Food Forest Governance in the Netherlands
Examined Through the Lens of Local Scale Experimentalist Governance

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Abstract

Food forests are rising in popularity in the Netherlands (de Groot and Veen, 2017). They are forest-based polyculture systems based on perennial plants and characterized by trees, featuring multi strata designs that include different size trees, shrubs, and ground cover (Albrecht and Wiek, 2021a, 2021b). According to the published literature, by seeking to foster biodiversity and multifunctionality, food forests can bring a host of potential benefits and services to people, food systems, and the environment (Albrecht and Wiek, 2021a, 2021b). However, very little is reported in the peer reviewed literature about the governance of these projects, which may impact the services they provide.

This thesis seeks to begin bridging the knowledge gap on food forest governance by examining the governance of four food forest projects in the Netherlands. More specifically, the governance of these projects will be examined through the lens of an experimentalist governance informed conceptual framework. As such, it will answer the following question: *What can the application of experimentalist governance tell us about the relations of governance in the Netherlands' food forest context?*

Semi-structured interviews were conducted with participants of four different food forest projects in the Netherlands. These were supplemented by document analysis where documents were available. These interviews reveal that food forests tend to have an entrepreneur or steward-led model of governance, with varying goals and degrees of member participation, corroborating what has previously been shown in literature (however limited this may be). The explicitness of the feedback and revision process also determined the extent to which the food forest projects did or did not mirror an experimentalist governance cycle.

Furthermore, governance is in large part informal: decisions, as well as new ideas and feedback, happen mainly through everyday conversation. Land access, interaction with the local government, and network building are identified as key factors affecting the success (or challenges) of the governance of food forest projects.

Despite these patterns, it is important to note that the heterogeneity of food forest projects and the small sample size of this study mean that we must be cautious when making generalizations about food forest projects. As noted earlier, it was one of the premises of this study that the different types of food forests may impact their services. Rather, this paper drives home the idea that the difference in goals, structure, accessibility, and governance of food forest projects should be considered in all literature on food forests, as these may impact the services, relations, and other impacts which they may bring to their communities and environments.

Experimentalist governance was a useful tool in understanding the relations of governance in the food forest projects examined, as it allowed project changes through time to exist within the framework and be part of the process rather than pose a fundamental change to the governance structure of food forests. However, interaction with local institutions was so relevant this paper argues it should not be a scope condition, but a central feature of local level experimentalism,

However, whether experimentalist governance could be a useful tool in the analysis of any food forest project cannot be concluded, as there is a sample bias in the type of projects that were studied here (projects that want to be known and which are more open to people are more likely to participate in research). Therefore, much remains to be learned about the limitations of applying experimentalist governance to local scale initiatives.

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1. Introduction

Food forests – or "forest garden", "edible park", and the urban specific "urban food forestry", among others (Clark and Nicholas, 2013) – are a rising phenomenon in the Netherlands (de Groot and Veen, 2017) and around the world (Albrecht and Wiek, 2021a; Riolo, 2019). They are forest-based polyculture systems based on perennial plants and characterized by trees, featuring multi strata designs that include different size trees, shrubs, and ground cover (Albrecht and Wiek, 2021a, 2021b). By mimicking forest ecosystems, food foresters seek to foster biodiversity and multifunctionality in their system designs, as opposed to the industrial large scale monoculture model prevalent in conventional farming (Albrecht and Wiek, 2021a, 2021b).

Despite their recent rise in popularity, food forests are not a recent phenomenon. In modern times, the concept of "cultivating like a forest" dates at least as far back as the 1970s, when English horticulturalist Robert Hart adapted the concept for temperate climates (Riolo, 2019). Even before this, humans of different cultures have managed forests as a form of food production for millennia, with one notable example being a two thousand year old Moroccan food forest "discovered" by Geff Lawton in 1975 (Cariñanos et al., 2022; Wallace, 2019). However, food forests have only recently begun getting attention both as an alternative (and more sustainable) mode of food production and an object of scientific research (Cariñanos et al., 2022; Park et al., 2019; Riolo, 2019).

Standing at the intersection of forestry and agriculture, food forests can provide a wide range of services. Examples include not only food provision and the associated services of a green forest like space (carbon capture, clean air, cooling, etc,) but also education, recreation, and community building (Albrecht and Wiek, 2021a, 2021b). Thus, food forests have the potential to contribute to sustainable food production and consequently help mitigate climate change.

While they offer potential benefits to their community, food forests can be a particularly powerful option in an urban setting, where the challenges relating to lack of green space, increased temperatures, and uneven access to fresh food are particularly pronounced (Coffey et al., 2021; Wiek and Albrecht, 2022).

The peer-reviewed literature on food forests is limited (Riolo, 2019; Wartman et al., 2018; Wiek and Albrecht, 2022)[1]. It has seen a surge in popularity in recent years alongside the increasing number of food forests, but it is still a small body of work (Wartman et al., 2018). Furthermore, a large part of the published academic research on food forests is dedicated to examining their services and disservices (see Chapter 2, Literature Review). While this is important to do, it does result in the scientific literature being stuck in the stage of listing pros and cons of having a food forest at all.

In the meantime, and in practice, food forests are already in place and growing in number, being de-facto governed every day to achieve particular goals (sustainability, community engagement, food security, etc). This means that the peer reviewed literature is lagging behind the practice of food forests, creating an academic knowledge gap regarding the mechanisms and relationships surrounding their governance. Governance in itself is a big term with many definitions used in

[1] The scarcity of the published literature is interesting especially given the abundance of student academic theses and reports on the topic (they are great in number and varied in subject matter, as shown in *Appendix 4*), indicating more interest in academic institutions in the food forest topic than reflected in the literature.

different contexts (Fukuyama, 2016; Kjaer, 2023). In this paper, it is defined as the processes by which interactions are structured and decisions are made and is examined particularly in the context of food forest projects.

This thesis seeks to begin bridging the knowledge gap on food forest governance by examining the governance of four food forest projects in the Netherlands. In particular, the governance of these projects will be examined through the lens of an experimentalist governance informed conceptual framework (see Chapter 3, Conceptual Framework).

Briefly put, experimentalist governance is based on framework rule making, and is characterized by both implementation by local actors and continuous revision and adaptation based on experience in different local contexts (Sabel and Zeitlin, 2012). While developed for macro-contexts such as the EU, the work of Chinaglia (n.d.) shows that experimentalist governance like systems may emerge at more local scales, particularly in the context of novel governance systems, such as alternative food networks (Chinaglia, n.d.).

As alternative food production systems, food forests are potential sites for the emergence of experimentalist-like governance architectures. However, as they are individual projects rather than a network of projects, food forests are smaller scale (micro) initiatives than the alternative food networks examined in Chinaglia's work. Therefore, this thesis will also examine the limits of experimentalism by exploring whether it emerges in –and can inform– the governance of even more local level novel systems (food forests).

Following from these two aims, and the context presented previously, the research question guiding this study is: ***What can the application of experimentalist governance tell us about the relations of governance in the Netherlands' food forest context?***

This work will begin with a review of the literature on food forests (Chapter 2), detailing the current status of the academic knowledge (or lack thereof) on the topic. Then, it will describe experimentalism and the conceptual framework in greater detail (Chapter 3). Once these are covered, the research design (Chapter 4) will be detailed. The results will then be reported (Chapter 5), followed by a discussion the governance of food forest projects as gleaned through the lens of experimentalism (Chapter 6). Finally, the conclusions will be presented, alongside recommendation for future research (Chapter 7).

2. Literature Review / Context

As discussed previously, the literature on food forests is currently quite limited. This chapter will examine what is or is not available in the literature, briefly detailing what is available on design, services, and implementation. Lastly, it will detail the sparsest but most relevant part of the literature for this research project: the works which details food forest governance. As it forms the focus of the thesis, this last section (2.4) will therefore be more detailed as opposed to the more surface overview provided in the ones preceding it.

