what's this organic Kerrygold going to be? Over and above organic? How do you market it? how do you sell it and how do you get a premium for it?' (F7)

Additional obstacles include the perceived difficulty of managing weeds and pests organically without conventional tools, lack of research on organic production systems in Ireland (F20, F6, F18), the capital investment needed for housing infrastructure, expense of organic feed (F23, F10, F21, F17, F7), the financial burden of existing debts and assets making converting risky or not feasible (F14, F20) and a perceived lowering of the value of land in the future (F18).

> '…the organics people are expected to pay extra for the feed, have different facilities, and different operating methods only to be selling into the same market – it's just terrible' (F17)

> '…I have too much money invested in the farm and too much money borrowed. My over heads are too high. I need turn over full stop' (F14)

The majority of conventional farmers expressed no intention to convert to organic in the near future. Barriers included the lack of infrastructure to support organic farmers such as market access, industry support (processors, retailers), uncertainty and risk, lack of premium paid to organic farmers, lack of research base in comparison to conventional, difficulties in accessing organic meal and restocking and the additional expenses associated with producing food organically. Two farmers suggested that they may be interested in converting in their later years, after their current debts were paid, and as a way to reduce their intensity and maintain an income (F21, F20).

> ‘it’s [Organic sector] not as well developed, resourced or marketed like all the other the supply chains before it, at the farm gate after the farm gate, [from the] the inputs, to you selling into the marketplace… to the marketing and the processors and the wholesalers and the supermarkets, … so if it did exist, you’d have a lot more farmers willing (F9)

Several conventional farmers identified that they are already engaging in efforts to protect the environment and reduce GHG. They are participating in various schemes and projects, have reduced their fertiliser use, incorporated clover, improved slurry storage, and use chemical sprays sparingly (F20, F21, F7, F17). It was also suggested that agriculture in Ireland is already relatively organic compared to more intensive systems in other countries and emphasised pasture-based systems as being ‘semi’ ‘nearly’ or ‘totally’ organic already (F13, F21, F17).

> ‘I always classed Ireland as totally organic …other countries, holland and countries like that where their cattle are fed inside around the year, whereas we have our cattle out and green grass, a green image and a perfect climate’ (F13)

6.4 Policy distrust and research fatigue

The overall sentiment towards the Climate Action plan was mostly mixed to negative with some viewing it as just another government document ‘…not worth the ink it’s written with…’(F5), ‘hot air’ (F4), a ‘top-down approach’ not developed with farmers (F21) while others question the intention and aim of the plan (F18, F1, F2). There is a perception that the plan unnecessarily targets agriculture (F7, F18), lacks consideration for critical considerations such as human health (F4) and food security (F18) and favours industrial agriculture in certain areas of Ireland (F1, F2). Similarly, while the policy objective to increase organic production was welcomed by some, others felt it was ‘a non-runner’ (F19) and was not targeting the larger intensive farmers. ‘*so you’re getting the people who are low emitters to emit even less, and the people who are emitting to go and create more emissions…*’ (F2)

> ‘…trying to find a way to keep the dairy sector the way it is…we are not going to meet any climate targets with 1.6 million dairy cows in the country and I see it as an absolute failure…..…continue with industrialised agriculture in one part of the country and turn the rest of the country into an unproductive area and use as carbon storage and play one sector in farming off another...’ (F1)

Frustration and dismay was reported regarding existing agri environment schemes, such as ACRES and the Forestry scheme which they considered to be poorly designed and short-sighted (F13, F1, F9, F28).

> '…Fire blight is all over the European Continent and you're going to import potentially disease carrying trees into Ireland to save the environment. I mean, if I stood still in my field for long enough, a …whitethorn [would] grow … why would you be importing them?' (F28)

Previous engagement in research and policy processes has left some farmers feeling that their **engagement is tokenistic and/or not benefiting the farmer directly**.

