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Author(s)	Farrell, Maura;Murtagh, Aisling;Weir, Louise;Conway, Shane Francis;McDonagh, John;Mahon, Marie
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Article

Irish Organics, Innovation and Farm Collaboration: A Pathway to Farm Viability and Generational Renewal

Maura Farrell *, Aisling Murtagh, Louise Weir, Shane Francis Conway , John McDonagh and Marie Mahon

Discipline of Geography, School of Geography, Archaeology and Irish Studies, National University of Ireland, H91 TX33 Galway, Ireland; aisling.murtagh@nuigalway.ie (A.M.); louise.l.weir@nuigalway.ie (L.W.); shane.conway@nuigalway.ie (S.F.C.); john.mcdonagh@nuigalway.ie (J.M.); marie.mahon@nuigalway.ie (M.M.)

* Correspondence: maura.farrell@nuigalway.ie

Abstract: The family farm has been the pillar of rural society for decades, stabilising rural economies and strengthening social and cultural traditions. Nonetheless, family farm numbers across Europe are declining as farmers endeavour to overcome issues of climate change, viability, farm structural change and intergenerational farm succession. Issues around farm viability and a lack of innovative agricultural practices play a key role in succession decisions, preventing older farmers from passing on the farm, and younger farmers from taking up the mantle. A multifunctional farming environment, however, increasingly encourages family farms to embrace diversity and look towards innovative and sustainable practices. Across the European Union, organic farming has always been a strong diversification option, and although, historically, its progress was limited within an Irish context, its popularity is growing. To examine the impact of organic farm diversification on issues facing the Irish farm family, this paper draws on a qualitative case study with a group of Irish organic farmers engaged in the Maximising Organic Production System (MOPS) EIP-AGRI Project. The case study was constructed using a phased approach where each stage shaped the next. This started with a desk-based analysis, then moving on to semi-structured interviews and a focus group, which were then consolidated with a final feedback session. Data gathering occurred in mid to late 2020. Research results reveal the uptake of innovative practices not only improve farm viability, but also encourage the next generation of young farmers to commit to the family farm and consider farming long-term.

Keywords: organics; succession; viability farm collaboration



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1. Introduction

In the last four decades, there has been a radical overhaul of the agricultural industry, with a shift from a productivist agricultural regime to a multifunctional agricultural environment [1–3]. Agriculture is considered multifunctional when the functions and services it provides go beyond food production to encompass a wider social, environmental and economic role. This includes, for example, links to local food supply chains, farms that create and preserve cultural landscapes, or preservation of biodiversity, soil and water quality. Multifunctionality can also present itself to different degrees, where highly productivist agriculture is considered to display the least multifunctionality, while agriculture that moves away from the productivist model has strong multifunctionality [2]. Through consistent amendments of the Common Agricultural Policy (CAP), EU policy makers have attempted to deal with a myriad of agricultural issues from environmental concerns to food security. Amongst all this change, the family farm strives to remain relevant, resilient and sustainable [4]. Increasingly composed of a farming populace with a high age profile [5], this ageing community requires an injection of young people into farming by means of efficient and effective intergenerational farm transfer [6]. The perception is often that the older farmers are less competitive in the current marketplace because they are hesitant in their adoption of new practices and innovative agricultural technologies [7,8]. On the other hand, however, the younger generations are looked on as more willing to embrace smart

agriculture and alternative farming practices, such as organic agriculture, in striving for a more sustainable, profitable and productive future for farming [9–11]. Consequently, the necessity to get younger farmers engaged in agriculture will not only ensure production efficiency and economic growth of the Agri-food industry, but will be essential to the sustainability of rural society more broadly (ibid).

This paper therefore explores the opportunity presented by organic farming, with a focus on horticulture-based farming systems, in particular, for increased farm viability in the Irish context. In previous research comparing the economic viability of conventional and organic farms in Denmark, Pedersen and Hauge [12] found that ‘the profit of conventional farms has decreased, while organic farmers’ earnings have increased’ (p. 4). Therefore, it is possible to conceive that young farmers or new entrants into farming can enhance farm viability by embracing organic farming, rather than conventional pathways (ibid). The paper also argues that taking advantage of this opportunity is not all straightforward and requires specific supports and understandings. This emergent context highlights the threat to the family farm if transfer to the next generation is not enacted expeditiously. Indeed, Duesberg et al. (2017) argued how farm viability increases the prospect of farm succession and, in turn, enhances the sustainability of the farm. It is in addressing these major interlinked issues of farm viability, reinvigorating agriculture through young and new entrant farmers and addressing the complexity around land transfers and succession that this paper seeks to make its contribution. Drawing insight from the Maximising Organic Production Systems (MOPS) EIP-AGRI (European Innovation Partnership for Agricultural productivity) and Sustainability project, we explore how a change in mind-set can be incubated in the context of a move towards organics. In exploring this, the paper outlines the ways in which organic farming presents an opportunity for improving farm viability through supply chain efficiency and providing ‘softer’ supports, such as spaces for different types of knowledge (expert and non-expert), sharing and development. The paper also looks more broadly at factors influencing new entrants and succession into organic farming in Ireland, such as specific pathways, including the returning successor, and how wider professional experience and knowledge can benefit the farm in terms of innovation and viability.