Before diving into the main review, it is important to address the issue of terminology. There is inconsistency in the terminology used with regards to food forests (Park et al., 2019; Russo et al., 2017; Salbitano et al., 2019). Salbitano and colleagues (2019) identify this as a potential barrier for wider implementation (Salbitano et al., 2019). Indeed, Park and colleagues have conducted an entire study on the inconsistencies in the terminology of urban forestry (Park et al., 2019).

Furthermore, there are differing conceptualisations of urban agriculture/forestry, some of which can include food forestry aspects even when this is not explicitly mentioned. For instance, one widely cited paper in the food forest literature by Clark and Nicholas (2013) defines urban food *forestry* as the *"intentional and strategic use of woody perennial food producing species in urban edible landscapes"* (Clark and Nicholas, 2013; p. 1652).

This allows for trees along a road, for instance, to fit the definition of urban food forestry, even if they are not themselves a food *forest*. Roadside trees may increase the tree density of a city, but they do not constitute one spatially discrete food forest. This conceptualisation of urban forestry is not the target concept of this thesis because it is too broad.

The diagram by Park et al. (2019) illustrates the difference in these conceptualisations of food practices involving trees (Figure 1). **The definition of a food forest system used in this work (as presented in Chapter 1) aligns with the yellow part of the diagram.** It refers to food forestry as multistorey polyculture systems including perennials & trees, rather than agroforestry systems like silvopasture or the use of trees in the urban landscape outside of a polyculture system. As a final note, while the diagram by Park et al (2019) refers to urban areas, neither food forestry or agroforestry are confined to urban landscapes. That is to say, these systems may also arise in non-urban contexts. This is relevant because not all the case studies examined in this thesis will not be situated in urban areas – rather, some arise in rural contexts.

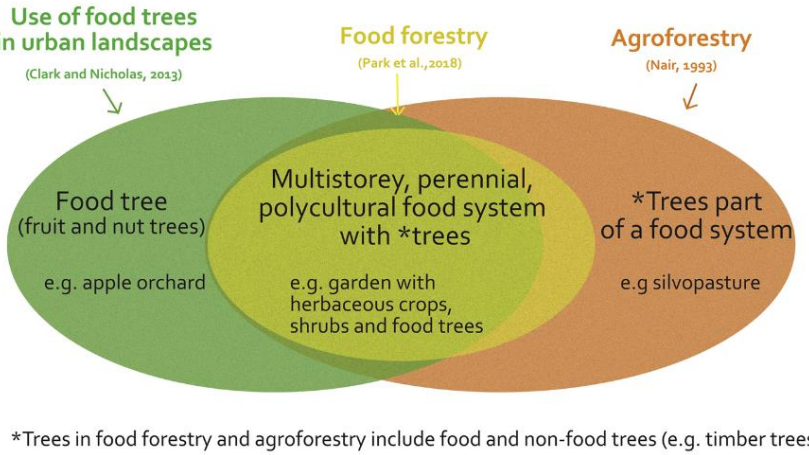

Figure 1. Conceptual visualisation of food practices that involve trees in urban areas (Park et al., 2019)

2.1 Food Forest Design

Literature on the design of food forests is more often grey literature, found in guides and practical handbooks (Bukowski and Munsell, 2018; Frey and Czolba, 2017; Jacke and Toensmeier, 2005; Remiarz, 2017; Shepard, 2013). One 2022 study proposes design guidelines for public food forests (Shi, 2022). Another also proposes design guidelines, but at a broader scale: they look at urban agroforestry systems in general, while explicitly mentioning food forests as an example (Taylor and Lovell, 2021). Lastly, the study of Clark and Nicholas (2013) includes design in its considerations, featuring a list of 70 perennial species suitable for urban environments (Clark and Nicholas, 2013). As design is not within the scope of this thesis, this will not be expanded upon, but is noted here to help create a full picture of the available food forest literature.

2.2 Food Forest Services (& Disservices)

A large part of the literature on food forests looks at their **potential impacts** – both positive and negative (**services and disservices**) (Albrecht and Wiek, 2021a; Allen and Mason, 2021; Clark and Nicholas, 2013; Dobbs et al., 2011; Escobedo et al., 2011; Rockwell et al., 2022; Russo et al., 2017; Wartman et al., 2018). They are also discussed in general in two separate chapters in books dedicated to agroforestry (Borelli et al., 2017; Munsell et al., 2021). Potential benefits are varied and range from food access to health outcomes and ecosystem benefits (Albrecht and Wiek, 2021a; Clark and Nicholas, 2013). The services and disservices of food forests are out of the scope of this thesis, and the findings of these papers will not be detailed at length here - as the list of works cited in the previous sentence show, they can be the work of multiple papers. However, this section will map out what the available literature is and the topic it covers in order to paint a picture of the current landscape of food forest literature.

Some articles examine the potential impact of food forest in **one specific area**, including their effect on nutritional yield (Nytofte and Henriksen, 2019), health (Stoltz and Schaffer, 2018), carbon storage (Lehmann et al., 2019; Schafer et al., 2019), and ecological restoration (Park et al., 2018). Two studies look at the potential of food forests for the development and education of children (Almers et al., 2018; Askerlund and Almers, 2016). On the negative side, there are studies looking at allergy risks (Cariñanos et al., 2019) and metal pollution (Gori et al., 2019).

Two papers examined the **socio-environmental value of food forests** (Colinas et al., 2019; Riolo, 2019). This social aspect of food forests is less frequently researched directly and is often an addition to general discussions of advantages and disadvantages. As proponents of food forests tend to link food forests to social topics and/or cultural transformation (Wartman et al., 2018), it is an area of study that would benefit from direct, dedicated research.

It is noteworthy to point out that there is an interesting body of work looking at the practice of foraging and its potential role in the city (Atlanta and Seattle, namely), including in the context of reducing inequality and urban justice (Gaither et al., 2020; McLain et al., 2017, 2014; Poe et al., 2013; Shortly and Kepe, 2021). These studies look at the general “urban forest” rather than the urban food forest but would include (public) food forests in their visions (sometimes including them as examples explicitly). This links to the discrepancies in terminology noted in the previous section, with “urban forestry” looking at all the urban green rather than exclusively spatially discrete food forest projects.

There is a limited number of studies looking at the **economic potential** of food forests (Albrecht and Wiek, 2021a; Fornaciari et al., 2022). In these cases, the food forest is seen as a business, and how to get sufficient profit is a key area of interest. Lastly, one study examines potential indicators for **monitoring** food forest services (Park and Higgs, 2018).

While the services and disservices of food forests is not in scope for this work, one important insight is revealed from this literature: very little notice is taken by the authors of this paper of how the food forest governance may impact its services. They deal with food forests as a physical structure and detail the benefits it could provide, often making an assumption about how a person can interact with the food forest. However, this is a big assumption to make: a private food forest that sells its produce will bring much different benefits to the community than a public one where anyone may come by and harvest. Therefore, the literature on food forest services and disservices lacks a proper assessment of food forest benefits across these different "types" of food forests.

2.3 Implementation & Impact of/on Urban Governance (Local Government Scale)

The literature on implementation & governance of food forests, as mentioned previously, lags behind the rate at which these projects are emerging. That is not to say there is no literature on how food forests fit in urban and local governance, or in the factors that facilitate or challenge their implementation. **The literature on food forest implementation and how food forest projects fit or do not fit in local governance settings is addressed here (2.3).** This topic is related but not the same as the governance of food forest projects themselves, which will be addressed in the following section (2.4).