> 'I have had interaction with [name of group] as well… set up a group stakeholders [i.e. DAFM, co-ops, farming organisation] and invited farmers to contribute …three or four in person days discussing topics and it feeds into policy…it fed into the system and it kind of got washed out of the system again…the farmer part of it got well washed down like it didn't feature' (F9)

> 'I've been involved in the lot of research projects. I tend to become a little bit intolerant of research projects that don't necessarily affect the farm gate price for agricultural produce…' (F2)

Similar issues were raised concerning Ireland's agricultural institutions and agencies not listening to and supporting all farmers.

> '...they'll [DAFM] grant aid for NGOs to come into existence… I think it's pre-ordained, "we're just going to do what's good for Big Ag"… "we will create people who will cheerlead us as a so-called NGO Civic Society Group and we'll make it all sound so great' (F28)

Attributed to past experiences, some farmers perceived Teagasc 'to be part of the problem' (F21), 'unfit for purpose' solely focussed on the 'continuous support of industrial [dairy] agriculture'(F1) and are not interested in working with farmers who are not farming intensively (F16, F9). On the other hand, some organic farmers felt that they do receive good support from Teagasc's organic teams for farm planning advice and in connecting organic farmers for real time advice (F6, F28, F11).

> '…they would have laughed at organics… [but] have improved an awful lot'… Teagasc seems to be a broad church insofar as like I can't speak highly enough of the [Organics] Teagasc planners we have… (F28).

Other farmers felt that there is '*no effort coming from government*' (F1) in strategically encouraging organic farming (F4), and that dairy and large beef farms are not '*being brought in*' (F2). A clear 'plan for food production' within the organic sector was suggested rather than relying solely on grants

> '… as any farmer will tell you, their [grants] subject to change at the whim of whoever happens to be in power. There is no security. The less you're depending on government whims, the more secure your livelihood is going to be' (F18)

Talking to farmers directly was viewed as a beneficial method of engaging with farmers in both research and policy development processes. However, limitations in terms of obtaining broad representation was noted with some farmers highlighting that it's the farmer who is used to and comfortable with talking that tends to participate in research and policy processes. '*I think interviews are good but are you interviewing the right people…am I truly reflective of a West of Ireland sheep farmer. Probably not*' (F2). Some farmers spoke about previous engagement in surveys however the limitations of this method was also noted in terms of misunderstanding the question. '*I've filled in plenty of surveys…I think this [interview] is a better way because …in a survey…I might read the question wrong…*' (F11)

Several farmers highlighted the **importance of speaking to a broad range of farmers** (F2, F7, F28) such as '*…other people involved in different farming systems that might have a different emphasis…*' (F4) Farmers involved in farming organisations spoke about similar challenges and the difficulty in consulting with a broader range of farmers. A means of overcoming this challenge was proposed by going to where farmers are, such as 'Marts' (F2), organising meeting at co-ops and smaller meetings opposed to large 'town hall events' (F20).

In summarising this Section 6, while grants are available to support farmers in converting to and maintaining organic farms, the lack of development of the organic sector makes this transition financially risky and often unviable for most conventional farmers. Without fair farmgate prices, substantial investment in organic supply chains, targeted research and marketing, and strong support from both government and industry, the likely effectiveness of the policy objective to expand the organic sector—as a means of supporting farmers livelihoods and contributing to the Climate Action Plan—remains uncertain.

7. Potential Health Impacts

7.1 Introduction

This section describes the agreement reached on implementing the policy objective 'Expand our Organic Sector' and the identified health impact on farmers (section 7.2.1). It also summarises the potential health impacts on farmers mediated via livelihood that are of a consequence of the policy objective to expand the organic sector (section 7.2.2). This Report's Technical Annex provides the detail of the health impact pathways as outlined in this section.

7.2 Identifying the Likely Significant Health Impacts of Expanding the Organic Sector on Farmers in Ireland

Developing and increasing access to a connected market for selling organic produce on a sustainable, long-term basis, can improve livelihoods of farmers who transition to organic farming. Developing market infrastructure could also benefit the general population through locally available food by scaling up the organic produce available for sale in Ireland. Increasing access to a connected market can improve livelihoods for farmers through the creation of stable and sustainable income in organic farming. Barriers to transitioning to organic farming is **an issue of concern** as gauged through the interviews with farmers in this HIA.