2. Literature Review

2.1. Farm Success and Farm Succession

Farm success faces a variety of challenges, including access to land, lack of succession planning, lack of retirement of older farmers and lack of attractiveness of the farming profession [13]. Interlinked issues of concern in this paper are the economic viability of farm livelihoods and how this is very much bound up in aspects of transferability of the farm itself [14]. As such, issues of below-average farm incomes, economically non-viable farms, in addition to farms engaged in pluriactivity are all significant obstacles to new entrants [15–17]. A key starting point for much of this conversation is ensuring that the farm succession process occurs. This, however, is much more complex than dealing with just the actual transfer of ownership. Succession, according to Handl et al. [18] is a multi-faceted, diverse procedure that can occur over a long timescale for an individual or a group. Loblely [13] suggests that farm succession, can also be broken down into ‘succession to the farm and succession to the occupation of farming’ (p. 839). Consequently, its intricacy has been classified as a multi-stage process, involving the movement from partnership farming to full control, a process that can materialise in a variety of ways [18,19]. The intricacy of succession is further complicated with additional deliberations on defining what a farm successor or, in more recent conversations, what a new entrant is. In fact, an EU, EIP-AGRI Focus Group on New Entrants into Farming found a number of classifications identifying: ‘a substantial grey area between the extremes of ex novo new entrants and direct successors to farming businesses’ (p. 7). The Focus Group recognised six types of new entrant (diversified new entrant, innovative new entrant, full-time new entrant, part-time new entrant, hobby farmer, hybrid new entrant) and five types of successor (diversifying

successor, innovative successor, direct successor, delayed successor, indirect successor), as well as different pathways to these categories. The delayed successor, for example is someone who has worked off-farm and does not make a change to the farm operation [20].

Notwithstanding these issues, another barrier to the success of a farm is the transferability of the farm itself. Larger farms, in particular, are often heavily equipped with expensive machinery and require large amounts of capital in the takeover process, while they are also faced with diminished agricultural revenue. The InPACT [21] project pays particular attention to the French situation and sketches a picture of large farms where farm transfer can lead to alternative farm restructuring, including farm enlargement or even reorientation or land abandonment. To ensure the effective transfer of the farm, a focus on how the farm is transferred is highly significant. Alongside this, matters for new entrants, including the possibility of farm restructuring or diversification to ensure future viability also need consideration.

2.2. Knowledge, Networks and Innovation

A farming context that is facilitative to peer co-learning and knowledge sharing improves farm viability (and, as a consequence, supports the succession of the farm to the next generation). The Access to Land Network [22] paid particular attention to these issues, highlighting the importance of formal, informal and practice-based training for young farmers, including new entrants. Additionally, the Network identified the importance of practice-based learning in consolidating formally learned skills, highlighting key examples within the French context (ibid). The Network also recognised the advantages of the family network and knowledge transfer when compared to the challenges new entrants face in building farming knowledge and skills development. Consequently, they argue that succession within the family farm can provide a space where knowledge, skills and experience can be generated prior to formal succession plans taking place [22,23].

Knowledge requirements and barriers to gaining skills for young farmers depends on a number of factors, including existing education, whether young farmers are new Member State or EU-15, if they are farm owners or the type of rural region they come from [23,24]. More generally, Zondag et al. (ibid) emphasised the importance of knowledge and skills development, particularly in certain areas: ‘young farmers need technological skills and skills to develop a farm strategy, as well as entrepreneurial skills—such as marketing, networking, communication and financial skills—to keep their farm viable. They are not always aware that they need all these different kinds of skills. Many farmers are used to managing their farm in a traditional way and do not see the need to change’ (p. 70). Focusing on skills development, the Access to Land Network [22] discerns that there is a lack of training, specifically in organic farming, permaculture, or other techniques that can be relevant to new farm entrants. In relation to these ‘neo-farmers’, Dolci and Perrin [23] note a level of discontent with more conventional, institutional training, and a move towards more informal, alternative sources for skills and knowledge development.

