Alternative farming models in Argentina, New Zealand and the Netherlands: comparative reflections

Modelos agrícolas alternativos en Argentina, Nueva Zelanda y Holanda: reflexiones comparativas

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Abstract
The consolidation of the conventional production model worldwide, especially linked to the implementation of a technological package derived from the so-called Green Revolution, has been subject of study and analysis in recent years. Concomitantly, alternative productions are emerging. In this context, there are not many studies that explain in a comparative way how different countries approach these alternative responses. This article analyses alternative responses to conventional production model in Argentina, New Zealand and the Netherlands considering the public treatment of this issue, through regulations, programs and public policies. The methodological nature of this

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study is qualitative, based on previous studies by the authors, sources of secondary information and in-depth interviews. Main results show that: the three case studies, immersed in dissimilar socio-historical contexts, generate differential alternative responses to the conventional production model; the motivations for this are specific to each case, as the interest in consuming healthy and safe food, the care of the environment and better prices for the farmers; in all three cases, the current coexistence of alternative and conventional productions is corroborated. The alternative proposals tend to bring more holistic views of food systems, in which the members of the community are at the same time actors and beneficiaries of the transformations unfolding around them. By identifying and comparing the different emerging alternatives in three countries with such dissimilar characteristics, it is possible to reflect on the way in which problems and solutions around agricultural food systems are perceived, providing useful insights for strategic planning.

Keywords:
INNOVATIVE FARMING; AGRI-FOOD SYSTEM; SUSTAINABILITY

Resumen
La consolidación del modelo productivo convencional a nivel mundial, especialmente ligado a la incorporación de un paquete tecnológico derivado de la denominada Revolución Verde, ha sido objeto de estudio y análisis en los últimos años, dando espacio a numerosos cuestionamientos. Concomitantemente, emergen producciones alternativas. En este contexto, no son frecuentes los estudios que expliquen de forma comparativa el modo en que distintos países abordan estas respuestas alternativas. Este artículo analiza las alternativas al modelo de producción convencional en Argentina, Nueva Zelanda y Holanda considerando el tratamiento público de este tema, a través de normativas, programas y políticas públicas. El carácter metodológico de este estudio es cualitativo, basado en estudios previos de los autores, fuentes de información secundaria y entrevistas en profundidad. Los principales resultados muestran que: los tres casos de estudio, inmersos en disímiles contextos socio-históricos, generan respuestas alternativas diferenciales; las motivaciones para ello son específicas de cada caso, destacándose el interés por consumir alimentos sanos e inocuos, el cuidado del medio ambiente y mejores precios para los agricultores; en los tres casos se corrobora la coexistencia actual de producciones alternativas y convencionales. Las propuestas alternativas tienden a traer visiones más holísticas de los sistemas alimentarios, en las que los miembros de la comunidad son a la vez actores y beneficiarios de las transformaciones que se desarrollan a su alrededor. Al identificar y comparar las diferentes alternativas, es posible reflexionar sobre la forma en que se perciben los problemas y las soluciones en torno a los sistemas agroalimentarios.

Palabras clave:
AGRICULTURA ALTERNATIVA; SISTEMA AGROALIMENTARIO; SUSTENTABILIDAD

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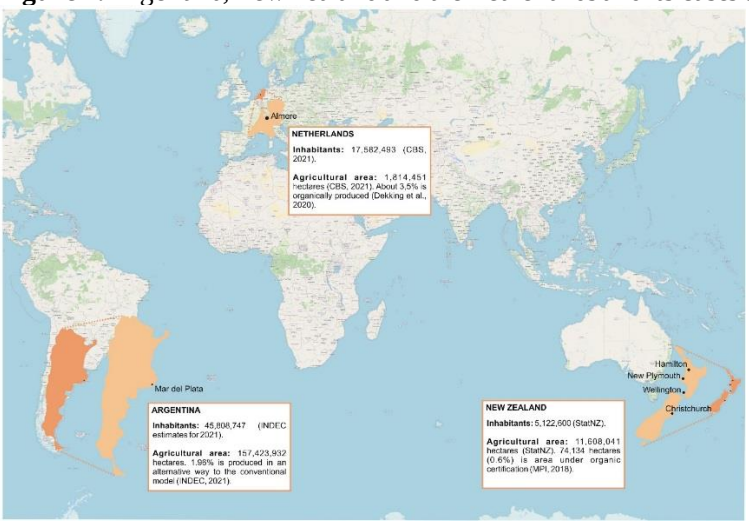
1. Introduction

Agriculture has been undergoing a sustained process of intensification in many parts of the globe. This intensification offered a rise in food production capacity and availability of food, however, the environmental, social, economic, cultural, and human health consequences of such intensification raise serious questions about the prevailing farming model. This has generated vigorous debates among those who see the need for change and those that seek to maintain the status quo. Consensus is growing among the different social and institutional actors, both public and private entities, on the need to find alternatives that incorporate more social and sustainability perspectives (HLPE, 2019). The need for solutions links with the Sustainable Development Goals (SDGs) specified in the United Nations (UN) 2030 Agenda. Specifically, it links to SDG 2, which aims to reduce hunger and ensure access to nutritious food by promoting productive practices that conserve biodiversity, support for smallholder farmers and equal access to land, technology and markets. There are also linkages with SDG 12, which focuses on responsible productive and consumption practices, with the aim of achieving sustainable management and efficient use of resources. The SDG 2, *Zero hunger* states that If done right, agriculture, forestry, and fisheries can provide nutritious food for all and generate decent incomes, while supporting people-centered rural development and protecting the environment. However, it warns, a profound change of the global food and agriculture system is needed if we are to nourish the 815 million people who are hungry today and the 2 billion that expected to be undernourished by 2050 (UN, 2019).

Alternative food systems are being explored, proposing pathways towards local development, more renewed relations between different social actors and food systems and better relations with the natural environment (Molpeceres *et al.*, 2021; Blay-Palmer et al, 2018, Opitz et al, 2016). How these alternatives, enabled by conducive policies, could promote healthy, sustainable and inclusive food systems is now a major concern for both governments and civil society (Place *et al.*, 2021; Blay-Palmer et al, 2018). Some of those alternatives include *sustainable agriculture*, *organic agriculture*, *urban agriculture* or *agroecological agriculture*. These take several manifestations according to time, place and farming groups. While sustainability challenges associated to food systems are common to many places, their relative importance as well as the dynamics of the solutions are context

specific. Countries and regions face very different issues like the need to reduce the use of agrochemicals, to strengthen ecological intensification of traditional production systems or to scale up scattered agroecological experiences (TPP, 2021). Here we look at how aspects such as public policies and markets have been supporting or not the evolution of alternatives systems in three countries Argentina, New Zealand and the Netherlands (Figure 1). We focus mainly on peri-urban and urban farming, and look at some of the opportunities and challenges they face (Figure 2).