A few sources note that urban planning and governance are the main challenges for food forests (Borelli et al., 2017; Cariñanos et al., 2022). Despite this, the literature addressing the specific challenges and opportunities that either facilitate or hamper the emergence of food forests remains sparse.

Albrecht and Wiek (2021b), who look at food forests as an economic activity, consider case studies to identify success factors in food forest implementation. They also highlight the importance of a comprehensive entrepreneurial ecosystem to facilitate this (Albrecht and Wiek, 2021b; Wiek and Albrecht, 2022). Their findings will be discussed in greater detail in the following section, but the work is introduced here as a facilitating ecosystem is something outside the project and related to its external context.

Coffey and colleagues (2021) examine the opportunities for implementing food forests in small municipalities, rather than the usual context of big urban centres (Coffey et al., 2021). They find that in smaller communities where the population is less dense and the access to green space and fresh food is greater, the need for food forests, as well as the interest of leaders in adopting them, is smaller (Coffey et al., 2021).

A couple of papers examine urban forestry master plans, which is included here although as mentioned earlier urban forestry can refer to more than only food forests (Clark and Nicholas, 2013; Kowalski and Conway, 2019; Brito and Borelli, 2020). While findings varied, all three conclude that there is room for more integration of food forests and/or fruits & food in policymaking, and that often urban food forestry is not linked to food security. McLain and colleagues similarly review the forest management plans, analysing vision of different stakeholders and arguing that a shift from service to goods and service provision would provide a better basis to achieve sustainability in the city (McLain et al., 2012).

McClintock et al (2021) similarly research a topic not exclusively limited to food forests, but use a food forest case study in their work (McClintock et al., 2021). They examine the challenges municipalities face in formalising urban agriculture, using two alternative urban agriculture case studies – one of which includes a food forest. The cases evidence how some projects may be

excluded by, challenge, or re-vision the formal definition of urban agriculture. Conflicts related to not only property rights but also to different visions of what urban agriculture should be, feature prominently in the case studies examined. This specific food forest case will be in section 2.4, where this thesis will examine food forests on a project level.

Morrow and Martin (2019) also use a food forest example in their discussion of property in Boston's Urban Food Commons (Morrow and Martin, 2019). They examine how practices by household and community organisations relating to the creation, use, care and management open up urban spaces, challenging notions of property via practicing the commons (Morrow and Martin, 2019). The cases they use, which include a food forest, illustrate the shifts in meanings related to urban space and ownership in Boston (Morrow and Martin, 2019).

There are a few papers on governance that very briefly mention food forests as an example, but do not discuss or address them in depth. Food forests are noted as an example of upscaling in a discussion of mosaic governance in green infrastructure, where an urban forestry app developed by a citizen group from Copenhagen lead to the government initiating a Food Forest afforestation project (Buijs et al., 2019). This is the extent to which it is discussed, however, and here the food forest is an example of how something else was upscaled, rather than it itself being upscaled (Buijs et al., 2019). Food forests are also noted as a multifunctional solution in the context of Ecosystem Service trade-off governance, due to the co-provision of ecosystem services these feature (Spyra et al., 2020).This is in line with the literature on the many services on food forests discussed earlier, and is not expanded upon further.

2.4 Governance (Project Scale)

With regards to project-level governance (the governance of the food forest project itself), the literature is nearly non-existent. Albrecht and Wiek (2021b) are one of the only authors to look at food forests at a project level. In their paper, they look at food forests as economic ventures and look at factors surrounding successful implementation (Albrecht and Wiek, 2021b). The study deep dives into the case of a food forest in Den Bosch, Netherlands, called Den Food Bosch. The authors describe how the project it is governed by a foundation, and that food forest managers are contracted and then responsible for generating income for the food forest. The local water authority owns the land. As a profit-oriented project, it is less community based than the case of Purple Thistle discussed below, but students from the HAS university of applied sciences participate in research and volunteer with the project. Furthermore, the managers periodically organize tours. The project was designed and initiated by a core group of students from this university, and this core group went on to form the foundation, and two of them became the first site managers. The first managers put a lot of time and effort into the project at a time when the consumer base was still small and the business plan still underdeveloped, leading to financial insecurity. Eventually, after two years, the two managers left the project and new managers had to be recruited.

The main factors contributing to success of the project implementation, according to Albrecht and Wiek, are: (1) that food forests are fairly well known and defined in Dutch regulation, (2) the Dutch 2018 *Green Deal Voedselbossen (*Green Deal Food Forests), signed by NGOs, government authorities and practitioners which supports planning and implementation of food forests, (3) the water authorities' interest in water capacity research leading to a favourable lease, (4) the expertise the initiators could leverage from their agricultural education, and (5) the great deal of time and effort put in by the original managers, who were motivated by a desire to gain more

knowledge on food forestry which could then also be applied beyond Den Bosch (the city used as a case study in the paper).

The paper describes the main barriers of the project implementation to be: (1) the underdeveloped startup business plans which causes the first managers to be inadequately compensated, (2) regulatory changes related to local waterways which necessitated changes in the plan to comply with the water authority requirements, (3) the decision to postpone getting an organic certification, which would have allowed access to organic markets, (4) the loss of the first two managers, which lead to a loss of design and historical management knowledge of the site. This case study illustrate that both internal and external factors and relations may be relevant to understanding the structure and governance of a food forest project. Furthermore, we see that the projects may see significant change over time depending on the context and people involved.

From this in-depth case study and a series of other cases which they do not describe in as much detail, Albrecht and Wiek come up with a series of factors that they deem key for food forest implementation. These range across four categories: economic, institutional, infrastructural, and behavioural.

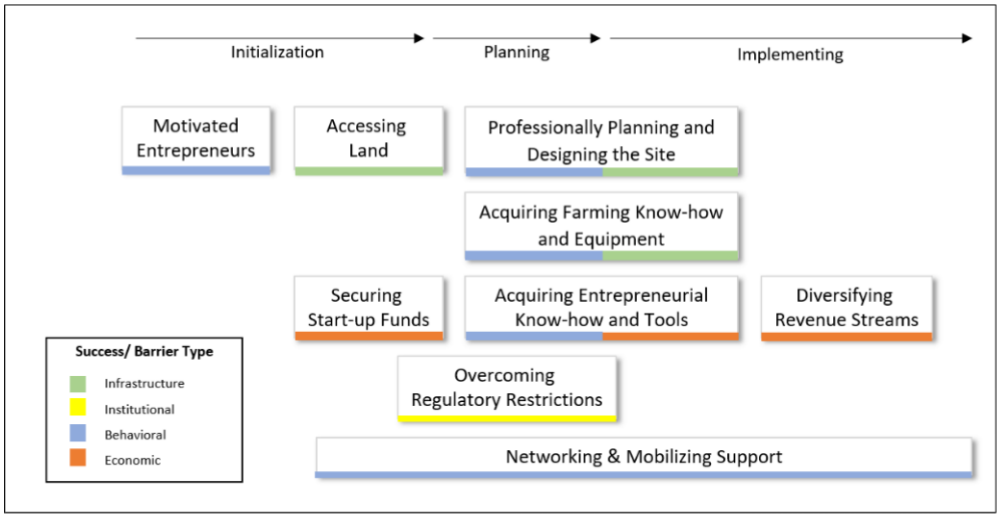

Figure 2. General Development Path of Food Forests with Relevant Factors of Success (Albrecht and Wiek, 2021b)

Here Albrecht and Wiek paint a very specific picture of the food forest governance structure, which is led by one or a few entrepreneurs, and which may or may not be open to the public. They do not dive in depth into the other cases they examine. However, in the table they provide describing their main factors of success and barriers, a wide range of project ownerships (public, semi-public, private) and goals/motivations (from education to production) are illustrated. This implies that food forest governance may take similar, entrepreneur–led form despite the wide variety of goals each project may have and the diverse set of relations they may or may not form with their community (or costumers).