In extending the above discussion, the significance of knowledge creation and innovation has also expanded and is aligned with the need for more informal knowledge systems in farming. However, it is also important to add this is not to discount more scientific and technical innovations, such as through smart farming and ecological innovations, and their relevance to more sustainable and viable future farming. An exploration of innovation theory by Dargan and Shucksmith [25] identified a move away from an emphasis on linear paths, where practitioners apply scientific innovation and novel discoveries towards a diversity of innovative paths, systems and networks. In fact, the practice of ‘novelty production’ is one of the foundational dimensions of van der Ploeg et al.’s [26] ‘rural web’ of actors and resources underpinning rural development. In examining the ‘rural web’, novelty production is defined as a ‘capacity, within the region, to continuously improve processes of production, products and patterns of cooperation’ (ibid, p. 9). Van de Ploeg et al. (ibid) also emphasised the critical nature of novelty production within a rural sustainability and development context, suggesting they provide ‘new insights, practices,

artefacts, and/or combinations (of resources, of technological procedures, of different bodies of knowledge) that enable specific constellations (a process of production, a network, the integration of two different activities, etc.) to function better' (p. 9). One key aspect of novelties is their place-based nature, with many based locally, drawing on contextual rather than scientific knowledge, and complementing one another rather than working against each other. In line with this, Dargan and Shucksmith [25] recognized the need and significance of 'bringing together knowledge forms in collective learning processes' (p. 288). Esparcia [27] recognises this and emphasises how knowledge can combine and result in innovation leading to: 'the creation, adoption or adaptation of new knowledge by the actors, combining their initial stock of implicit tacit knowledge with other explicit knowledge (offered or contributed by advisors, consultants, development actors' (p. 288). Tovey [28] and Dargan and Shucksmith [25] also previously highlighted that knowledge can be co-produced and more commonplace; everyday knowledge and learning can be seen as innovation, but adapted or used in an alternative fashion.

Encouraging farmer innovation, the European AgriSpin project also emphasises the importance of collective learning and learning from practice [29]. This philosophy can be captured by the concept of 'vernacular expertise', suggested by Lowe et al. [30] as: 'The expertise people have about the places in which they live and work that is place-based but crucially nourished by outside sources and agents' (p. 36). Vernacular expertise therefore can consist of a diversity of knowledge types made up of both local and extra-local sources. It should not have a hierarchy, with all forms of knowledge (lay or expert, social or scientific) being of equal importance. Additionally, it should be replicable, with the potential to be diffused via multiple pathways, including: peer-to-peer; expert-to-peer; expert-to-practitioner; practitioner-to-practitioner. Lowe et al. [30] highlighted the importance of this type of expertise for rural development, emphasising both its importance and its implications on policy. Similarly, Atterton [31] suggests that a change in policy direction is needed, moving away from central regions as the focus of innovation policy and looking towards nature, potential and needs directly connected to rural innovation, 'recognising that innovations can be small scale and led by an individual with a creative idea to tackle a problem; they need not involve huge R&D expenditure or large numbers of patent registrations' (p. 228). In considering these issues further, this paper draws on an organics case study where a collective space for knowledge sharing demonstrates the possibilities of this approach.

2.3. Organic Farming—An Opportunity for Farm Viability?

The European Commission [32] reported that land under organic production increased by approximately 500,000 hectares annually over a ten-year period, representing a coverage of 11.1 million hectares of European Utilisable Agricultural Area (UAA) [32]. More recently, Eurostat [33] reported the total area under organic farming in the EU increased to cover almost 13.8 million hectares of agricultural land. Although not as popular within an Irish Agri-food context, the organic sector's growth is important in terms of reacting to current marketplace demands and in meeting broader societal expectations. Irish consumer research, for example, has shown an increased inclination towards organic food, in line with a growing trend towards a more health-conscious modern society [34]. Such trends are emulated across the EU, emphasising the opportunities for the enlarged production of organic food products. This trajectory also stresses the health aspects of organic farming, but also the economic, social and environmental benefits of organic systems.

The number of those engaged in Irish organic production increased considerably in recent years, largely due to dedicated policy directives under the Rural Development Programme (RDP) 2014-2020. RDP policies in support of the organic sector have provided €56 million for the Organic Farming Scheme (OFS), while providing area-based payments to registered organic farmers, and an €8 million Organic Capital Investment Scheme, providing grant aid of up to 60% for qualified young organic farmers for investment in structures and equipment. As a result of such policies and increased interest from

the farming community and food producers, approximately 72,000 hectares (ha) of Irish farmland is currently certified as organic. This is an increase of nearly 50% since the start of the RDP in 2014 [34]. Additionally, a recent report by the Central Statistics Office (CSO) shows that the area of agricultural land organically farmed in Ireland increased by 257% between 1997 and 2018 [35]. Consequently, Bord Bia, the Irish Food Board, highlight that the organic retail market in Ireland is now worth €162 million, with a further €44 million generated by direct sales [34].