The potential health impact of transitioning to organic farming on farmers health, in relation to livelihood impacts including income and market security, is considered likely significant. This is the case because there is a plausible relationship between the implementation of the policy objective and the experience of farmers. This conceptual relationship is outlined below, based on the IPH HIA guidance used (Pyper et al. 2021):

Source: the policy objective to expand the organic sector in the Climate Action Plan (2024) (DECC, 2024: 295), which is actioned primarily through providing financial incentives to farmers who transition to organic farming.

Pathway: increase in uptake of financial incentives, development and expansion of markets for selling organic produce, development and expansion of infrastructure necessary for supporting organic production; decrease in stress associated with workload and administrative work currently required for transitioning to organic farming.

People (receptor): Farmers in Ireland working in conventional and organic farming systems.

The potential positive health effect is **plausible** as the creation of new conditions and markets are required for source-pathway-receptor linkages.

In this HIA the determination that certain issues are likely significant informed the focus and priority of the recommendations as presented in Section 8.

7.3 Summary of Health Impacts on the livelihood of farmers and justification of the HIA recommendations

Livelihoods are a key determinant of health, and a secure income is a central component of livelihoods. Ireland's Climate Action Plan 2024 includes a policy objective to expand the organic sector, primarily actionable through the Organic Farming Scheme which provides scaled financial support and sustain farmers who convert to organic farming.

The evidence presented in this HIA identify that farmers in Ireland currently face several health challenges, including **physical ailments, mental health issues, and financial insecurity**. Despite the significant lack of competitive advantage in the sector, the lack of financial reward and the risk borne by organic farmers, interviews with organic farmers indicate that organic farming could lead to a **less pressured and healthier livelihoods** for some farmers if the appropriate infrastructure was in place. The potential health benefits of organic farming compared with conventional farming on farmers and wider public health is also supported by evidence presented in the literature (included in sections 3 to 6 of this report). However, the interviews demonstrate that adequate infrastructure to support the transition and sustainment of organic farming are not in place. The current state of the organic sector in Ireland is characterised by:

- A significant gap in market infrastructure and supports for organic produce.
- Financial risk and precarity associated with converting (i.e. lack of premium farm-gate pricing for organic products, high input costs, competitive disadvantage compared to conventional farming, absence of research on organic farming and marketing of organic food produced in Ireland.
- An absence of industry/government support and long-term vision/political will.
- Focus on hectares as a measure of success

While the financial incentives are welcomed particularly by farms typically classified as less economically viable, they are insufficient to encourage a significant number of farmers to convert to and sustain organic farming as a viable livelihood. The objective to expand the organic sector, in the absence of the necessary infrastructure, market security, and long-term supports, **appears to be in the current landscape a financially risky and an unfeasible option for most conventional farmers**. Particularly for dairy farmers who currently comprise less than 0.5 percent of organic farmers. Comprehensive, long-term support encompassing market development, research, advisory services, and trust-building actions – such as clear government and industry support - are critical to ensure support of organic farming as a viable livelihood and as a tangible way to achieve the Climate Action Plan's objectives.

What are the likely significant health impacts?

Less than four percent of farms in Ireland are organic farmers. The evidence indicates that the under development of the organic sector makes converting to organic systems a financially risky and unviable option for most conventional famers, particularly dairy farmers. The **inadequacy of existing infrastructure support may adversely impact farmer health by exacerbating financial insecurity and related stress**. Based on the evidence gathered, organic farming is considered a more insecure livelihood due to the absence of premium farmgate prices, limited market demand (i.e. dairy and meat processors), input and infrastructure challenges and a lack of government and industry support.

What are the recommendations to negate adverse health (livelihood) impacts and enhance opportunities for health gains (i.e. reduced stress, secure income, public and policy support, and long-term livelihood viability)?