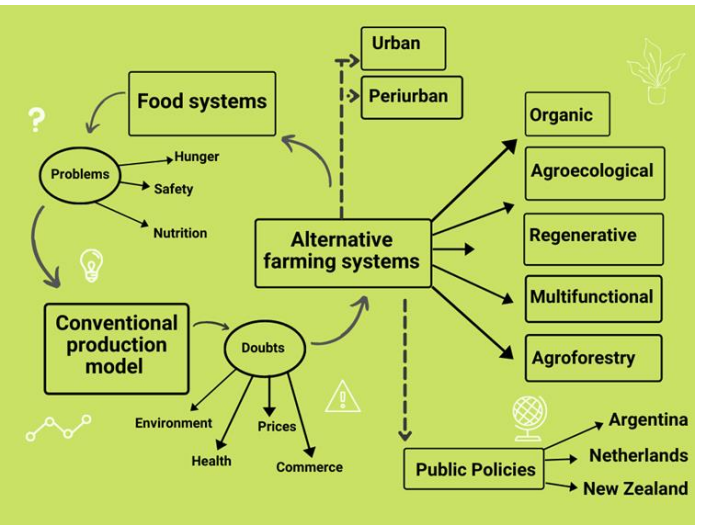
Figure 1: Argentina, New Zealand and the Netherlands and its cases of study



Source: authors' elaboration.

These are countries with different socio-economic conditions, which influences how alternatives systems are evolving. Low and medium-income countries, such as Argentina, face a number of inter-linked sustainability challenges. In particular, food systems have to provide food and nutrition security, decent jobs and incomes and to adapt to climate change, in a context where government budgets are constrained. Agroecological approaches are increasingly recognized as relevant solutions for ensuring sustainable food production and food security (HLPE, 2019). In countries with the highest income level, such as New Zealand and the Netherlands, the challenges of finding alternative forms of production are also multidimensional, with climate change and water pollution now at the top of the political debate (Climate Change Commission, 2021), in contexts of more stable economies.

Figure 2: graphical abstract of the paper



Source: authors' elaboration.

To explore similarities and differences between the three countries, this article is divided into two main sections. The first section presents a review of the temporal trajectory of alternative production models in each of the selected countries, illustrated local cases of urban and peri-urban agriculture settings. Then, in the discussion, a comparative analysis is presented, which will allow to open new questions and draw conclusions. A series of final reflections are presented at the end.

2. Materials and methods

This work proposes to address cases, based on the notion of alternative agriculture, understood as those systems or practices that try to balance environmental protection, sustained soil fertility, stable yields, and natural pest control, through the design of diversified agro-systems and the use of low input technologies (Altieri, 2009). We regard these productions as alternatives to the conventional model, understanding the latter, according to Marasas (2012), as the type of agriculture that is produced by applying agrochemicals and in which products are marketed through brokers. This type of production tends to be guided by profits maximization drivers, with a reductionist and short-term view of the system, high dependence on external inputs and standardized farming guidelines, prioritizing products with visual quality attributes.

In this study we put the focus on how these alternative agricultures are developing in urban and peri-urban areas. To help us in our understanding of the drivers of this development, we did a comparative analysis of three contrasting countries: Argentina, New Zealand and the Netherlands.

Alternatives to the dominant model come in a variety of forms (Wanzenböck et al., 2020). Some of them put emphasis on promoting food sovereignty on small family farms, while others seek to reduce the use of agrochemicals to ensure food safety and lessening the consequences on the environment. In this study, we consider four families of alternative farming systems (Organic, Agroecological, Regenerative and Urban) as they are the most relevant in the in our focus countries. There are multiple overlaps between these systems, but there are also clear discrepancies (Altieri and Toledo, 2011; FAO, 2021; Gliessman, 2018). Urban agriculture is defined by where it takes place, that is in and around cities, and by being oriented to supply the city. Here, we consider it a type of alternative agriculture, with distinctive drivers and motivations. Urban agriculture tends to share many of the characteristics of the other alternatives, although the central preoccupation is reconnecting the social environment of the food systems. These new *alternative* proposals to the conventional production model are linked to the notion of sustainability, although the meaning of this concept does not have a general consensus (Molpeceres & Zulaica, 2020). The most widespread conception is linked to the idea of satisfying the needs of the present without compromising the ability of future generations to satisfy their own (Gallopín, 2003). Among the alternatives, stand out:

Organic agriculture, that has its origins in the early twentieth century from the thought of the American King and contributions of Steiner, among others. This type of agriculture arises in response to the damages derived from the conventional production model, especially by the use of agrochemicals and according to Altieri and Toledo (2011) and Souza Casadinho (2017), it uses biological pests' controls and organic fertilizers derived largely from animal and plant waste and cover crops that fix nitrogen. This proposal, while presented as an environmentally friendlier alternative to conventional production, is currently the subject of numerous questions. Some Latin American authors (Altieri and Toledo, 2011; Souza Casadinho, 2017), consider that, while chemical synthesis inputs are replaced, it does not constitute the radical departure from current systems that would be needed. This situation involves the purchase and permanent use of fertilizers, seeds, chemicals for pest control, permitted according to regulations controlling this type of production. It is also based on certifications

systems, usually oriented to the foreign and/or high-income markets. Guzmán and Morales (2011) argue that, beyond the agronomic advantages of this model, it does not really address sustainability problems at the agro-ecosystem level or the agro-food system as a whole.

Agroecology, that is gaining strength as a workable alternative proposal. It is a movement with a strongly Latin American character. Agroecology was enunciated by Altieri in 1982 as a guide to achieving sustainable agriculture (Altieri, 1982). It is a form of agricultural production crossed by an intrinsic consideration of the environment and the social systems involved. Under this paradigm, agricultural ecosystems should be directed towards a holistic management of soil, energy, biological, economic and social variables. The central objective is to develop agro-ecosystems with minimal dependence on agrochemicals and energy subsidies, emphasizing biodiversity, ecosystem services and complex reasoning. Ecological interactions and synergisms among biological elements create mechanisms for systems to provide fertility and protection of soil and crops while maintaining productivity (Altieri, 2009). Sevilla Guzmán deepens the argument by defining agroecology as the ecological management of natural resources through forms of collective social action that introduce alternatives to the current social crisis (Sevilla Guzmán, 2011). This political dimension requires consideration of both the relationships operating at the various scales (farm, community, region, major and local society) and among the actors and knowledge systems involved (local, peasant and/or indigenous, as well as academic). This rich fabric of ideas looks for ways to enhance ecological and sociocultural biodiversity in order to achieve more sustainable societies (Sevilla Guzmán, 2011). Gliessman (2018) describes agroecology today as the integration of research, education, action and change that brings sustainability to all parts of the food system: ecological, economic, and social. On the other hand, according to FAO, agroecology is a holistic and integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of sustainable agriculture and food systems. It seeks to optimize the interactions between plants, animals, humans and the environment while also addressing the need for socially equitable food systems within which people can exercise choice over what they eat and how and where it is produced (FAO, 2021).