Despite this recent expansion of the Irish organic sector, land under organic production in 2018 still only accounted for 1.4% of the total utilizable agricultural area (UAA), the third lowest percentage among EU Member States (*ibid*). To address Ireland's organic deficit and respond to the EU's Farm to Fork strategy and its call for 25% of total EU farmland to be utilized for organic farming by 2030, Ireland's national climate and air roadmap for the agriculture sector (Ag Climatise), outlines an ambitious objective of increasing the current area under organic production to 350,000 ha by 2030 [36]. Although the area under organic production has increased, production patterns in Ireland are still not fully in line with market opportunities. In fact, the majority of Ireland's 1700 organic farmers are livestock producers, notwithstanding the fact that organic horticulture, tillage and dairy have been acknowledged by Bord Bia, the Irish Food Board, as having the most significant growth potential in the Irish market [34]. In particular, organic horticulture production is considerably less than what is needed, resulting in almost 70% of organic fruit and vegetables being imported annually to meet market demand. Additionally, there is a supply shortfall of organic cereals and proteins in the Irish market; restricting even further the opportunities for the Irish organic sectors to take advantage of the growth potential that currently exists. Consequently, for the Irish organic food sector to ensure longer-term growth and sustainability, it must be fully cognizant of market desires and buyer demand.

The organic horticulture sector in Ireland is increasingly recognized as one of the organic categories with the highest development potential, with sales of organic fruit and vegetables already representing 34% of the Irish organic market. Westbrook [37] suggests that such figures are reflected in the retail data from other countries, as horticulture is one of the most resilient categories in global organic food sales. Although the ongoing importation of some horticulture goods is essential, given the unpredictable nature of Ireland's climate and the variety of products on offer, Irish farmers are still limited by a lack of capacity to meet the demands for organic horticultural products due to their family-farm, small-scale operations [38]. Farm viability is further compromised with farmers tending to produce similar crops, harvested at related times, which result in surplus produce and wasted goods, which in turn undermines economic performance.

3. Methodology

The research here employed a case study approach, a process that can best be described as 'a methodology, a type of design in qualitative research, an object of study and a product of the inquiry' [39]. The fundamental features of case study research consists of 'a qualitative approach in which the investigator explores abounded system (a case) or multiple bounded systems (cases) over time through detailed, in-depth data collection involving multiple sources of information (e.g., observations, interviews, audio-visual material, and documents and reports) and reports a case description and case-based themes' (*ibid.*). This is the process which was undertaken in this research, where a case study was utilised to examine issues around young farmers, new entrants, succession, farm viability and organic farming in Ireland. The case study drew on the experience of key stakeholders involved in Irish organic farming, including farmers, extension advisors, Department of Agriculture officials, policy makers and horticulturists. A core focus of the case study however, revolved around an Irish European Innovation Partnership in Agriculture (EIP-AGRI) organics project, titled the Maximising Organic Production System (MOPS).

The case study was carried out from the beginning of June 2020 to the end of October 2020. A desk-based study was initially carried out (grey literature, online evidence, policy

documents and Central Statistics Data) to collect background information on the Irish organic industry as well as the MOPS project. The case study employed a three-pronged approach, initially carrying out twenty-two in-depth, semi-structured interviews, eleven of which were with individuals engaged in the MOPS project, and the remaining eleven interviewees made up of additional organic farmers, horticulturists, project administration, policy makers and extension advisors. All interviewees were selected based on the desk-based analysis and also by using a snowball method. The second element of the methodology involved a focus group, consisting again of key personnel engaged in both the MOPS project and organic farming, and this was used to gather further information for data triangulation. Finally, the third element involved a findings feedback session with similar personnel. In addition to disseminating some initial research results, the final feedback session also allowed a further exploration of issues that were not fully examined within the first two phases of the research methodology. Interview questions for all three-research elements were prepared based on the key research agenda related to how organic farming, and the MOPS project in particular, contribute to generational renewal at a farm level. All interviews were recorded and fully transcribed, and then a coding system was devised via Nvivo, where the analysis was carried out using a thematic analysis approach. Due to COVID-19 restrictions in Ireland, all interviews, the focus group and feedback session were held online via Zoom. In all three cases, a gender balance was considered, resulting in an equal amount of male and female participants, where possible.

Maximising Organic Production System (MOPS)

To help situate the MOPS project in its geographic, structural and formative context, we next outline its origins and the locations of the farms involved, as well as its broad structural and operational characteristics. One clear characteristic of the group is its diversity—of the markets supplied, the geographic location and the sizes of the farms. This shows how collaborative projects can work with dispersed and varied organic horticulture farms.