The evidence reported in the HIA highlights a significant competitive economic disadvantage experienced by organic farmers. Farmgate price and industry/public demand interventions are required to support and protect the economic status, and thus health status of current and future organic farmers. Therefore, it is recommended that **fair organic farmgate prices with coordinated government and industry support** is required to protect the livelihood of organic farmers and support the long-term livelihood viability of organic farming. This may be achieved by:

- Establishing a premium farmgate price for organic food products, reflecting the additional ecosystem services, and environmental benefits they provide.
- Differentiating payment systems from conventional farming favouring cattle weight and milk protein content which may penalize organic farmers and shifting to volume-based payment for organic liquid milk that also accounts for ecosystem services

- Incorporating quality, health and biodiversity outcomes into pricing (i.e. soil health, antibiotic use reduction, and chemical nitrogen saved).
- Ensuring organic farmers are not financially penalized in the wider move to earlier slaughter.
- Developing domestic markets for Irish organic products.
- Mandating organic quotas for beef and dairy processors.
- Mandating retailers to stock and promote Irish organic produce in store.
- Mandating organic food, produced/grown in Ireland, procurement quotas in public institutions (i.e. schools, hospitals).
- Increased marketing to raise awareness of Irish organic food, using the Irish rather that European certified organic logo and, focusing on its health, climate, and wider environmental benefits.

Factors contributing to potential inequalities and rationale for recommendations

Farm type and scale (i.e. dairy farms and small farms), being reliant on leased land, a lack of data and research and data specific to organic systems, lack of organic education and advisory services and an increased administration burden were identified as pathways that could result in economic vulnerabilities and potential health inequalities.

Owing to the higher levels of debt carried by dairy farmers (Dillon et al, 2024), existing payment systems favouring the protein content of milk (Interview data) and being the most economically viable farming system (Dillon et al. 2025), **dairy farmers** in particular, are likely to more adversely impacted by converting to organics.

Organic dairy farms play a key role in reducing nitrate pollution, anti-microbial resistance, and methane emissions while also supporting the broader organic beef sector. The low numbers of organic dairy farmers place the wider organic system at risk given the reliance of the organic beef sector on the dairy sector for replacement stock. This makes the need for **stronger incentives and support for dairy farmers to transition to organic farming**, essential.

This HIA identified that some organic dairy farmers may have financial difficulties in retrofitting existing physical farm assets to meet the spatial requirements to benefit from the organic farming scheme yet will still make valuable contributions to the national inventory by maintaining lower stocking rates, avoiding chemical nitrogen, and using organic feed. Considering the exceptionally low rates of organic dairy farmers in Ireland, additional financial support for these farmers is essential to reducing the livelihood risk associated with converting to organics.

Small farms are more likely to use traditional, low-input methods and play a key role in environmental sustainability, rural economies, and cultural heritage (Dillon et al 2022). The minimum land requirement to participate in the Organic Farming Scheme for fruit and vegetable farmers is one hectare. Other farm types, supporting local food systems but under three hectares, are excluded from participating.

The **cost of land** poses a significant barrier to sustaining the livelihoods of organic farmers, particularly those reliant on leased land. In line with global trends, land prices in Ireland are projected to rise further (International Panel of Experts on Sustainable Food Systems, 2024). There are growing concerns about a potential 'land squeeze'—a situation where increasing competition for land drives up prices, making it difficult for new entrants to access land and for existing farms to expand (Dalton, 2025). As highlighted in this HIA, **organic farmers are particularly vulnerable in this context**. Competition for land **increases livelihood risk for those leasing land**, and with conventional farming currently offering higher profitability, there is a greater risk that organic land—when sold or when the leases end—will revert to conventional use. Protecting land farm organically, for instance, through extending the minimum leased time from five years to ten years or introducing a stay on the land may disrupt this **pathway** and reduce the competition for land.
Therefore, it is recommended that **reducing the minimum land requirement to participate in the organic farming scheme, protection of land farmed organically,** and **measures targeting dairy farmers** are needed to mitigate against these vulnerabilities.

This would also help in building trust within the wider farming community that the objective to expand organic farming is targeting the more emission and nitrate intensive farming systems and in achieving the objectives of the Climate Action (i.e. reduce GHGe, protect water quality and biodiversity) and thus protecting wider population health. The evidence presented in this HIA suggest that animal housing requirements are a particular challenge for dairy farmers. **Additional financial support** for this purpose may be beneficial. However, the interviews with farmers in this HIA only included the experience of one farmer, who farms organically but is no longer part of the OFS. **Further research** with other dairy farmers who have left the OFS would be essential to developing measures to respond to additional challenges.