Regenerative agriculture, there is no single definition of the term, but according to Regeneration International, Regenerative Agriculture describes farming and grazing practices that, among other benefits, reverse climate change by rebuilding soil organic matter and

restoring degraded soil biodiversity – resulting in both carbon drawdown and improving the water cycle, and includes practices that (I) contribute to generating/building soils and soil fertility and health; (II) increase water percolation, water retention, and clean and safe water runoff; (III) increase biodiversity and ecosystem health and resiliency; and (IV) invert the carbon emissions of our current agriculture to one of remarkably significant carbon sequestration thereby cleansing the atmosphere of legacy levels of CO^2. RA draws practices from several alternative systems, being more outcome-focused and principles-led rather than defined by specific practices (Grelet et al., 2020). Interestingly, according to Regeneration International, regenerative agriculture includes organic farming and agroecology. And Greenpeace's website reads that RA is also known as *agroecology*, *ecological* and *biological* and includes farms operating with the market certifications of biodynamic and organic. The word regenerative is not only applied to agriculture, and it is part of the broader concept of *circular economy* (Geisendorf and Pietrulla, 2018). In this context, regeneration refers to the idea of renewing and revitalizing energy and materials (Cole, 2012), aiming for creating waste-free systems. According to Cole (2012), regenerative design was pioneered in architecture by Lyle (1996) and Rodale (1983) in agriculture.

Urban agriculture, is defined by where it takes place, that is in and around cities, and by being oriented to supply the city. Here, we consider is a type of alternative agriculture, with distinctive drivers and motivations. While Organic, Agroecological and Regenerative are ways of productions (as distinct from conventional ways of farming), Urban farming represents ways to reconnect the social environment of the food systems (as opposed to the long anonymous food chain of conventional farming). Urban agriculture tends to share some of the characteristics of the other alternatives mentioned above, except for some high-tech versions now emerging, such as hydroponics or vertical farming. The latter are not the focus of this study. The idea is not new. The classic book *Garden Cities of Tomorrow*, by the English author Ebenezer Howard, originally published in 1902, is often cited. However, a new impetus is observed, with city authorities increasingly seeking to re-orientate their urban peripheries as local food supplier (Blay-Palmer, Santini et al. 2018). This urban re-orientation is on the one hand driven by an emerging urban responsibility -how to feed cities sustainably- and is on the other hand motivated by a sense of insecurity about the fragility of the current food system which highly dependents on global sources, and is dictated by long and complex supply systems. The fragility of these supply systems becomes explicit when the global food system is under pressure due to disturbances that might affect

urban food supply, like geopolitical crisis's, natural disasters, climate change or pandemics, such as the recent outbreak of Covid-19 illustrates (Langemeyer, Madrid-Lopez et al., 2021). Many cities, led by harbingers like the members of Milan Food Policy pact, expect that an improved orientation on local or regional food provision could help to mitigate the impact of these global disturbances and thus contributes to a more secure and resilient local food system (Opitz, Berges et al. 2016, Blay-Palmer, Santini et al. 2018). The current urban agriculture movement in the global North originated started in the 1970s in the USA (Ilieva, 2016). It is a movement driven from outside traditional agriculture, by newcomers with predominantly urban background looking for a reconnection with food/food production and with help of real estate crisis (2008-2014) which left vacant lots within urban areas. It is argued that the production of fresh fruits, vegetables and animal products in cities can improve local food security and nutrition (Altieri, 2020).

The methodological nature of this study is qualitative. Previous work carried out by the authors helped to build a first approximation of the interrelationships among the studied cases. From this, information from secondary sources was collected, systematized and analysed, this included research and specialized media articles, laws, statutes, regulations and relevant regulatory framework of the activity.

Primary information was produced through in-depth interviews with farmers, government officials, extensionists, rural professionals, researchers and other key actors in the sector, conducted between April 2020 and August 2021. These interviews allowed a closer look at the processes as they unfold. Rather than statistical representativeness, the sampling sought for a broad variety of experiences. The integration of quantitative data with the views of the diverse actors in the fields allows for a more nuanced understanding on the process. Data collection resulted in very diverse types of information, mostly narrative and descriptive. The information collected through consultation with key informants was compiled and summarised using a double entry table. Data was arranged and coded to facilitate comparison between cases. The analysis and presentation of the results was organized around three main axes for all cases: identification of the predominant productive alternative; review of regulations, public programs, and private schemes supporting it; and exemplification based on a locality/region of each country.

As mentioned in the previous section, the selection criteria of the three case studies relates heterogeneity between them, in terms their degrees of development, the agro-climatic conditions and agricultural public policies.

3. Results

3.1 The case of Argentina

3.1.1 Trajectory of policy for the promotion of alternative productions

In Argentina (46.234.830 inhabitants according to INDEC estimates for 2022), located in South America, agricultural production occupies a prominent position in the economy of the country. The contribution of the agro-industrial sector to the national GDP was 24% in 2020, and 20% of this percentage corresponds to cropping activities (Pisani Claro et al., 2020). According to data from the last National Agricultural Census (INDEC, 2021), agricultural holdings occupy a total area of 157,423,932 hectares (ha) in the country, of which 33,182,640 ha correspond to an area planted in crop. A significant proportion of the resulting production is meant for foreign trade. There, the application of agrochemicals to protect crops and control diseases, pests and weeds is a common practice. However, in recent years there has been an emergence of alternative productions, among which agroecological production stands out with special emphasis on peri-urban areas, close to urban centres.

Like in most parts of the world, the adoption of *green revolution practices* in Argentina resulted in the implementation of a type of modern, input-dependent agriculture. This brought significant increases in the yield of the main crops, but also came with large environmental and social problems that put at risk the productive capacity in the long-term, and the environmental integrity. A dual dynamic is at play, with an export-oriented agribusiness sector supplied by medium to large scale operations, on the one hand, and in the other, large numbers of diverse actors with small and medium-sized holdings and whose production is largely intended for self-consumption and surplus to local markets (Molpeceres *et al*., 2021).

According to data from the last National Agricultural Census (INDEC, 2021), 1.96% of the country's agricultural holdings produce in somehow alternative ways to the conventional model, of which 48% correspond to organic agriculture, 44% to agroecological agriculture and 8 % to biodynamic agriculture.

3.1.2 First approach to organic production, the first alternative considered

At the beginning of the '90s, the intensification of concerns from civil society and the scientific community regarding the damage to human health and the environment caused by modern agriculture- such

as air or water pollution - derived from the excessive use of agrochemicals, resulted in an increase in rules and regulations on their use.

In Argentina, some producers, members of environmental organizations and consumers began to come together, institutionalizing spaces such as the Center for the Study of Organic Crops (CENECOS), and publishing some of their work (Schnitman and Lernoud, 1992).