The origins of the MOPS project are rooted in an agronomy group coming together originally to seek advice from a well-known agronomist specialising in organic farming in Ireland. However, this process also brought wider shared concerns to light, such as how working in partnership could improve their farm's economic sustainability, as well as having spin-off benefits to improve farmers' work-life balance. A call from the Department of Agricultural Food and Marine (DAFM) for EIP-AGRI Operational Groups provided a fitting vehicle to formalise the group and to support it with funding. A group of organic farmers, the Irish Organic Association (IOA), researchers and agronomists came together and formed the MOPS Operational Group that successfully obtained €597,416 in funding from the DAFM to run a three-year project. MOPS became one of Ireland's first EIP-AGRI Operational Groups in 2018. MOPS is one of the first EIP-AGRI organic projects in Ireland engaged in creating a short supply chain for their farm produce.

More specific objectives of MOPS included improving economic sustainability and farm viability. A key action to support this was the development and application of cropping systems tailored to each farm focused on achieving greater efficiency within production, such as more continuity year-round and production that was closely tailored to market demand. Improving economic sustainability also looked beyond the farm gate. Actions worked to improve the knowledge of future market demands, as well as focusing on improving short supply chain efficiencies. The project objectives also focused on improving the environmental sustainability of the farms through reducing the use of imported nutrients and increasing the use of green cover crops.

The farms themselves and their geography is quite diverse. The geography of the MOPS group is dispersed, crossing a number of NUTS 3 regions in the east, west and south of Ireland. Specifically, this represents seven counties (Kilkenny, Cork, Galway, Laois, Wicklow, Kildare and Wexford). The farms are all certified organic, operating on either leased or inherited land. The 11 MOPS farms are owner operated, however, a number also lease land. They are a mix of relatively recent (last 5 years) to longer

established (last 20 years) organic growers. They also vary in size from one to three-hundred-hectare farms. Collectively this group of farmers utilises a range of marketing channels: direct sales (online and farmers markets), wholesale markets, speciality shops, restaurants, private procurement outlets, and supermarket/retail multiples. The farms achieve a year-round supply of crops, but also import organic produce to supplement their farm produce (Westbrook, 2020). Beyond their horticultural activities, many engage in multifunctional farming, including training organic growers via an apprenticeship programme.

4. Findings and Discussion

4.1. Enabling Realisation of the Organic Farming Opportunity

4.1.1. Improving Farm Viability through Supply Chain Efficiency: A Collective Approach

A core focus of the MOPS project is to optimise organic horticulture. This encompasses the creation of a collaborative cropping system responding to growing retail demand, and improving the continuity of short supply chains for the national market. This involves exploring each farmers' cropping system and identifying what is most profitable based on market demand. However, crucially, this is also based on crops suited to the farm, the farmer and their skillset. For example, a pioneer of the MOPS project states: "More important than profitability that they actually have a demand for those crops but also that it suits what they have on their farm, it suits their skillset, it suits their employment and what staff they have, their machinery and all the various other things that impacts on the capacity of that farm" (Interviewee, 1).

MOPS facilitates the farms involved to explore and move towards more profitable crops, as opposed to over-producing certain crops that lead to waste and financial losses. Also, at the farm level, it aims to deliver a tailor-made cropping system that is flexible to market demands and increases profit on farms. It drives farms to reflect on their economics, which ironically can be overshadowed due to time limitations: "One of the aims of MOPS (being) to go through the figures and actually see what you're doing that is not so profitable and what's more profitable. Because sometimes it's quite difficult when you're actually busy with it to actually differentiate which crop is really making the money and which is not you know" (Interviewee, 4). Market demand is considered at-scale, which also facilitates a range of different farm sizes to be part of the project. Some of the MOPS group concentrate on local, smaller markets while others concentrate on larger markets. For example, one farmer saw himself as; "a commercial grower of the MOPS group" while also commenting: "then there's other really good independent growers that do a lot of box schemes" (Interviewee, 19). Alongside this focus on improving economic profitability, MOPS is also concerned with making farms more sustainable through reducing nutrient import dependency, which also supports this aim.

Beyond the primary goals of improving profitability through short supply chains and enhancing training, many interviewees were quick to point out the project's added value in supporting farm viability. For example, it enabled farmers to explore more efficient organic farming practices and provided a space for connection with other farmers to enhance their current practices. One farmer felt that MOPS also had a wider value in the sector's viability: "MOPS has done huge work for the organic horticulture sector in Ireland, just in joining the dots and making sure this farmer is growing that and this farmer needs it or this market needs it here. There is nothing more disheartening in doing something and wasting a crop or not being able to sell it all" (Interviewee 8). Additionally, at the individual farm level, enhancing farm viability was a key aspect. For example, innovative thinking drove efforts to increase income and long-term viability for one farmer: "I launched a veg box scheme in 2019. Literally just one night decided to set up an Instagram page, a Facebook page with a logo on it and just put it out there. And I would say within a week we were booked solid" (Interviewee, 14). The case study underscores the relevance of Pedersen and Hauge (2016) findings that emphasise the financial viability of organic farms over conventional farms, with increased earnings due to novel and innovative farm practices.