The evidence presented also identified the **lack of research and data on organic systems** in Ireland (Markiewicz-Keszycka et al. 2023; Martin et al. 2024, interviews) as a pathway that increases the vulnerability of organic farming as a viable livelihood. This makes quantifying and measuring the impacts of organic farming and makes communicating and tracking the potential benefits difficult. Criticism of the goal to extend the area of land that is farmed organically include inadequate and insufficient quantifiable goals and concrete ways to measure progress along

with lack of strategic vision beyond 2030 (ECA, 2024). These shortfalls **also prevent the establishment of a fair farmgate price for organic food, and ultimately the marketing of, and demand for, organic food**. This creates an insecurity around the future of organic farming in Ireland. The lack of data and research may also **contribute to maintaining narratives and perceptions of organic farming that may be incorrect** (Figure 4, page 47). Therefore, it is recommended that **defining and tracking broader indicators of success** along with **addressing research gaps** is necessary to support the livelihood of organic farmers and the goals of the Climate Action Plan. These include:

- Measuring the success of organic farming systems using indicators that capture indicators for improved air, water, climate and soil quality (i.e. antimicrobial and pesticide use reduction, nitrogen, GHGe, ammonia, and phosphorus savings, biodiversity gains.
- Developing indicators of farmer health & wellbeing and social & economic resilience measures.
- Reporting on organic farming, by type of farm, and size in the national farm survey and the small farm survey.
- Research exploring the accuracy of common perceptions (i.e. organic farming associations with lower yields, lower profits, lower food security, of no greater nutritional value, using more damaging chemicals, lower animal welfare, job losses in rural areas).
- Research exploring the interconnected environmental, human, animal, social and economic health case for organic versus conventional farming taking scale, farm type, physical/land/geographic characteristics, and full supply chains such into account.
- Research exploring the business case for organic farming, in relation to the impact of organic production on food quality, animal productivity, welfare and performance.
- Reporting on how much of the dairy farmer research levy is invested into organic research.

Organic farmers are best placed to identify the research needs affecting farmgate prices and demand, thus it is also **recommended that a research agenda is co-developed with current and past organic farmers.** Past organic farmers may offer particularly valuable insights into challenges that resulted in them leaving organic farmers. Measures to ensure the process of development is transparent and includes a broad range of farmers is important. This may be achieved by moving beyond organisational representation and reporting participation of the farmers involved by gender, farm type and scale. This may also work to build trust in the institutions responsible for agriculture.

Despite notable improvement in the organic advisory services provided by Teagasc organic team, in comparison to conventional farming, **knowledge and advisory services available to organic farmers is lacking**. This lack in investment in the sector contributes to the insecurity of the sector and thus impacts the livelihoods of organic farmers. It also sends a poor signal to conventional farmers concerning governmental commitment to expanding organic farming and ensuring that the sector is appropriately serviced. Accordingly, it is recommended that **further investment in organic education, and advisory services and targeted curriculum development** are necessary to increase expose to organic practices, protect the livelihoods of organic farmers, build trust in organic farming as a viable farming system, and to encourage more farmers to convert to organic. This may be achieved by:

- Establishing of an organic dairy farm and a fruit, vegetable, legume farm operated by Teagasc to showcase best practices.
- Ensuring that organic practices are included in the curriculum for second and third level agricultural courses.
- Incorporating organic farm visits into curriculum for second and third level students.
- Incorporating organic practices into existing training programs aimed at the general farming population (i.e. Green Cert) to support the normalization of organic farming and in presenting organic as a potential option for all farms.
- Ensuring farm advisors, consultants and veterinary professionals are included in development of advisory services as target groups.
- Monitoring and reporting on number of farmers, students and other professionals reached through education and advisory services.