Besides the work by Albrecht and Wiek (2021b), there is no literature dedicated to exclusively examining the governance of food forest projects themselves (that is, literature about how these projects are themselves governed, rather than literature on broader urban governance, which is addressed in the previous section). However, like Albrecht and Wiek's case study of Den Food Bosch, some of the papers discussed in section 2.3 include case studies on particular food forests which allow a glimpse into their inner governance (the degree to which varies based on

the topic of the paper and the extensiveness with which the project and its governance is described). These will be briefly described below, as they shaped the understanding of food forests that underpins this thesis.

McClintock et al. (2021) examine the challenges municipalities face with the formalisation of urban agriculture (McClintock et al., 2021). One of the two cases in this paper was The Guerilla Garden Project, a project in Vancouver which included two urban gardens and a food forest initiated outside of city regulations by a youth arts collective called Purple Thistle. The gardens and food forest were set up on unused industrial land and were located on spaces between the street and private property where exact land ownership was uncertain. The group members cleaned up the land of what was then an illegal dumping ground, setting up their projects.

The paper does not focus on the project's inner governance, rather describing its relation to external actors: firstly, the city council, which wanted the project to apply for a permit but eventually backed down to avoid bad press, and second, the private landowner, who eventually bulldozed the projects and reclaimed his property. However, it reveals a few details about the food forest's governance. First, it was managed by the Purple Thistle collective (the exact details of the organization and structure of this management are not detailed). Second, it was based on public participation, as it was a "an educational lab and a community hub [...] home to several gardening and bee-keeping programmes for children and youth". Who exactly constituted this participating public is not detailed at length, however, and the extent to which the project was co-created versus guided by the collective itself is not entirely clear from the paper's description (McClintock et al., 2021).

Riolo (2019) examines the socioenvironmental value of Picasso Food forest in Italy, and while governance is not explicitly discussed, public engagement is, giving a glimpse into the inner workings of the project (Riolo, 2019). This project is located in a previously unused space in a relatively wealthy neighbourhood in Parma. It hosts regular free events ranging from social (such as potlucks) to educational (courses on pruning, for children, composting, etc) to anywhere in between such as working & maintenance days. The food forest was initiated by a group of circa 15 activists (Fruttorti di Parma), and these activists take care of the schedule and planning of the events within or without the food forest such as education activities at schools, conferences, etc.

The study does not go into detail about how authority and responsibility are distributed among the group. A wide number of people participate in the events and activities, particularly for leisure, harvesting, and with their children. To which extent the participating public's voices and opinions are then reflected in the planning of the project and its events remains unclear from the paper. The project has hosted various visits from groups or NGOs interested in learning about it, and is regularly visited by schools due to a program trying to build ties between high school students and local NGOs. Beside a newsletter and a Facebook group, the food forest was featured in various Italian TV programs & newspapers.

Wiek and Albrecht (2022) use a food forest developed in collaboration by a coalition of nonprofit organisations (Spaces of Opportunity) and a university (Arizona State University) as a case study on the importance of an urban entrepreneurial ecosystem for food forest development(Wiek and Albrecht, 2022). Their initiative centres around a site which includes an incubator farm, community gardens, and a weekly farmer market. The location is currently leased on a 10-year contract ending in 2025 from the Roosevelt School district, and according to the study's description the project has the possibility to extend the lease or enter an alternative property arrangement such as a land trust.

The nonprofits cooperate not only with the university for research and development, but also with the Phoenix government (for issues like permits) and a local elementary school (with which they operate a café and culinary class). While the paper describes the initiative as a collaborative effort and the project's progression in distinct, ongoing stages, the governance of these sites and the project itself is not explicitly described. As a result, it is unclear how authority and responsibility for site management and development are shared by nonprofits and universities.

Not every article with a case study will go into enough detail on how the project is managed for it to be possible to extract any information on their governance – both in the case of articles looking at a single project and articles looking at many food forests. Shi (2022) for instance, analyses an edible forest park in Iowa, but does not detail information on its management and governance (Shi, 2022). Similarly, articles such as that of Allen and Mason (2021) which look at multiple food forest projects and describe them only briefly – in this case with a table listing the projects with only very short text on their physical description and the type of use/activities they host (Allen and Mason, 2021).

2.5 Conclusion

In conclusion, the literature on food forests, while growing, is still limited. Most of this is focused on the services and disservices these food forests may provide, without regard to how the governance of this food forest and its associated factors can affect these services. At the local government level, a few papers look at factors that facilitate or hamper implementation, but this literature is still nascent, and often food forests are used in broader discussions of urban governance rather than being examined exclusively. Finally, when it comes to the main topic of the thesis – food forest project level governance – we find only Albrecht and Wiek's 2021 study on factors facilitating food forest implementation (Albrecht and Wiek, 2021b). Here we learn that food forests are often led by an entrepreneur or group of entrepreneurs, and learn about the infrastructure, institutional, behavioural, and economic factors that may challenge successful implementation. While this in-depth case study provides insights into governance of food forest projects, it is striking that even this paper is not directly or exclusively examining project governance, highlighting the extent of this gap in the literature. The other insights highlighted in the previous section come mainly from case studies on papers which, despite dealing with other questions, provided a detailed enough project description which may allow relations of governance to be inferred. Therefore, this work will be the first to try to examine the governance of food forest projects explicitly and directly.

3. Conceptual Framework: Experimental Governance

The following chapter details the conceptual framework for this thesis: experimentalist governance (3.1). It also describes Chinaglia (n.d.)'s local experimentalist framework (3.2), and justifies the selection of experimentalist governance to examine the de-facto governance of food forests (3.3).

3.1 Experimentalist Governance

Experimentalist governance, developed by Sabel and Zeitlin, is a concept usually used in the context of constituencies such as the EU or the US (Eckert and Börzel, 2012). In such contexts, governing actors have equal power with regards to goal setting. Thus, the context is *polyarchic*, meaning there is no one central unit that can impose final decisions upon the others (Sabel and Zeitlin, 2012). Therefore, "constituent units must learn from, discipline, and set goals for one another" (Sabel and Zeitlin, 2012, p.2) in order to address a common perceived problem. The incentive to set goals and frameworks together in such constituencies therefore arises from *strategic uncertainty* (that is, the notion that how to best address an issue is not known or agreed upon), and from the subsequent notion that under uncertainty it is better to collaborate than be at the mercy of external forces no actors control (Sabel and Zeitlin, 2012).

Experimentalism is a response to the failure of hierarchically established command and control rules which quickly become obsolete practice. This is particularly the case in the context of a rapidly changing world rife with strategic uncertainty, where on the ground/front line actors who implement policies need to be able to adapt and make quick decisions based on trial and error (Wolfe, 2018). Rather, experimentalism bases itself on learning by doing (or learning by monitoring), allowing actors on the ground to take whatever decision suits the context best (Wolfe, 2018). Rather than having to be the "solitary 'street level bureaucrat,'" resorting to "tacit discretion under the radar of their superiors" (Sabel and Zeitlin, 2012, p.5), actors responsible for local implementation not only have the freedom to make decisions they think are best, but they can report this and induce a review of the very rules they operate under to accommodate for such unforeseen circumstances or a rapidly changing contexts.

Experimentalist governance is therefore "based on framework rule making and revision through a recursive review of implementation experience in different local contexts" (Sabel and Zeitlin, 2012, p.1). That is to say that experimentalist governance is based on continuous learning, where the governance rules (and the framework goals themselves) can be revised in the governance process. Its four key elements are: (1) broad framework goals (e.g. "safe food"), (2) actors with local implementation discretion, (3) regular reporting of performance and participation in peer review, and (4) periodic revision based on reported and evaluated alternatives (Botelho, 2019). After the revision of the fourth step, the framework and its goals may be revisited, linking the four elements in an iterative cycle which would theoretically lead to continuous improvement over time (Sabel and Zeitlin, 2012).