4.1.2. Networking and Knowledge Sharing

Knowledge development is a key benefit of this project. MOPS gave the group the opportunity to work with suitably qualified people over its three-year span. The value of this additional support was noted by many interviewees, with one suggesting: “The MOPS project and advisors have been really good for evaluating which crops work best for us and which don’t” (Interviewee, 9). While another suggested: “Well the very first simplest thing is because we’ve had to submit records religiously, records of you know what we sow, when we sow it, how long it took us to sow it, when we harvested it, how long it took us to harvest, how much we made from it, how much is left, how much was spoiled you know all these details. Initially it was a nightmare for us because it is just all this work like capturing everything. But with time we realised it actually was really helping us. We were a bit less stressed. You know you could actually check. You know you could go back a few months. You could see exactly what day was what. Rather than holding everything in your head” (Interviewee, 10). This also shows how knowledge and skills acquisition to improve farm viability can be related to more straightforward management and record-keeping issues. These are issues that can be quickly addressed with the right training methods.

Another way MOPS supported knowledge development was through peer-to-peer learning. The organic farmers interviewed highly valued the MOPS collaborative model also because it provided them with an ideal and continuous forum to engage with each other. One farmer in particular stated that; “I suppose the good thing about MOPS as much as anything else is that we have constant advice and we have also the kind of teamwork. I won’t say its teamwork in that we’re all exactly on the same hymn sheet but you know the way . . . You’ve somebody to consult and talk to about things you know” (Interview 4). The collaboration and networking among the group also facilitated technical learning based on different on-farm experiences. Another interviewee stated: “A WhatsApp group came out of it and then there’d be meetings . . . you would just pick up tips and run things by people and you’d help others as well like no we did that variety and these are the issues we had with that and you know they don’t grow well in this kind of soil. You know it’s just so nice you don’t have to invent the wheel. Like there’s this wealth of knowledge and expertise and you can all help each other” (Interview 9). Knowledge development also went beyond the technical. There was also a wider change in attitude. One respondent being stated: “No it wasn’t really upskilling so much as just changing our attitude really to what’s important actually this is important” (Interviewee, 9).

Another strength of MOPS is the space provided for intergenerational knowledge transfer and sharing across farming generations. Within the MOPS group are established older farmers that hold an invaluable store of tacit and who lay knowledge developed over years of hand-on working in the organic sector. The younger generation have not had the time or experience to develop this knowledge. For example, this interview illustrates: “There’s a generation of them there all in their sixties . . . years and years of experience . . . It’s vital you know that transfer of knowledge . . . I’ve said it at multiple meetings . . . The knowledge, the boots on the ground of going out to a field and looking at a crop and saying that’s what’s wrong with this crop... I will say my expertise would be in carrots because I’ve grown up with them. I’ve seen every single different breed and disease and condition. And I could walk out into a field and I could say that’s what’s wrong with those or X Y and Z just through years of experience. I couldn’t do the same for broccoli or cauliflower. Now I’m learning” (Interviewee, 19). Laband and Lentz [40] highlight the importance of making such ‘soil-specific’ human capital more easily transferable, communicated or learnable. MOPS provides a space for the nurturing of the younger farmers’ enthusiasm and ambition, guided by the senior generation. There is: “a level of communication with new entrants in a very practical and worthwhile way” (Interview 6).

4.1.3. The Value of Innovation

Undervaluing the on-site research and innovative ideas of farmers is an issue impacting innovation levels in farming. For example, Kummer et al. [41] argued that the

innovations of organic farmers can be ignored, despite their ability to lead to strategic farm changes and hence their significance. The ethos and approach of MOPS farmers and those in organic farming more widely is innovative and focuses on the transferability of ideas.

Most interviewees, particularly within MOPS, but also the other organic farmers, discussed how they put innovative ideas into practice. They held a strong awareness of the necessity of innovation to producing high quality organic produce and effectively using local supply distribution channels. New ideas and innovations that could be classed as social, technological or product innovations were developed, enhancing family farm viability and work-life balance.