The HIA indicates that all farmers are under increasing pressure and stress from an expanding **administration workload**. Complex and time-consuming paperwork may also deter farmers from converting to organic systems. Therefore, **it is recommended that efforts to reduce the administrative burden** on organic farmers may mitigate against potential adverse health impacts such as stress. This may be achieved by:

- Employing the services of the National Adult Literacy Association to screen all forms expected to be completed by the farming community.
- Working directly with farmers when reporting requirements are being developed
- Streamlining reporting and data collection requirements.
- Improving data sharing between certification bodies and food and agricultural agencies.

- Providing additional administration support for farmers transitioning to organic
- Ensuring that all reporting requirements are designed with consideration for the age profile of Irish farmers and varying levels of comfort with digital technologies.

Lastly, the Irish organic sector is currently based on organic animal production and focused on the export markets (Bord Bia, 2023) along with growing the local market as reported in the National Irish Organic strategy (DAFM, 2024). Demand for organic fruit and vegetables is expected to grow (EC, 2024). Despite data gaps on domestic organic crop production in Ireland (DAFM, 2024), research indicates that 22 percent of Ireland's imported fruits and vegetables—many of which could be grown locally, such as onions, garlic, apples, and leeks—originate from countries classified as climate vulnerable (Stanley et al., 2023). Supporting organic growers along with developing local organic markets is essential to building more resilient local food systems, improving human health, reducing reliance on imports, reducing methane emissions, preventing the growth of AMR, and adapting to global food supply risks. Considering the very low numbers of organic fruit and vegetables farmers within the organic farming system, and the continual decline of growers in Ireland over the past decade **further financial incentives and support for** organic fruit, vegetable and legume growers are needed to encourage more growers into the market. Importantly, creating and supporting market access and **alternative models of distribution**, other than retailers, that historically have not protected a fair farmgate price for growers will be important. Alternative models for distribution may include public procurement and direct sales through community supported agriculture (CSA), farmers markets and online platforms.

8. Recommendations to improve the livelihoods of farmers and support organic production

In the past number of years, a small proportion of farmers have transitioned to organic farming, but not in the numbers or farm types that would be required to create a significant impact on emission's reduction, biodiversity loss or water quality. Dairy cows form the majority of the national herd and of those who are farming organically, organic dairy farmers comprise less than 0.5 percent.

Currently, less than four percent of farms in Ireland are organic farmers and Ireland is halfway to achieving its goal of 10% of land farmed organically (DAFM, 2024). This suggests that when the goal is achieved, it will still be only a small number of farms farming organically relative to conventional farming. Nonetheless, based on the evidence presented in the HIA, we anticipate that implementing the policy objective to expand the organic sector, without adequate supports, would have likely significant effects on the health of farmers who convert to organic and potentially perpetuate some of the already existing adverse health inequalities existing in the farming community. The following section outlines recommendations to help ensure that current and future organic farmers livelihoods and thus health, are protected and promoted throughout the implementation of this policy objective in future iterations of the Climate Action Plan.

Key recommendations to inform and strengthen future iterations of the Climate Action Plan are outlined below. Importantly, these are not ranked by order of importance. These were developed, discussed and approved, based on the evidence gathered in this HIA. The recommendations are based on the interviews with the farmers, the background context and a review of the literature outlined in this HIA. The recommendations are aligned with the principles of the Just Transition Framework which underpins the 2024 Climate Action Plan, which are as follows:

Principle 1: An integrated, structured and evidence-based approach to respond to just transition needs as they emerge.

Principle 2: People are equipped with the right skills to be able to participate and benefit from the future net zero economy

Principle 3: The costs are shared so that the impact is equitable, and existing inequalities are not exacerbated.

Principle 4: Social dialogue to ensure impacted citizens and communities are empowered and are core to the transition process.