In this way, experimentalist governance escapes the top-down or bottom-up binary of governance discussions, blending both a framework from above with the independence of the local actors and a continuous review process (Eckert and Börzel, 2012). Furthermore, its iterative cycle of continuous review blurs the distinction between the conceptualisation and implementation of policy. It also changes the relationship between the principals and agents, where principals do not just instruct (local) agents but rely on their practical knowledge both for local implementation and the subsequent review (which in turn can re-shape the broad framework on which it is based) (Eckert and Börzel, 2012). This is not to say experimentalism is

free from hierarchy. For instance, one of its destabilisation mechanisms is the "penalty default", where a central actor may indirectly draw on hierarchical power and create a disincentive for non-cooperation by threatening to engage in traditional rule making and processes (Eckert and Börzel, 2012; Sabel and Zeitlin, 2012). In this manner, such central authority can create an incentive for cooperation without forcing other parties to participate – but this still does not preclude hierarchy, as power is necessary to make this destabilisation mechanism possible (Eckert and Börzel, 2012; Sabel and Zeitlin, 2012).

This brings us to the concept of *destabilisation mechanisms*. Destabilisation mechanisms are "mechanisms for unblocking impasses in framework rule making and revision by rendering the current situation untenable while suggesting - or causing the parties to suggest – plausible and superior alternatives" (Sabel and Zeitlin, 2012, p.9). These can be indirect, such as the penalty default discussed previously, or direct, "like the requirement to provide public justification for disagreements over scientific risk assessment in EU food safety, or the right to challenge the handling of individual cases by national authorities in the new European Commission Network, which extends horizontally to other members of the network as well as vertically to the commission" (Sabel and Zeitlin, 2012, p.9).

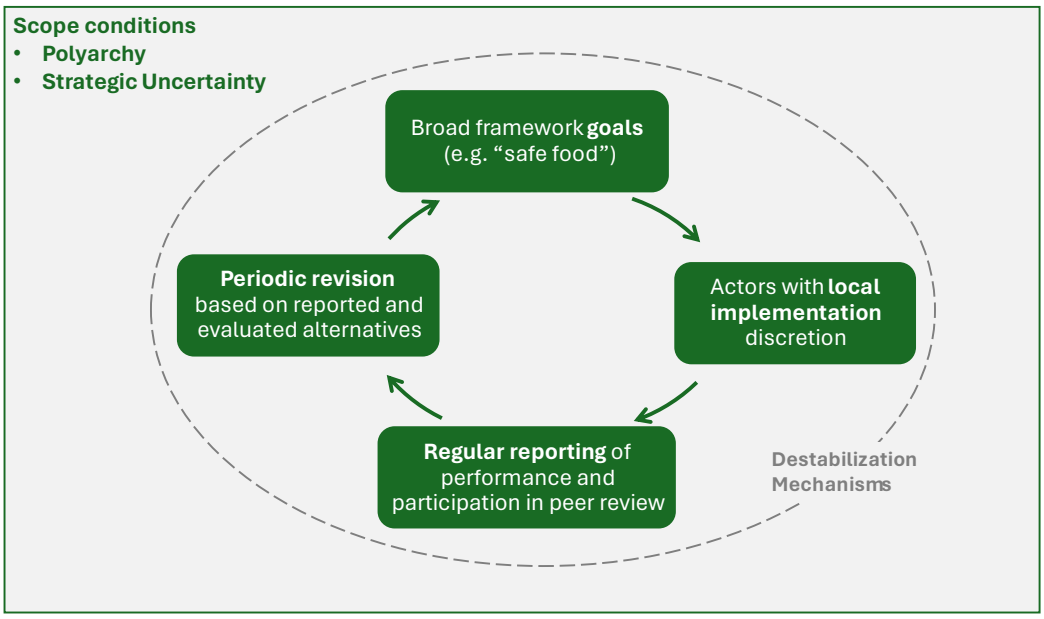

Figure 3. Diagram representing the key elements of experimentalist governance. Based on Chinaglia (n.d.)

3.2 Experimentalist Governance at the Local Level

While Sabel and Zeitlin's Experimentalist Governance is the core theoretical framework underpinning this study, the methodology used here is instead inspired by the PhD work of Sara Chinaglia (visiting PhD at the RSO group of WUR). In her work, she builds a framework for experimentalist governance at a smaller, local scale (Alternative Food Networks) instead of the national & supranational level at which it has been developed. In her work on alternative food markets in Italy, she finds that in the case of a novel/alternative governance system, it is possible that a system architecture resembling experimentalist governance can emerge in practice even when the members are not necessarily trying to create an experimentalist governance-based regime (Chinaglia, n.d.). As such, she proposes a theoretical framework to identify the process of experimentalist governance at the local element (Chinaglia, n.d.). While the main elements of

this framework mirror the elements of experimentalism, she also highlights the need to reframe these for a local context.

First, there are **the scope conditions** of experimentalist governance discussed previously: **polyarchy** and **strategic uncertainty** (described in section 3.1). Chinaglia (n.d.) argues that polyarchy (the idea of multiple governing actors with equal power in goal setting) is not as fundamental at the local level as at the macro (country) level (Chinaglia, n.d.). Rather than having equal power in governance, actors such as NGOs, civil society groups, etc work within the space given to them by national regulation.

Strategic uncertainty, on the other hand, is still applicable at local level, although in a slightly altered form. Rather than uncertainty about the goal, Chinaglia (n.d.) argues that at the local level strategic uncertainty may also be brought about by lack of knowledge, resources, or time by local authorities to respond to new challenges (Chinaglia, n.d.). Here her framework diverges from the experimentalism body of work, as it considers that local authorities may not actually have all the necessary implementation knowledge and may also have other interests or pressures.

Furthermore, she identifies an additional scope condition for local level experimentalism: the **ability and willingness by actors involved to adopt a structured governance**. Local level initiatives do not always occur in a setting made for governance (such as the EU, or such formal settings where nations engage in governance at a macro level). Where actors do not want to engage in any kind of structured governance, it will be less likely for any governance to arise, much less experimentalism, which relies on the possibility for feedback and revision. Chinaglia's work references this factor as a reason why some initiatives (alternative food networks) remain niche and do not (want to) develop where others grow in size, power, and influence (Chinaglia, n.d.).

The second part of this local experimentalism framework has to do with the **process or architecture of experimentalism itself** - the **four core building blocks of experimentalism** (goal definition, local implementation authority, feedback/reporting, revision). These elements are the core of experimentalism: even if the scope conditions are met, a process without any possibility for feedback or revision could not be called experimental. Just as the scope conditions, however, these four key elements also need to be reframed for a local context. For instance, Chinaglia (n.d.) notes that as we are dealing with micro (local) rather than macro (country) level contexts and realities, these four key steps may look less structured and more informal (Chinaglia, n.d.). Additionally, local experimentalism is also structured around a **common perceived problem**. Furthermore, it is important to note that at the local level, the actors with local implementation discretion element will refer to the actors directly implementing the solutions or creating structures addressing the issues, changing slightly in meaning compared to broader experimentalism. Lastly, there is the matter of **penalty defaults.** Chinaglia (n.d.) argues that at a local scale, penalty defaults will likely differ from the punishment concept of international level governance (Chinaglia, n.d.). This is because local level initiatives and networks are more likely based on trust and transparency. This means that penalty defaults may not need to be as structured or "strict" at a local level initiative: the threat of exclusion from a network, for instance, may be a sufficient penalty default for local scale actors, for instance, without structured punishment such as fines being necessary.