In addition, an important pattern was that more traditional scientific innovation was not always central. What emerges more strongly is more everyday innovation and new ways of doing things. For example: “I suppose the innovation doesn’t all have to be highly scientific stuff. I’d say the innovation wasn’t what we expected. The innovation has actually come about by just having good record keeping and maybe considering using a database or kind of a gatekeeper is actually quite complicated for a lot of the group, but you know to use some sort of system in order to keep track of things” (Interviewee, 1). New ways of doing things while requiring some adaptation and change, bring important efficiencies for example: “It means everything in the packaging houses are all packed on tablets, touch screens and there’s no paper anymore. All the paper has been eliminated—everything is automated from the order to the payments to the packing to the delivery. It’s all on apps and that was a big project for us you know but it meant like thousands and thousands of print-outs and double checking just disappeared literally overnight”. (Interviewee, 6). Everyday innovation and new ways of doing things can also mean simple changes, but which have significant impacts, such as relating to crop waste for example: “Its things like WhatsApp. But actually having a WhatsApp group that is telling you that I have X amount of parsnips or whatever available and so trying to reduce your waste. The innovation is more in the approach than it is in an actual piece of technology” (Interviewee, 1).

Further to this, the presence of strong innovation in a farming sector may also be a factor in attracting new entrants into farming. This emerged in the focus group: “It’s about this innovativeness of organic farmers and even the collective innovation and the different synergies and how that you know can it play a role in enticing the younger farmer. Maybe the innovative practices in organics, can entice younger farmers into farming but of course obviously into organic farming” (Focus Group Member).

4.2. Linking Succession Patterns and Organic Farming—Aspects of the Returning Successor

Given the issue of farm succession in farming more widely is a key challenge for the sector, it is worthwhile exploring if aspects of organic farming and the MOPS project may provide ways to improve succession. However, the pattern of intergenerational succession and eventual farm inheritance emerged here as the main route of entry into organic farming. Traditional patterns of intergenerational family farm transfer appear to persist in organic farming. One MOPS farmer suggested: “I basically went into full-time farming working with my father and I would have worked alongside him for a number of years and then when I was in my mid-twenties I started renting land from my father at first” (Interviewee, 5). Another organic farmer stated: “Well I grew up on a farm, so I’ve been on the farm all my life and interested in the farm all my life. I’ve never actually done anything else... I went from school on to the farm. My grandfather was a farmer so it’s in the family and it would have been I suppose just the only thing I really wanted to do. I suppose getting into the farming then I was kind of happy just working on the farm. I was working for my dad and he passed away in 2003 so I took over the farm then and I started farming it” (Interviewee, 12). Another MOPS farmer engaged in organic vegetable growing stated: “My father and mother they were elderly . . . and going to give up farming so I just started farming four acres of organic veg here. And then after the first year he just made about three quarters of the farm over to me and a quarter to my other brother. So that’s kind of where it all started from” (Interviewee, 20).

The reasons for this traditional pattern of intergenerational family farm transfer appear to be linked to the presence of, as described by Conway et al. [6], a deeply ingrained ‘rural ideology’ where farm succession within the family is prioritised. From this research, most of the organic farms showed traditional patterns of farm succession and inheritance. However, this research also revealed another specific pattern in how succession occurred. Successors can also leave the farm and return after a period of travel, study and or work off-farm and outside of the agricultural sector. Errington [42] call this pattern a ‘professional detour’. While this is not a departure from traditional patterns, it is one that appears to benefit the farm business, so could be an important route to support for both increased succession, as well as greater farm viability.

Interview data show that individuals with diverse careers that young farmers, outside of farming, pursued before returning, such as in the pharmaceutical, construction and hospitality industry. It is not just the professional experience gained that is of benefit, but also the experience increased ambition and impacted a vision emerging to convert to an organic farming system. Also supporting this was greater courage and confidence to make a significant change on the family farm to support its long-term sustainability and viability. For example, one MOPS farmer stated: “I got a degree in applied chemistry in Galway. Then went to do a PhD in Cambridge in the U.K and then went into the pharmaceutical and the biotech industry in England for eleven years. So you know I’d be very aware of chemistry, chemicals, biochemistry, the background to you know how chemicals work in the environment and potential pitfalls of using them etc.” (Interviewee, 6). Another organic farmer stated that, “I worked around the world. I worked in Germany. I worked in Spain. I worked in Australia . . . So that’s what I was at before I came home and took over the farm . . . So, I had seen an awful lot of diversity in farming around the world and little small farmers up on hilltops in India and in Nepal and how they were making a living off a very small part of the land. So that put me on a journey towards organic when I see how they were viable” (Interviewee, 11). Similarly, another organic farmer stated that: “I did four years in the bank after Edinburgh and then there was more and more helping needed at home so I needed to kind of be at home more so I looked at retraining. Went up to Donegal and did a FAS course up there for a year and a half in stone masonry. And at least then I had a trade that I could be self-employed with and kind of fit it in around the farm . . . all these things are important rather than just having a very small realm of experience doing what your father did kind of thing” (Interviewee, 13). Further still, a MOPS member farmer outlined: “I did social science in Dublin and I lived there for a number of years and worked in that area . . . I worked in that kind of industry in rehabilitation and all that kind of stuff. And then I decided to move back home and took on part of the family farm and I started basically to grow organic vegetables” (Interview, 21).