At the national level, the regulations to control the use of agrochemicals, timidly began to be complemented by those aimed at strengthening alternative productions. During the 1990s, policies were mostly oriented towards of organic production, in general directed to high-value markets (Figure 2). This type of production was intended for affluent market niches. Among the actors behind organic agriculture, we can mention the large supermarket chains, and some niche retailers, chambers of commerce and consumers, certification firms, associations of producers and exporters of agricultural products, and food processors. The basic idea was to offer assurance to wealthy consumers regarding the safety and health benefits of organic foods. However, at the end of 90's, a National Law (Law 25127 on biological, ecological and organic production) begin to recognize other types of alternative productions systems in addition to organic, such as ecological farming.

3.1.3 Strengthening organic production

During the 2000s the number of regulations concerning alternative productions was still limited. After the 25127 law, very few new regulations or public policies in this regard were sanctioned. Despite the slow pace in public policy, it is possible to identify some events driven by civil society and the private sector. Organic producer organizations, for example, were formalized to share experiences, training and to coordinate sales. Another important development was the creation of the Argentine Chamber of Certifiers and Related Activities (CACER), among private organizations providing third-party certification services. Likewise, the SOA (Argentine Organic Sector) was formed (IICA, 2009), which brought together organic producers with the aim of unifying the positioning of the sector in the public sphere. In terms of public policies, preferential export-tax rates were introduced, especially for organic cereals and oilseeds. This policy gave impetus to the organic sector (Patrouilleau et al., 2017).

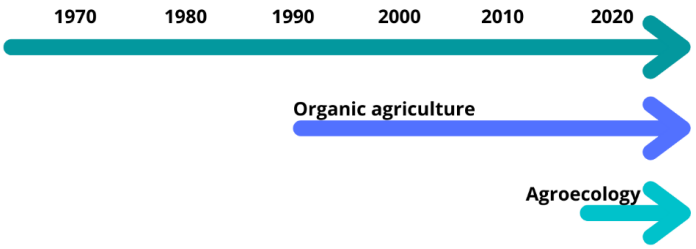
During those years, despite the recognition of other types of alternative production in the law, the scarce regulatory activity and public support was mostly oriented towards certified organic

production. At this stage, however, initiatives from the private sector and civil society begun to emerge around other alternatives.

3.1.4 Turning towards agroecology

At the beginning of the 2010s, there was an increase in policy activity around alternative productions (Figure 3). Some local governments established standards for the production and certification of organic or ecological products. As before, legislation mainly focused on regulating and promoting certified organic production. These regulatory instruments had a commercial focus, rather than supporting the development of sustainable agricultural systems.

Figure 3: types of alternative agriculture promoted in Argentina



Source: authors' elaboration.

Although initially policies pointed to organic production, even linking national regulations to the requirements of external markets, such as the European Union, there were some elements in those policies that allowed us to notice changes in public policy making. For example, in the mid-2010s, the *Law on Family, Peasant and Indigenous Agriculture* was sanctioned, which recognized the need to conserve and improve soils and other natural resources under the implementation of active policies that prioritized agroecological practices. More recently, in 2020, the Ministerio de Agricultura, Pesca y Ganadería created the *Dirección Nacional de Agroecología*. It constitutes an innovative institutional space, dedicated especially to the design of an action plan to promote agroecology across the country. Indeed, the Dirección Nacional de Agroecología[127], instead of promoting organic production, oriented to a specific market niche, aimed to promote models that incorporated the notion of ecological, social and economic sustainability. The focus here is on developing appropriate technologies, respectful of ecosystems and the inclusion of ancestral

[127] https://mapadelestado.jefatura.gob.ar/estructura_oescalar.php?n1=007

knowledge and practices, and crucially, producing without agrochemicals.

3.1.5 The case of General Pueyrredon distrit (Buenos Aires, Argentina)

The district of General Pueyrredon is situated in the southeast of the province of Buenos Aires. The horticultural belt around the city of Mar del Plata is considered the second most important in the country, in terms of cultivated area, volumes produced, and also in the amount of labor employed. Although official data is scare, Adlercreutz y Szczesny (2013) estimated that about 1,000 farming operations exist in the area, with around 13,000 workers directly involved. This belt comprises a strip that covers approximately 9,000 hectares (ha) in open fields crops and 1,600 ha under greenhouses, according to 2019-2020 data from local municipality. According to the same source, the approximate yield is 22 (tn/ha) on average for the period indicated, with the domestic market being the main destination for this production.

During the last two decades, the horticultural activity was crossed by tensions and controversies around the production model, many of them associated with the use of agrochemicals. In this scenario, while numerous commercial-scale farms began a process of transition to practices with lower environmental impact, other alternative experiences to the conventional production model emerged offering different perspectives on sustainability.

In the 2010s the Municipality of General Pueyrredon institutionalized a *Sustainable Territorial Development Program* (PDRS)[128]. It aimed to generate a process of transition, based on good agricultural practices, towards agroecological production and integrated management. It sought the strengthening and autonomy of production systems and therefore of producers, moving from a model based on *input technology* to another based on *process technology*. Likewise, a municipal ordinance defined a suburban *Transitional Strip* of one thousand meters from the limit of the urban centers, where the application of synthetic agrochemicals is restricted, and the producers included in that area had to register with the PDRS.

The study by Molpeceres *et al*. (2020) found that the group of horticultural farmers identified as alternative producers, in the case of General Pueyrredon district, concur on the rejection of the use of agrochemicals. As well as this, they also agree on the importance of implementing various practices falling under the "sustainable" banner. Preliminary results of a recent survey in the district indicate the

[128] https://www.mardelplata.gob.ar/desarrolloruralsustentable

existence of 20 agroecological farmers applying agroecological principles to some degree at commercial scale (Molpeceres *et al*. 2021).

The group of interviewees that we call 'alternative farmers' is composed of small enterprises, and in 80% of cases perceive themselves as agroecological[129]. The remaining percentage define themselves as *permaculturists*, *natural producers* or *biodynamic producers*.

Together, these farmers represent a very small proportion of the horticultural belt, with a total of 24 ha in open-fields and 6 ha under greenhouses. The farm size ranges between 100 m^2 to 6 ha, with 80% cultivating an area equal to or less than one ha, while more than 90% include greenhouses of less than 1 ha in size.