Just as for the scoping condition, Chinaglia's (n.d.) framework identifies an additional factor which must be taken into consideration in the process of local experimentalism: **interaction with institutional actors** (Chinaglia, n.d.). Support or lack thereof by local authorities (either because they do not recognize the issue, do not have resources, or something else) can be a key enabler

or obstacle for the development of local initiatives. Therefore, looking at the interaction between the initiative and existing institutions is key in identifying experimentalism at the local scale.

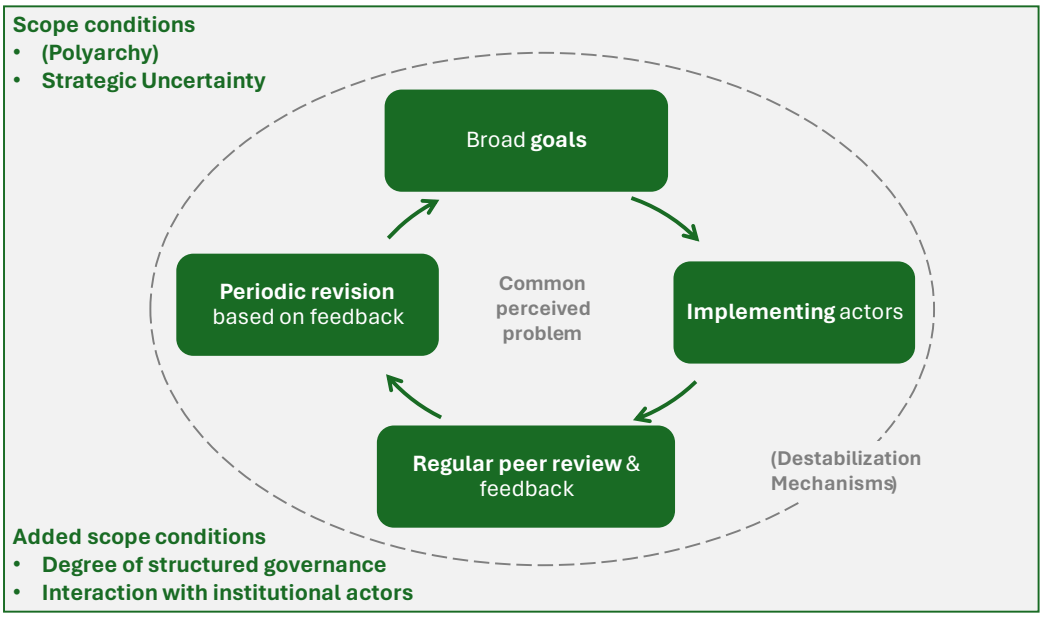

Figure 4. Experimentalist governance representation from Figure 3 featuring local level factors identified by Chinaglia (n.d.). In parenthesis are factors which may not necessarily apply at the local scale (as described in text)

3.3 Experimentalist governance and food forests

While food forests would be an even smaller scale application of the work by Chinaglia (n.d.), they have features which would still make them suitable for analysis via a local experimentalist governance framework.

Food forests are often not specifically regulated – they tend to fall within the cracks of public green, agriculture, or somewhere in between. However, as discussed in previous sections, despite the lack of direct regulation of food forests or peer reviewed research on their governance, food forests are governed in practice. They continue to increase in number and are managed every day, learning by doing and adapting to the existing governance and policy frameworks in order to achieve their sustainability or other broad goals, whichever these may be (as discussed in the previous sections, these are not necessarily the same across all food forests). Both the concepts of a broad goal and that of learning by doing fits the picture of the type of intervention or alternative system for which experimentalist governance can be useful.

It is likely that, in the absence of a pre-existing single food forest model or rules, food foresters already engage in a review based or recursive form of de facto governance. Therefore, experimentalist governance can provide a useful theoretical underpinning to understand the mechanisms behind governance of food forest in practice. Furthermore, as experimentalist governance is not designed specifically for sustainability phenomena (such as for instance, transition theory, which also would not be suitable here due to its frequent techno focus), using it as a theoretical framework has the added benefit of not pre-imposing any one goal or mechanism upon them before the analysis has even started. As such, it will not be an ill fit for food forest projects that do not have a sustainability based main goal. Furthermore, experimentalism as an analytical framework can be useful in a novel, experimental context where goals may change as it can by design allow for changes in goals or mechanisms to evolve).

Therefore, projects that may have changed (in goals or otherwise) would not be harder to analyse with an experimentalism informed framework, nor would they be penalized as something such as "less effective" for having organically evolved over time.

3.4 Experimentalism, Pseudo-Experimentalism, and Everything in Between

It is important to remark here that experimentalism is not a pure mode of governance: it can (and does) exist alongside other modes of governance (Chinaglia, n.d.). This is particularly evident when one looks at the EU context, which is often used by Sabel and Zeitlin to illustrate the framework (Sabel and Zeitlin, 2012; Zeitlin, 2016). Whie experimentalism does arise within different EU governance settings, it does not exist in isolation from other forms of governance: rather, as the EU experimentalism examples illustrate, experimentalist approaches can emerge within other forms of governance (De Burca et al., 2013; Zeitlin, 2016). This leads to the following point: even if food forests are not purely experimental (which is likely, as they did not seek out implement experimentalist governance specifically), they may still use experimentalist approaches.

This means that that the line between experimentalism and non-experimentalism is not necessarily a hard one, and that experimentalism (or the lack thereof) is not a black and white matter. This line between "true" and "untrue" experimentalism is discussed in the work of De Burca, Keohane, and Sabel (2013) on the different modes of pluralist global governance (De Burca et al., 2013). In this paper, they introduce the concept of "Pseudo-Experimentalism": governance arrangements that have some features or characteristics of experimentalism, but which fail to meet the criteria of for a truly functional experimentalist governance system (De Burca et al., 2013). The authors describe the variety of reasons why this may be the case:

> *In some situations actors have sought to create arrangements intended, at least by some, to approximate the ideal type of Experimentalist Governance; but for a range of reasons, including political disagreement, its opposite (an excess of shared confidence that the essentials of the solution are already understood), entrenched veto-positions, or a limited commitment to fuller participation, they have failed to do so. (De Burca et al., 2013, p.774)*

This list of factors can be a useful starting point for indicators that may help distinguish experimentalist systems from arrangements that merely look experimental, but do not achieve its ethos in practice. This will be useful when examining food forest projects: just because the project initiators or participants may want a modus operandi that closely resembles experimentalism, this does not necessarily mean that this is achieved in practice. It is important to note, however, that while the authors make this distinction between true and pseudo-experimentalism, they also recognize that these are not two sides of a clearly defined line, but rather two poles of a continuum that may develop over time.

> *[T]here are manifold situations where Experimentalist Governance is currently developing, has yet either to succeed or to stall, and could eventually do either. (De Burca et al., 2013, p. 778)*

With this context of a continuum and of nuance, experimentalist governance as a conceptual framework clearly allows for much more than an analysis of whether governance arrangements are or fail to be experimentalism. Rather, applying experimentalism as an analytical lens can also allow for an analysis of the relations of governance within a given system or governance arrangement. This is relevant because it leads to learning about the relations in a system beyond

a binary of experimentalism being present or not. That is, ss the case of pseudo-experimentalism above illustrates, even in the case a system fails to be true experimentalism, applying an experimentalism will still reveal a lot about the underlying factors of the system in question. This is important because the aim of the thesis is not a theory proving one (*Is experimentalism in use Dutch food forests?*), but rather to discover what the interactions of governance are in Dutch food forest, where experimentalism is the tool for the exploration (*What are the relations of governance in Dutch food forests as revealed by experimentalism lens?*).