Recommendations	Alignment with Just Transition principles 1-4
1. Guarantee fair organic farmgate prices with coordinated government and industry support. ◉ Establish a premium farmgate price, reflecting the additional ecosystem services and environmental benefits they provide. ◉ Establish a premium farmgate price for organic food products, reflecting the additional ecosystem services and environmental benefits they provide. ◉ Differentiate payment systems from conventional farming favouring cattle weight and milk protein content which may penalize organic farmers and shifting to volume-based payment for organic liquid milk that also accounts for ecosystem services. ◉ Incorporate quality, health and biodiversity outcomes into pricing (i.e. soil health, antibiotic use reduction, and chemical nitrogen saved). ◉ Ensure organic farmers are not financially penalized in the wider move to earlier slaughter. ◉ Develop domestic markets for Irish organic products. ◉ Mandate organic quotas for beef and dairy processors. ◉ Mandate retailers to stock and promote Irish organic produce in store. ◉ Mandate organic food, produced/grown in Ireland, procurement quotas in public institutions (i.e. schools, hospitals). ◉ Increase marketing to raise awareness of Irish organic food, using the Irish rather that European certified organic logo and, focusing on its health, climate, and wider environmental benefits.	1, 2, 3
2. Define, track and measure broader indicators of success beyond area of land farmed organically ◉ Measuring the success of organic farming systems using indicators that capture indicators for improved air, water, climate and soil quality (i.e. antimicrobial and pesticide use reduction, nitrogen, GHGe, ammonia, and phosphorus savings, biodiversity gains). ◉ Developing indicators of all farmer health & wellbeing and social & economic resilience measures. ◉ Reporting on organic farming, by type of farm, and size in the national farm survey and the small farm survey.	1, 2 ,3, 4
3. Co-develop a research agenda with current and past organic farmers & address research gaps in organic production systems ◉ Co-developing a research agenda with current and past organic farmers. ◉ Research exploring the accuracy of common perceptions (i.e. organic farming associations with lower yields, lower profits, lower food security, of no greater nutritional value, using more damaging chemicals, lower animal welfare, job losses in rural areas). ◉ Research exploring the interconnected environmental, human, animal, social and economic health case for organic versus conventional farming taking scale, farm type, physical/land/geographic characteristics, and full supply chains such into account. ◉ Research exploring the business case for organic farming, in relation to the impact of organic production on food quality, animal productivity, welfare and performance. ◉ Reporting on how much of the dairy farmer research levy is invested in organic research.	1, 2 ,3, 4

Recommendations	Alignment with Just Transition principles 1-4
4. Ensure diverse and transparent farmer participation in policy ◉ Track and report farmer participant data by gender, farm type, and scale to ensure more diverse representation. ◉ Increase farmer participation and representation through targeted consultations, aligned with the wider Citizen Engagement actions across all Climate Action Plans.	1, 2, 3, 4
5. Mainstream reporting of data on farmer health ◉ Health status of farmers, disaggregated by farm type and scale, and across indicators of health inequalities, as a population cohort in the national census through the CSO. ◉ A national, annual survey of organic farmers in Ireland. ◉ Report on organic farming within future National Farm Surveys and Small Farm Surveys.	1, 2, 3
6. Introduce measures targeting dairy farmers ◉ Additional financial support for physical farm assets. ◉ Interviews with dairy farmers who have left organic farming in order to understand the challenges and develop solutions to the issues raised. ◉ Coupling payments with volumes of milk produced organically.	1, 2, 3
7. Reduce administrative burden ◉ Employing the services of the National Adult Literacy Association to screen all forms expected to be completed by the farming community. ◉ Working directly with farmers when reporting requirements are being developed. ◉ Streamlining reporting and data collection requirements. ◉ Improving data sharing between certification bodies and food and agricultural agencies. ◉ Providing additional administration support for farmers transitioning to organic. ◉ Ensuring that all reporting requirements are designed with consideration for the age profile of Irish farmers and varying levels of comfort with digital technologies.	2, 3
8. Protect land in organic production ◉ Explore the feasibility of introducing measures to protect land in organics i.e. introducing a stay on organic land where it cannot be farmed conventionally for a number of years.	1, 3