3.2 The case of the Netherlands

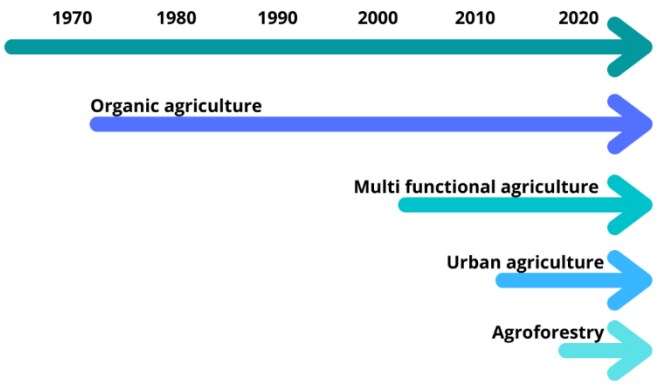
In Europe, the total surface area of the Netherlands is 4.2 million hectares, including inland and open water, about 50% of the total area or 66% of the land surface (i.e., 2.0 million ha) of this densely populate country (about 500 residents per m^2), is used as agricultural land (CBS, 2019). In 2020, about 53,000 enterprises farmed at these 2 million ha, of which is 1,2 million ha grow fodder crops and grassland, about 0,5 million ha is in arable crop and the remainder in horticulture, i.e., flower, vegetable and fruit crops. Dutch agriculture faced a significant increase in scale of operation. In the period 1980-2020, the number of farms decreased by 63 %, while in the same period the surface area of agricultural land decreased only by 10 %. Notwithstanding it's limited area of agriculture, the Netherlands is a competitive player at the global food market. It is the second-largest exporter of agricultural goods in the world after the United States. In 2018 the export value was EUR 90.3 billion, about 20% of the total Dutch exports of goods (CBS, 2019). The main products exported are dairy and egg products, meat and vegetables.

The strong position of Dutch agriculture is rooted in the period after the WOII when the context as well as the practices of Dutch agriculture dramatically changed. The era of 1950s till early 1970s can be circumscribed as a period in which Dutch agriculture strongly modernised. Grin et al. (2010) depicts three institutional changes leading to the modernisation of the Dutch agriculture. First, the governmental policies got strongly embedded in the so-called *Iron*

[129] For more information georeferenced database of innovative farmers from General Pueyrredon and surroundings, available at: https://www.google.com/maps/d/u/0/viewer?mid=1pdxz0cXqsj5ozBaZlhJYcI50L4rxAstd&ll=-37.98990432654833%2C-57.63645002110914&z=11

Triangle, consisting of farmers' organisations, the Ministry of Agriculture and agricultural specialists in the national Parliament (Grin et al., 2010). Second, the practical modernisation of agriculture was stimulated through and entrenched in a triangle of research, dissemination and education. Market orientation from short production-consumption chain to a complex and long web of actors is considered as the third institutional change (Grin et al., 2010). Between 1950 and 1990, the volume of the added value of Dutch agriculture averaged a nearly 3.5 % increase yearly (Berkhout et al, 2011). Growing concerns about its sustainability (pesticide use, over-fertilisation, over production, food scandals) put outside pressure on the Dutch agro-food complex. Pressure from inside came with the deterioration of the triangles of farmers organisations, the Ministry of Agriculture and agricultural specialists in the national Parliament and the research, dissemination and education triangle, over the last decades of the 20th century and first decade of 21st century (Grin et al, 2010). Pressure from outside was organised by societal and environmental groups, as well as alongside alternative developments outside the dominant agro-food regime, like the organic, multi-functional and urban agriculture movement (Figure 4). The organic agriculture evolved from the alternative (hippie) food movement of the early 1970's towards an alternative to the conventional farming in the Netherlands. In 2018 organic farming covered 74,000 ha or about 3,5 % of the total Dutch farmland (Dekking et al, 2020). In the 1990s, multi-functional farming emerged from farmers looking for alternative economical pathways outside the dominant agro-food regime. Multi-functional farming seeks for new socio-economic relations with society through farm-related services, like on farm sale, health care, leisure, or education. In 2018 already 25% of the Dutch farms offered multi-functional services, which makes multi-functional farming a substantial economic activity (Van Der Meulen et al, 2019). The 2000s urban agriculture is rooted in the urban alternative food movement in which urban dwellers try to reconnect with the origin of food. The social-cohesion-driven community gardens, the technical innovation-driven vertical farms, as well as the commercial-driven urban farms are all exponents of this movement. The recent development of agroforestry in the Netherlands represents farm management systems in which (fruit or nut) trees or shrubs are grown around or among field crops, pastureland or are concentrated in so called food forests. Agroforestry is seen as an ecosystem service that contributes to biodiversity as well as crop resilience.

Figure 4: type of alternative agriculture promoted in Netherlands



Source: authors' elaboration.

3.2.1 The case of Oosterwold

Oosterwold is a new peri-urban area situated at the fringe of the city of Almere. Almere is found at the eastern outskirts of the Amsterdam Metropolitan Area (MRA). Almere is a new town, designed and planned in the early 1970's in the Southwestern part of the province of Flevoland. Today the city accommodates about 210,000 residents. However, the city is expected to expand over the next 20 years, because of the lack of room to develop build-up precincts in the MRA. Part of this expansion, approximately 4,300 ha peri-urban polder land, will transform into a hybrid rural-urban area that offers room for 15,000 new homes towards 2030 (Jansma and Wertheim-Heck, 2021). The new area comprises parts of the municipality of Almere (first phase, 1,300 ha) as well as the municipality of Zeewolde (second phase: 3,000 ha). Two key features of this new area mark it as a watershed to traditional Dutch urban and spatial planning. The first feature is the self-organisation of the area, i.e., the residents take the lead in organising and developing their residential plots. Self-organisation in Oosterwold includes not only the design and construction of residents' homes, but it also comprises the self-organisation (whether individually or cooperatively) of all kinds of auxiliary infrastructures and facilities (from roads to schools) normally provided by municipalities or real estate developers. The self-organisation is formally guided by a set of rules and regulations to which the residents must comply. The authority's position is to monitor if the residents adhere to the rules. The second unique feature of this area is that at least 50% of it is earmarked urban agriculture. The remainder is allotted for dwelling and commercial

activities (30 %) and infrastructure, nature development, water infrastructure and public green (20 %). In practice this implies that each new land-owner in Oosterwold is obliged to reserve at least 50% of his/her plot to agriculture. To control the development of Oosterwold, authorities developed a 'parcel passport', a kind of contract which binds every new land-owner in Oosterwold to all the spatial organisation and additional development rules of his/her specific plot (Jansma and Wertheim-Heck, 2021).

The Oosterwold planning, in which the new residents, as future urban farmers, take the lead in self-organising this place, is embraced by a growing group of new residents. In 2016 the first residents settled in the first phase of development. Early 2021, about 2,000 people reside in this area, predominantly people with an urban background. Most of the current residents, predominately inexperienced, and unskilled entrants in (urban) agriculture, interpret urban agriculture at their plot as a hobby -kitchen- gardening (Jansma and Wertheim-Heck, 2022).

3.3 The case of New Zealand

In New Zealand (5,122,600 inhabitants), Oceania, according to a recent report by StatsNZ (2021), about half of the total land area is used for agriculture, forestry, and housing (exotic grassland 40%, exotic forestry 8%, cropping & horticulture 2%, while and the rest remains under native land cover 49%). In the New Zealand economy, in the year ended March 2021, the food and fibre sector represented 82.7% of merchandise exports; employed 14.1% of the total workforce and accounted for 11.3% of the GDP (MPI, 2021). Agriculture enjoys the benefits of a benevolent climate, abundant natural resources, which the country has leveraged over the years by developing a *clean-green* image in the international markets for agricultural products and tourism. The natural beauty of the country is one part of it, and another part is the sustained private and public effort to cultivate that image. An example of the latter is the *100% Pure New Zealand* launched in 1999, a tourism marketing campaign by Tourism New Zealand (2021). Supporting the 'clean-green' image, is the fact that most dairy and meat production is pasture based (predominantly perennial ryegrass), with animals expending most of the time grazing outdoors (Pinxterhuis, et al, 2015; Morris and Kenyon, 2014). New Zealand also has a very good reputation on food-safety standards and institutional quality (MPI, 2019).