4. Method

The primary method of data collection for this thesis was qualitative, semi-structured interviews with food forest members and initiators from different projects around the Netherlands, supported by document collection and analysis where documentation was available. The exact steps of the method are highlighted in this chapter.

4.1 Food Forest Project Search & Expert Interview 1

The first step of the method was to find different food forest projects in the Netherlands. This was done primarily via internet search (using terms such as “food forest” and the Dutch equivalent “*voedselbos*”), where direct results were paired with a snowball data gathering method to increase the range of results. As the projects were identified, they were added to a list of food forests, which included basic information (location, visiting and interaction possibility, etc) and contact information. Research on potential food forests to add to the list was also done informally, with the help of the network of other MSc Organic Agriculture/Resilient Farming and Food Systems students at WUR. This complemented the findings obtained from the internet search, as there are projects with names other than “food forest” in their official title which could have been overlooked otherwise.

The intention behind the process was to identify a wide range of food forest projects around the Netherlands, so that different “types” of food forests (including variability in ownership, goals, and public participation) would be represented.

During the search process, an expert interview was conducted with Anna Roodhof, a PhD candidate researching food forests in the Netherlands. This was an informal interview meant to complement the project search with expertise both on identifying local projects and the main similarities and differences between them (particularly with regards to the governance focus of the study). According to this expert interview, in the Netherlands there is variability between different provinces or even municipalities with regards to support for food forests (Expert Interview 1). These insights are also now available in a paper published in March 2024 (Roodhof, 2024). Therefore, food forests from many different locations were scouted in the starting list.

4.2 Interview Guide & Expert Interview 2

While different food forests were being researched and contacted, the interview guide was set up. The guide was designed for a semi-structured interview. While guiding questions were prepared, open questions and opportunities to expand on unexpected ideas or topics was left open within the format. In this way, factors that may not have been anticipated or topics which the researcher or participants found interesting could be highlighted or elaborated upon, and the research (and the obtained information) was guided by but not constricted to the lens of the theoretical framework alone. Perhaps most importantly, this less strict format more closely resembles a natural flow of conversation, allowing for more connection and trust between the researcher and participants to be developed during the process.

The interview questions themselves were created according to elements of experimentalist governance, namely the theoretical framework. For instance, goal definition is one of the four key elements of the framework, and therefore goals of the food forest and their participants were addressed in the guiding questions. The main topics covered in the interview therefore include: (1) contextual information, (2) goals of the food forest and/or its participants, (3) governance structure, including everyday tasks and responsibilities as well as rules, regular meetings, etc, (4) adaptability/response to new ideas or disagreement (via examples), and (5) changes over time (to any topics above).

During this stage, the second expert interview was conducted with Sara Chinaglia, the PhD student working on local experimentalism whose work was discussed in Chapter 3. During this informal interview, her local experimentalist concepts were discussed, alongside the different data collection methods in her work (Expert Interview 2). Her interviews with alternative food network members were of particular interest to the project, as these featured similar themes as those which would be relevant when talking to food forest project participants. Consulting and discussing Chinaglia's interview guide (Chinaglia, n.d.) was key in this step as it allowed for a practical example of how to introduce the sub elements of experimentalism in an interview guide (and in colloquial conversation). For the full interview guide used in this project, see *Appendix 1*.

4.3 Field Visits & Contacting Participants for Interviews

While it is marked as a next step in the method, contacting and visiting different food forest projects happened in parallel to the first two steps. The food forests identified in step 5.1, which had working days or other such kind of visit or tour availability, were approached in person. In these cases, the aim was to interact with the food forest organically where possible, mirroring the way interested members in the community or otherwise interested people might get in touch with a project. This would therefore not only be an opportunity to ask people from the projects if they would be interested in participating in the research, but also serve as the start point of the data collection on those food forest projects. In these cases, field notes were taken immediately after the visit, so as to keep the visit itself open and less intimidating for potential participants.

The food forest project that did not have any opportunity for visiting on their website or other social media were contacted via their designated contact email. While this also mirrored how an interested person might interact with the project, this meant that these projects could only be visited during the interview itself (rather than before it). This means that for these projects it was not possible to meet and tell people about research in person before they did or did not accept being interviewed, which may be a limitation (more on this and other limitations will be discussed in Chapter 6).

The original aim for data collection was to find three different projects, and to conduct circa 3-5 interviews in each one to create different case studies. In order to account for the possibility that not all projects would be willing to participate, more projects than this were reached out to in order to create a safety margin for rejections. In total, 8 different projects were reached out to for an interview. Three of these were public projects and could be visited without any tour or formality. Two of these three public projects were neighbourhood food forest projects that could be walked through at any time, one of which offered tours and events. All three were visited before being contacted for interviews, but only the third was visited with the presence of a contact person from the project. The other five projects had opportunities for tours or visits upon contact or registration for an event. One had already been visited before the start of the thesis project. Another two were visited via a guided tour. One was not possible to visit due to a scheduling

conflict with another food forest tour. The last project required a yearly membership to be purchased before any visits (even paid ones) were possible. Upon additional contact they had a one time visit price for students, but this was outside of the budget of this project, as travel alone was already limiting price wise. Furthermore, this would not be how a usual member interacts with the food forest, and it was therefore not as useful a method with regards to learning about how people actually interact with that food forest project.

4.4 Interview & Document Collection

Participants who expressed interest in participating in the research received a participant information sheet and were asked to sign a consent form. This detailed the basics of the research, as well as the details considering data handling, storage, and privacy topics. For the full information sheet and consent form, see *Appendix 2* and *Appendix 3*, respectively.

A total of ten interviews were conducted across four different food forest projects, lasting approximately an hour each. In 9 cases, these interviews were conducted in the actual food forest itself, and were therefore good opportunities to see the projects in reality. These interviews were recorded and saved in a password protected computer file in the servers of Wageningen University & Research. The interview number was not distributed evenly across projects: while the original intention was approximately 3-5 people were possible, between people who did not want to participate or practical difficulties of time and availability during the summer season, this was not possible. In one case (Project B), participants form a project did not have time for an interview and referred instead to a podcast episode. This is not as valuable as an interview, of course, as it may not address the exact topics of interest to the research question, but was added to the pool of information as the project in question only had 2 interviews. In another case (Project D), it was only possible to plan 2 interviews, as it was added later in the process, and had less participants. Due to illness of a participant, only one interview was possible. As this project is a private one, however, this interview was deemed sufficient, as beyond being extensive, the project also has less organizing participants than the other three.

Most of the documents for document analysis were collected during the interview day. This varied from taking pictures of information signs, to taking notes of websites, pages or documents referred to by the interviewees, especially with regards to where they may find rules or information on the food forest.

Table 1. Summary of interviews and additional information collected during the research.

	Interviews (Name or Participant Number)	*Documentation*
Contextual	• Expert interview 1 (Anna Roodhof) • Expert interview 2 (Sara Chinaglia)	• NA
Project A	• Interview P004 • Interview P005 • Interview P006	• Website • Information panel(s)
Project B	• Interview P007 • Interview P010	• Website • Podcast • Information panel(s)
Project C	• Interview P001 • Interview P002 • Interview P003 • Interview P009	• Website
Project D	• Interview P008	• Website

4.4 Transcription & Coding

Upon completion the interviews were transcribed into text files for easier analysis. These transcripts were coded manually, as there were not enough interviews to warrant digital software being necessary. The coding was done according to five main codes, chosen to reflect the characteristic elements of the food forest and the key elements of experimental governance, as discussed in the *Conceptual Framework*. These codes are:

1. Goals (of the food forest and/or their participants)
2. Member participation
3. Rules & processes of governance

Additional codes were added during the coding process to specifically highlight (4.) challenges and (5.) external factors in the text. These codes were not mutually exclusive and could include different sub codes. Furthermore, additional notes were taken as needed. An aspect of a food forest could relate to more than one element in experimentalist governance or its preconditions, therefore keeping the coding tree broad allowed the elements to not be overly segregated and easy to find when the final analysis would be created.