Recommendations	Alignment with Just Transition principles 1-4
9. Promote and incentivize organic fruit, vegetables and legume growers ◉ Increasing financial incentives and supports for organic fruit, vegetable, and legume growers. ◉ Creating and supporting alternative routes to market (i.e. public procurement, direct sales, community supported growers, farmers markets). ◉ Encouraging retailers to stock and promote organic fruit and vegetables and legumes grown in Ireland.	2, 3
10. Reduce the minimum land requirement to participate in the Organic Farming Scheme (OFS)	2, 3, 4
11. Scale-up organic education & advisory services ◉ Establishing an organic dairy farm along with a fruit, vegetable, legume farm operated by Teagasc to showcase best practices in organic animal and non-animal based farming systems. ◉ Ensuring that organic practices are included in the curriculum for second and third level agricultural courses. ◉ Incorporating organic farm visits into curriculum for second and third level students. ◉ Incorporating organic practices into existing training programs aimed at the general farming population (i.e. Green Cert) to support the normalization of organic farming and in presenting organic as a potential option for all farms. ◉ Ensuring farm advisors, consultants and veterinary professionals are included in development of advisory services as target groups. ◉ Monitoring and reporting on number of farmers, students and other professionals reached through education and advisory services.	2, 3

9. Opportunities and Limitations of this doing this HIA

Several learnings were reflected upon by the Steering Group based on the way that this HIA process was undertaken, as outlined in the following:

Strengths and opportunities:

- Carrying out the interviews with farmers in the HIA ensured their lived experience was captured and included as primary source of evidence in the HIA report.
- The diversity of perspectives and experiences that individual Steering Group members brought to the process, in particular the importance of two members of the Steering Group being farmers.
- The HIA provided an unplanned data-gap analysis in highlighting which data is publicly available and accessible, and which data are not available, in relation to farmer-group specific health data in the national census rounds.
- The HIA process also highlighted that various vulnerabilities within the farming population are not captured in official data, such as single parents, farmers living with disabilities, farmers working on marginal land with poorer access to roads.

Limitations:

- The lack of a reporting of objective health data for farmers as a distinct population group, with comparison to population-wide health data, was a challenge in doing this HIA, when assessing the likelihood of health impact at the Analysis stage.
- In interviewing farmers as part of this HIA, it is a limitation of the work that we were unsuccessful in obtaining any fruit, vegetable or legume producers in our sample. Poultry and pig farmers were also not included in sample.
- However, this is reflective of the very low number of these food producers in Ireland.
- The scope of the HIA did not include a focus on the intersectionality of inequalities affecting farmers, for example a woman farmer living with one or more disabilities.

10. Conclusion

This HIA was carried out to (i) assess and report on the likely significant effects on the health of organic and conventional farmers in Ireland stemming from the policy objective to expand the organic sector, (ii) make recommendations to negate adverse health impacts and enhance opportunities for health gain and (iii) to identify any health inequalities and recommended how these inequalities can be mitigated and addressed.

Livelihoods are a key determinant of health, and a secure income is a central component of livelihoods. Likely significant health impacts identified in the HIA include livelihood risks associated with converting to organics without adequate supports, which may add to the existing stress and financial insecurity experienced by some farmers. With the appropriate supports in place based on the needs of farmers, as set out in this report's eleven recommendations (Section 8), organic farming presents a significant opportunity to preserve the environment, upon which farmer's livelihoods and public health are dependent. The potential effect of implementing the policy objective across all farms in Ireland is considered likely and significant. However, it is important to note that this policy objective is not intended for all farmers. Nonetheless, the sensitivity of farmers is considerable given that this population group already experience a range of challenges within the broader farming sector (Figure 3, section 6) and are thus more sensitive to the effects of inadequate supports necessary for this transition.

Eleven recommendations were formulated to address the identified gaps in infrastructure and supports for farmers, with a view to addressing the health (livelihood) impacts from the implementation of the policy objective. These recommendations seek to support the transition to organic farming as a viable option for farmers.

Importantly, this HIA has re-affirmed the difficult and stressful situation in which many Irish conventional and organic farmers are living and are expected to operate within as food producers. Providing financial incentives alone are insufficient to protect the livelihoods of current organic farmers or to facilitate a wider transition to organic farming. Long-term support in the form of recommendations outlined in this report are needed.

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