3.3.1 Conventional agriculture

The country's agriculture has always been strongly oriented to exports, particularly of wool, meat and dairy products. It was originally highly dedicated to the British markets, which, up to the 1970's took nearly three-quarters of all New Zealand's agricultural exports (Jones and Mowat, 2016). Until the 1980's, agriculture was highly regulated and subsidized. This changed radically in 1984, when sweeping neo-liberal reforms deregulated markets and eliminated all subsidies (Jones and Mowat, 2016). Nowadays, New Zealand products reach many countries, the biggest export markets being China, Australia, EU and US (OECD, 2021). Dairy and tourism are by far the biggest export earners, about doubling in value the meat sector which comes third (StatsNZ, 2021).

Pressures on this economically successful model have been steadily growing however, as evidence on their negative aspects emerge, in terms of its impacts on freshwater systems, greenhouse gas emissions (Jay, 2007, Foote, Joy and Death, 2015, Romera et al., 2020) and animal welfare compromises. This is translating into an increasingly stringent regulatory environment and pressures from civil society to change. Apart from regulatory changes, the government is trying to support change in several ways. For example, The Primary Sector Council was established in 2018, to provide strategic leadership to enable the Food and Fibre sector to respond to challenges and opportunities arising from consumer expectations, new technologies and environmental pressures, and was active for two years (MBIE 2019, MPI, 2020b). Members included leaders from across the primary sector, and their roles were to providing strategic advice to the Government, and developing a sector-wide vision. In June 2020, the Government released two reports prepared by the Council, the *Vision and strategy for the food and fibres sector* (MPI, 2020a) and *Te Taiao framework and pathways* (MPI, 2021). Both recognize the need for change. These are very high-level strategic documents, however, which need a lot of work and anchoring before they translate into actual change. Interestingly, none of these documents mentions organic farming or any other alternative forms of agriculture.

3.3.2 The main alternative

Organic farming has a long history in New Zealand, beginning formally with the Zealand BioDynamic Farming and Gardening Association founded in 1939 and the Humic Compost Club Soil and Health Association) a couple of years later. More recent developments

include the first organic certifier (BioGro) established in 1983, and the formation of Organics Aotearoa New Zealand (OANZ) in 2006 as an umbrella organization (Mason, 2010). The growth of organic farming has been noticeable, but it is still small compared to the incumbent system and, similarly to it, focused on high-value export markets (Jones and Mowat, 2016). Europe, North America and Australia are the primary markets, with 69% of all exports (Epps and Wheeler, 2020).

There are several certification schemes, the largest being BioGro and AsureQuality Limited (Epps and Wheeler, 2020). The Official Organic Assurance Programme (OOAP) provides government assurance that export consignments are in accordance with the terms of equivalence agreements with importing countries when they exist (MPI, 2014). New Zealand does not have specific government regulations for organics at this point. The main pieces of legislation regarding food production in NZ are the Food Act 2014, the Animal Products Act 1999 and the Fair Trading Act 1986, but they do not mention organic farming explicitly (Epps and Wheeler, 2020). Only in 2020, the Organic Products Bill was introduced to parliament (MPI, 2021).

Other than the above-mentioned Organic Products Bill, the NZ government does not offer support for farmers to transition to organic farming, and agribusiness in the conventional retail sector have not shown much enthusiasm (Jones and Mowat, 2016). Academic research has been limited, and much of the knowledge resides with established farmers and a significant number of private advisors (Mason, 2010). There are however, multiple training programs offered by tertiary institutions, such as the BHU Organic Training College, Southern Institute of Technology, and the Toi Ohomai Institute of Technology.

3.3.3 New developments

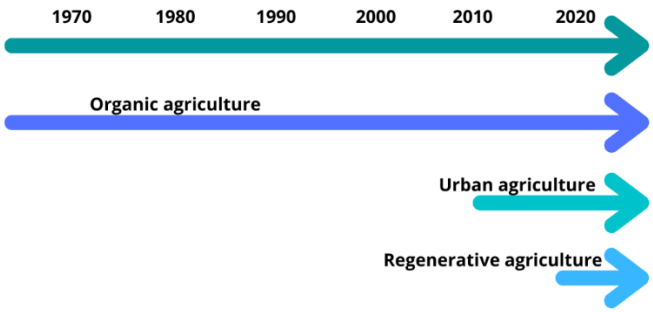
Organic farming has been the main alternative proposition to conventional farming until recently. In the last 2-3 years a new concept, Regenerative Agriculture (RA) has gained prominence in the public opinion. It is being strongly promoted in New Zealand by environmental NGOs like Greenpeace (2021). Academic interest has also been developing.

Unlike organic farming, which has been seen by the incumbent actors mostly as a harmless niche alternative, RA has attracted considerable controversy and heated arguments on grounds of: lack of scientific evidence (Rowarth et al., 2020; Anderson, 2020; Carey, 2020); exaggerated claims (Ravensdown, 2020); cost (Wyn-Harris, 2020); being antimodern (Edmeades, 2021); denting of the NZ brand

(Rowarth, 2020). Even organic farming groups are expressing concerns (ONAZ, 2021).

So, regenerative agriculture has emerged as a highly contested concept, with fervent proponents and detractors. It is also a fluid forming concept, with very different visions on what it should be. Time will tell whether RA solidifies as an alternative, or it become a buzzword, or gets co-opted by regime actors (Figure 5).

Figure 5: types of alternative agriculture promoted in New Zealand



Source: authors' elaboration.

Urban agriculture could be seen as another development that is slowly gathering interest in some urban centres in New Zealand. However, a recent study by Hanna and Wallace (2021) highlights the lack of specific attention to agriculture in urban planning and regulatory frameworks. They describe complex and fragmented policies that are very difficult to grasp and navigate for farmers. The same point is made by Rich, Rich and Dizyee (2018), focusing on the city of Christchurch. Even though they noticed a resurgence of urban agriculture after the 2010-2011 earthquakes, mostly in the form of community gardening, this is despite limited official support and bureaucratic and planning hurdles. In the next section we present results for a small study on urban agriculture that we conducted in New Zealand.