Favoured as a more sustainable production system, research has found new entrants are more likely to pursue organic farming [9,43–46]. This research also shows the inclination of the returning successor towards organic farming. Based on an analysis of the socio-economic impact of organic and non-organic farmers in England, Lobley et al. [9,47] found that significant numbers entered organic farming as a completely new career, who also often had urban origins, arguing they potentially represent a new agricultural paradigm. This research shows this is not a generalisable pattern. The findings follow Rigby et al. [43] who argued that, on average, organic farmers enter farming later in life. More broadly, the findings echo research that highlights the characteristics of new entrants, as opposed to successors. Zagata et al. [48] argued that new entrants to agriculture, of any age, are potential innovators. This highlights the wider value of new entrants into organic farming, regardless of whether they are from a farming or non-farming background. Sutherland et al. [46] also argued the positive effect of new entrants to organic farming because they can be more entrepreneurial, business orientated and proficient in setting up new market opportunities.

More broadly, experience working outside of farming brings wider benefits. Interview data show how this experience shaped the farmers’ skillsets and ability to overcome key

challenges facing agriculture. Farmers appeared to have strong capacities to manage and operate a profitable organic farming enterprise, regardless of its size and scale. Small-scale organic farmers appeared well-equipped to overcome challenges also faced by conventional farmers. This included access to land and challenges gaining adequate capital access to compete in scale-driven markets. These farmers became involved in niche markets, finding novel ways to reach their consumers. For example, this could include box schemes, farm shops, farmers' markets and on-farm processing facilities. For example, one MOPS farmer stated: "We don't have loads of acres and we don't have access to cheap labour. So my feeling was that we needed to do something a little bit different and a little bit more high value at the end and something niche and I suppose that's where I got the interest in organic farming" (Interviewee, 5). More broadly in Ireland, farmers' markets appear to be an effective channel for selling organic produce, particularly because the customer base tends to share the ethos held by organic farmers [49]. When compared to specialised conventional operations, the data also show many of the organic farmers grow a diverse range of horticultural produce, which also needs to be supported by a wide skillset. This is an important approach, helping to spread risk and exposure to external forces, such as harsh weather which is unfavourable to horticulture or market fluctuations. Furthermore, interview participants also felt Ireland's green international reputation strengthens their platform on which to develop their organic enterprises. These activities combine to strongly support the farm income of interview participants.

This section may be divided by subheadings. It should provide a concise and precise description of the experimental results, their interpretation, as well as the experimental conclusions that can be drawn.

5. Conclusions

This paper identifies the positivity emerging and the opportunities presented by organic farming as a route to help increase farm viability in the Irish context. What has also become apparent is that there are opportunities, not only in the development trajectory of existing organic producers, but, importantly, that organic farming can act as a catalyst in attracting new entrants to the agricultural sector. This is a particularly important aspect as it will most likely become a vital contributor in ensuring that the ambitious and challenging growth projections for the industry which are set out in the European Union's Farm to Fork strategy are met. The MOPS project presents a model that can support the greater economic and environmental sustainability of organic horticulture in Ireland. The collaborative production it supports on farms assists horticulture producers to tailor their production to market demands. The focus on the increasing use of green cover crops and minimising external nutrient inputs supports a greater environmental sustainability. The social sustainability of the wider farming environment in Ireland is also supported by organic farming as a potential catalyst for greater levels of succession and the attraction of new entrants into farming.

The case study in this research also demonstrates how dealing with issues related to farm viability at the collective level is effective at improving viability, and has spin-off knowledge sharing and innovation benefits that also support this aim. The transferability of the case more widely within organic horticulture would likely have benefits, as the sector has market opportunities. Access to land also emerged here as an issue, alongside issues specific to succession, the need for tailored supports and dealing with the perception of organic farming.

Another important finding is the pathway into organic farming of the returning successor. This has relevance for policy. Targeted support that incentivises the returning successor could attract those back into farming who have left to pursue education and employment elsewhere. This is potentially a broader way forward for policy, which identifies different types of successors and new entrants, and targets supports specifically to their needs. However, there is also a need for further research understanding the specifics of how succession effectively occurs, and how new entrants get into farming. Research

exploring the categorisations (the six types of new entrant and five types of successor) identified by the EIP-AGRI [20] Focus Group on New Entrants into farming is perhaps a potential starting point towards understanding the needs of successors and new entrants more specifically

The MOPS case study also demonstrates the potential of group cooperation to support farm viability and succession. The capacity for collective groups to support smaller, emerging sub-sectors of farming to meet their knowledge needs (e.g., speciality beef producers, hemp growers) alongside supporting supply chain innovation emerges as a potentially important focus of supports worth further examination.

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