3.3.4 Case study

Instead of reporting on a particular territory, as it is the case for Argentina (section **¡Error! No se encuentra el origen de la referencia.**) and The Netherlands (section **¡Error! No se encuentra el origen de la referencia.**), here we extract some preliminary lessons from a small survey study of four urban/peri-urban farming enterprises across the country. We focused on commercial operations, rather than community-oriented projects like community gardens. The purpose was to understand more about urban farming systems, including their

organisation, opportunities and challenges. More specifically, this study aimed to understand possibilities and limitations for UA in New Zealand and then identify opportunities for technological solutions. We also interviewed three researchers, one retailer and member of a local government to help add context to the findings. The survey was conducted between Dec 2020 and Jan 2021, mostly online, and consisted of semi structured interviews lasting approximately one hr.

We found that all farmers had less than 10 years in urban farming, although some had done related work in the past. One of the interviewees, for example, worked with his father, who was an arborist while growing up and later in a plant nursery during his time at university (doing an arts degree). Another participant, trained as a molecular biologist, got very interested in composting, which led him to join an urban agriculture project. Two of the participants had previous experiences in *tractor-size* organic farming. These are all small operations, ranging from 1,500 m^2 to 1.3ha.

Only one of the operations was certified organic, but all of them made a point of not using any pesticides or chemical fertilizers. This seemed to be one of the key elements motivating them to produce food, for themselves and for their communities. Compost plays a key part in these operations, which they obtain from various sources, such as municipality recycling systems and commercial operators. One of the cases runs a parallel composting business, which collects organic matter from the neighbouring area, for example shredded paper from a hospital a few meters away from the farm. Permaculture was mentioned often as a farming style that guided their practices and the design of their operations.

All the operations concentrate on short circuits, using a variety of commercialization mechanisms. The interviewees mentioned box schemes (using ecommerce platforms), farmers markets and Community Supported Agriculture schemes, and to a lesser extent direct sale. Sometimes the same operation would utilize more than one mechanism. All the participants mentioned enjoying the direct contact with their clients, but recognized that commercialization of their products took a disproportionate amount of time.

4. Discussion

During the 20th century agricultural systems evolved into globalized agro-industrial complexes (Pérez and Razz, 2009). Agriculture morphed from producing food to producing commodified ingredients for those agro-industries. In recent years, a counter movement has begun to gain strength, led by a variety of actors and

social movements. Groups among consumers are reacting against the globalizing paradigm, and beginning to re-value products, from alternative production systems strongly guided by sustainably drivers and that incorporate local specificities (Muchnick, 2006). These processes and counter-processes are taking place on the three countries analysed in this article, although with clearly distinct characteristics and trajectories, as discussed below. Table 1 summarizes characteristics of the systems in the countries that we considered relevant for this discussion.

Although conventional production model is still running in the three cases studied, when comparing the trajectory of the alternative farming responses in Argentina, New Zealand and the Netherlands, we observe that Argentina incorporates certified organic production later than the other cases. While New Zealand and the Netherlands were already producing organic in the 1970s, it is only in the 1990s that Argentina strengthens this type of production. Likewise, for Argentina it is a question of production mainly oriented to the foreign market, while New Zealand and the Netherlands show a previous trajectory with respect to this type of production, with a greater focus on the domestic market. Despite the differences, certified organic production is a common innovative farming to all three cases. The alternative responses after this are differentiated and adapted in a more specific way to the local socio-historical characteristics. In the Dutch case, since the 2000s multifunctional agriculture has been promoted and later urban agriculture and agroforestry. In the case New Zealand, around the decade of 2010s urban agriculture acquires greater relevance, followed by regenerative agriculture. Argentina was belatedly promoting agroecology as a productive alternative around the 2020s, associated with the idea of food sovereignty.

Table 1: comparative summary of some relevant characteristics of the agri-food systems of the three countries and of the case studies

	Argentina	New Zealand	Netherlands
Predominant "alternative" proposal	Agroecological at present Agricultural area: 157.423.932 hectares, 1,96% innovative farming (1% organic, 0, 93% agroecological, 0,06% other)	Organic at present Regenerative emergent Agricultural area: 11.608.041 hectares, 0,6% organic certification	Multi-functional agriculture Agricultural area: 1.814.451 hectares, 3,5% organic farming.
Main characteristics	- Small family producers (in general ≤ 5 ha.) - 50% landowners (approx.) - Short marketing channels - Production practices (according to TAPE -FAO- mostly. Use of bio inputs) - Participation in networks / social organizations of producers	- Targeted at high-value markets, particularly export - There are no specific mandatory standards for organics. They are being developed. - Four private certifiers, the most used is BioGro Organic Standards - Non-prevalent social aspect. -Environmental sustainability is the main discourse	-Socially, environmentally and economically integrated in city-region food system -Sort food supply chains (CSA, COOP's farmers markets, etc) -Additional services offered alongside food production (education, social-cohesion, biodiversity) -Diverse entrepreneurship Hobby, semi-professionals and professional Start-ups predominantly from outside traditional farming sector
More important location (rural, suburban, urban)	Peri-urban	Mostly rural	Urban and peri-urban
Main motivations	Mainly, lifestyle. Secondly, commercial reasons (demand) and regulatory restrictions	Mainly commercial, market advantage.	Re-connection between food farming and civilians, new markets
When did the model become relevant?	Between the '90s and 2015, organic prevails From 2018 to the present, agroecology	Historically, the organic prevails Other concepts are emerging	2000s
Are there any regulations?	Yes	Yes	Yes
Since when?	Agroecology especially since 2018	Long-standing, but always a very small segment of production	Long-standing
Public or private regulations?	Public	Private Publics in development	Public
Main characteristics	Between 90's and mid-2010's numerous regulations regarding organic (protocols, certifications, linked to international trade) They coexist with private certification companies Since 2018, institucional spaces for the promotion of agroecology (national and provincial -PBA-)	There are no specific public systems to regulate or promote organics specifically. There are four private certifiers Since 2018, the central government is working on a specific regulatory system. This would only include standards, but not promotions of the activity as such.	Spatial planning, zoning plans and environmental regulation In case of organic produce, the organic regulations Some cities have specific (and official) food plans/strategies which give space to urban agriculture initiatives
Case study to characterize	Horticultural production in General Pueyrredon	Hamilton; Taranaki; Wellington; Christchurch	Almere city-Oosterwold area

Source: authors' elaboration.

In Argentina, agroecology is emerging as a clear and coherent alternative to conventional systems. Social movements are key actors in pushing agroecology, and they are slowly succeeding in forming coalitions to influence public policy (Le Coq et al., 2018). Systems of strong territorial anchorage are being promoted, taking into consideration the peculiarities of the local ecosystems, as well as history and socio-cultural elements surrounding food production and consumption (Mansfield, 2003; Friedmann y McNair, 2008; McMichael, 2009). Horticulture and other intensive productions in peri-urban areas, predominately oriented towards local markets, are spearheading the change.

The development of the Dutch agriculture is predominantly focussed on the global market. This holds for the conventional as well as the organic producers. The latter is still relatively small but a rapidly growing group, mainly because of relative good (export) market prospects. As mentioned before, 25% of the Dutch conventional and organic farms offer multi-functional services, which makes multi-functional farming a substantial economic activity. Urban agriculture started as an alternative network forming in urban areas. During the last decade it has been supported in many urban areas by grassroots organisation as well as local policies, and has expanded towards the city regions. Recently, some front runner cities like Almere, Amsterdam and

Ede, issued their official food strategy which supports local and regional (circular) food initiatives.

In New Zealand, the orientation to global markets does not appear to be questioned, similarly to the Dutch case. Organic agriculture has been the main alternative historically, but more as a way to target high value (niche) markets, than as a challenge to conventional agriculture. In contrast, regenerative agriculture, a more recent development, is indeed confronting the incumbent systems, even calling into question its clean-green credentials. This process is still incipient however, with not much change to be observed on the ground. Urban Farmers groups appear as forerunners, but with very little support from government, urban farming is, for now, a very small part of the picture.

The reconstruction of these trajectories allows us to reflect on the complex interrelations that influence food production in the different countries. Agriculture is, of course, a central element. Common among alternative proposals for agri-food systems is the search for sustainability. Achieving sustainability inherently requires protecting the ecosystems and communities in the territories where agriculture takes place (Bergez et al., 2019). This is something that global markets cannot do alone. Therefore, the inclusion of the territorial dimension in public policy making and planning is critical. We see this happening with clearer intentionality in Argentina and The Netherlands (playing out in General Pueyrredon and Oosterwold) than in New Zealand.

5. Final considerations

In this article, we tried to study and synthetise the experiences in three countries -in three continents- in relation to the development of alternative agricultural models. Our aim was to explore different approaches to tackle the problems of the conventional food systems, and trying to identify point of similarities and differences. As a first observation, this study shows that Argentina, Netherlands, and New Zealand privilege different alternatives, such as agroecology, organic farming and, incipiently, regenerative agriculture (mainly in NZ). However, all cases converge in the need to find and promote locally adequate solutions.

According to the multi-level perspective approach to sustainability transitions, radical innovations emerge in niches that may eventually spread broadly, if external landscape developments create pressures on the incumbent regime (Geels, 2010). In all three cases, as in most countries, the dominant regime (conventional agriculture) is being increasingly questioned by society. This is creating space for

niche developments in the three countries in the form of alternative agricultures. However, we noticed that the questioning has quite different contents in the three countries. This, in turn, orients the evolution of alternatives in particular directions. In Argentina, the most salient issues are pesticides in sub-urban areas and their effects on human health, and food security in vulnerable parts of society. Therefore, agroecology is emerging as a clear alternative, as it tackles these problems directly. Furthermore, the Latin-American version of agroecology is intimately connected to small scale farming, and this is what we observed in the case studies in Argentina. In New Zealand, the drivers are the degradation of the water ecosystems, greenhouse gas emissions and concerns about animal wellbeing. These problems are related to the large numbers of cattle and sheep in the country, rather than to any practice. Certified organics, oriented towards high-value market segments overseas, is seen by some as a possible alternative, for example allowing some de-intensification while maintaining revenues, thanks to the higher prices fetched by organic products. Regenerative agriculture is beginning to gain space in the public discourse, but it is still in the very early formations stage. However, urban farms seem to show a different dynamic, with reconnection with consumers and human health (avoidance of pesticides) appearing as key motivations, and permaculture as one of the guiding farming philosophies. The search for alternative pathways to the dominant agro-food complex in the Netherland is driven by a high degree of urbanisation on the one hand and a high density of intensive agriculture on the other hand. Both coexist at short distance of each other. Although people appreciate the high quality and low price of food offered, (urban) public opinion more and more opposes the externalities related to the conventional farming, amongst others, concerns about animal welfare, unintended spread and contamination of nutrients (N and P), degradation of biodiversity, and diffusion of pesticides. This public opinion has guided towards new pathways, like organic and urban farming, which seek for alternative production methods as well as a reconnection between producers and consumers.

The different responses being explored in each country are influenced by the different socio-historical contexts. In the Argentinean case it is agroecology, an eminently Latin-American movement. It involves not only farming practices with lower environmental impact, but also consumption, commercialization, and many other aspects of life. Public policies actively promote agroecology, but in coexistence with the conventional systems, which is still overwhelmingly predominant in Argentina. In New Zealand, the dichotomy is quite strong, and the tension between the conventional model and the

alternatives is high, generating mutual antipathy (Rowarth, 2020; Edmeades, 2021). Urban agriculture has been gaining space in recent times. It could be seen as a form of resistance to the incumbent socio-technical regime, particularly its reliance on pesticides and the dominance of supermarket chains. It is however a ground-root movement, albeit an incipient one, based more on the effort of very committed groups rather that public policies. In the Netherlands we see a similar development although its context differs from the other two. Alternative pathways have been explored in the Netherlands with the rise of organic farming since the 1970s. These alternatives have gradually been supported by regional and national policies, which for example have issued programs to support conventional farmers to change to organic farming. The case of urban farming in Oosterwold is another example of the transition of conventional farmland into a hybrid urban rural area, in which urban agriculture has a pivotal position. Nonetheless these programs and policies, conventional farmers are still the dominant food producers of the Dutch food system, and had as such the full support of national policies. As aforementioned, organic farming still only covers just 3.5% of the farmland in The Netherlands and urban farming has even a smaller role as food supplier. However, this does not imply that conventional farming has not been affected by a changing public opinion (and the related economic pressure and/or new regulations) or the emerging of these alternatives. A rising number of conventional farms integrate alternative farming methods, offer multi-functional services, try to directly connect with consumers or seek for alternative housing methods of their livestock, amongst others. Moreover, it is expected that a new set of regulations will affect the current practice of conventional farming in the near future.

The public sector -through public policies and regulations – as well as the private sector - through input supplies and distribution – have key roles to play in sustaining these new food systems. Future planning will require new organizational structures (other than simply market mechanisms) to manage the different functions, coordinate actions in the public, private and civil sectors, channel community demands, promote activities for local development and wellbeing and to protect natural and cultural resources. It will be necessary to overcome linear and deterministic visions, promoting instead participatory processes to foster dialogue and exchange. Interpreting the local needs and demands, and co-creating appropriate solutions appear as a promising way forward. As societies evolve and transform, and so do their problems, therefore the solutions and how they are developed must also change and adapt.

These approaches need to include, not only farmers, but also consumers and other actors in the food systems. This means that the transition needs to happen at the level of the whole community, and not just on farms. Thus, urban agriculture constitutes a fertile space where these processes are being enacted, due to the intermingling between farmers and communities. Creating solutions on the bases of participation and dialogue, means that they can dynamically adapt and evolve as the demands change over time.

In this transformation process it is key to embrace the diversity of alternative proposals, understanding that such diversity will contribute to the sustainability and resilience to the food systems in the future. As we saw, there are no universal recipes. Taking a systemic view that sees diversity as an asset, it would be possible to progress in the co-construction of alternatives that are adequate for each socio-historical situation.

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