The additional documentation was also transcribed (as the case of the podcast) or saved in a text or printed format (for images and web pages), and the coding was also applied there in order to tie in the additional documentation to the analysis.

5. Results

The following chapter will highlight the main findings of the interviews. It will begin with a brief description of each of the four projects (5.1), followed by a discussion of their structure (5.2), goals (5.3), and the common perceived problems underpinning them (5.4). Then, the mutability of the goals will be discussed (5.5), which will lead into a discussion of distribution of power (5.6) between coordinators, participants, and external actors. Lastly, the section will conclude with a note on the growing network of connections that make up the backbone of each project (5.7).

5.1 Project Descriptions

Before diving into analysis, a brief description of each project will be given. As these will demonstrate, each has different origins, ownerships, and participation opportunities for its members (or prospective members). This is important to contextualize the findings of the next sections, as well as give each project a distinct and identifiable character within the discussion.

Project A is a public, **neighbourhood food forest** in the province of Zuid Holland. It was initiated in 2017 by a farming and food forest enthusiast who moved into the community. He proposed this to his neighbours, and with their different feedback and support, fine-tuned the idea. The community proposed the project to the municipality, who supported the project via allowing the land (which was previously a dog waking area) to be used as well as providing initial land preparation and resources. The contract of the municipality had an original period of 5 years, and now, 6 years in, has been extended to indefinite, where the community can use the land as long as they care for it.

The project is part of a local NGO (*stichting*) that supports sustainable initiatives. Practical, everyday management wise, it is still stewarded by the person who initiated it, as the community trusts his knowledge, with the support of a core group of people who volunteer and engage with the project most frequently. As it is a public space, members of the community can walk in and harvest from the food forest at any time in the day, so long as this is done in moderation, as the harvest is also meant to be shared with the rest of the community. Regular working & harvesting days are organized, and anyone from the community and beyond may join and volunteer. They also have a youth group, where children from the neighbourhood come together and learn about caring for the land and about the plants in the food forest. External people, companies and organisations may also organize visits and working days in the food forest.

Project B is a **Community Supported Agriculture (CSA)** initiative in the province of Gelderland, which was initiated in 2020 and belongs to a cooperative. The cooperative purchased the land, which used to be an orchard, and is converting it into a food forest. This is one of multiple projects owned by the cooperative. There is a market garden within the food forest, which provides most of the produce for the CSA as the food forest is being established.

Prospective harvesters of the CSA can sign up for an introduction tour, and if they like the idea, pay a yearly membership per person according to their financial capacity. With a membership, they can come harvest weekly according to what produce is available (during opening hours). The project is also a care farm for people with a distance from the labour market who have an interest in gardening, farming, or otherwise outdoor work. They periodically organize open days and other activities. Besides the cooperative members, the market garden has two (paid) caretakers who care for the vegetables and help coordinate people and activities in the food forest. These people include the harvesters and workers, but also a group of volunteers who helps the project's

practical planting and other caretaking tasks. In project B, there is also the possibility for people who want to support the project to support it by investing in a share of the project.

Project C is an **education food forest** of an institution in the province of Gelderland, initiated in 2018. It was initiated by a member of the institution which owns the land the project is on, and was designed and coordinated in great part by a few institution members. These initiators went on to be the main caretakers and coordinators of the project via an NGO *(stichting)*. The project is not open access and is limited to members of the institution. As such, it also follows the opening hours and other practices of the institution.

The project hosts a weekly working day where interested people may volunteer to work on the food forest. As the project is education focused, people from the institution are welcome to do research & other related projects in the food forest. The food forest coordinators host monthly meetings for these researchers. Furthermore, visits associated to groups within the institution can be organized via contacting the coordinators.

This educational food forest also hosts a youth group, where children from a local school come during the summer season to learn about nature. Project C is also involved in initiating and supporting other food forest projects beyond the project itself. However, the other projects are not owned by the NGO in this case – rather, they support the founding of food forests by other farmers/on the land of other farmers, and in return for guidance and support ask for the possibility for monitoring and research. In this case, Project C is the base of knowledge with which they may help other projects, and by setting up these other projects or cooperations they may generate more learning in return. Occasionally events or activities may be organized as well.

Project D is a **privately-owned food forest** and farm in the province of Nord Brabant initiated in 2020. The farm itself predates the forest, having been in the family that owns it for generations, and more recently being restarted when the current family members and project initiators moved into the land (four years prior to the start of the food forest project itself).

While it is on private land, this food forest farm is deeply concerned with community building. For instance, beyond the project initiators, a couple of WWOOFers (World Wide Opportunities on Organic Farms, a network via which people can participate in homestays on organic farms) reside there for free in exchange for helping to maintain the project in accordance with their interests and skill sets; they are standard features of the farm organization. Together with the project initiators, they make the core group of the project, taking care of the land and organizing practical matters (such as maintenance), events, etc.

Furthermore, the project has regular open working days where community members and beyond may join to connect with and learn about the project. It also hosts a number of other events, from dinners to other collaborations with the local community (such as yoga workshops, etc).

Table 2. Summary of projects' main characteristics

	Project A	*Project B*	*Project C*	*Project D*
Description	Neighbourhood food forest	CSA food forest & care farm	Education food forest	Farm food forest
Land ownership	Public	Cooperative owned	Institution	Private
Province	Zuid Holland	Gelderland	Gelderland	Nord Brabant
Start date	2017	2020	2018	2020
Activities	Regular working and harvest days, youth group for children, possibility for tours and working days for people, companies and institutions upon contact	Weekly harvest for paying members, periodic open days, activities, and events.	Weekly working days for institution members, occasional larger events.	Regular working days, frequent events and collaborations with local community.

5.2 Structure

As described in Chapter 3, one of the main pre-requisites for experimentalism to emerge at the local level is the ability and willingness of participants to engage in some degree of structured governance. Therefore, structure will be the first element addressed in the analysis of the project, as without any pre-set structure experimentalism could not be applied.

As the project descriptions above demonstrate, the food forest project case studies examined here do indeed have some degree of pre-set operational structure – and by extension, they all have some degree of structured governance. What this structure exactly looks like varies between projects, as evidenced in the descriptions in the previous section. For instance, the neighbourhood food forest (Project A) is led by a steward alongside a core group of most involved members, whereas in the CSA (Project B) the leadership lies within the cooperative that initiated and owns the project. It can therefore be said that a base element of local experimentalism has been met: the projects do all have some degree of structure in their governance.

However, as governance at the local level frequently comes down to face to face interaction between individuals, rather than institutions or bureaucratic processes, there is still a degree on informality in the governance processes of all four projects. That is to say, rather than needing formal proceedings or documentation, many of the everyday governance decisions of a food forest come down to conversations between people in the food forest. That is not to say there are no meetings: interviewees from most projects site mention formal meeting moments as part of the food forest activities and process. However, the need for meetings can be replaced via direct communication, such as in the following case of the CSA food forest during the busy summer season:

> *... especially with the season it's like you don't have much time to do weekly meeting and... so now we mostly do WhatsApp messages on what is done, what needs to be done [...] and if there's something [...] we discuss what we both think is the best [thing] to do. We like call once every two weeks or three weeks and sometimes one of us is working on the day that the other is also*

working, so we're doing it's like sort of combined working day, uh it's sort of extra day for us to work but it's like good to work together like every two three weeks for a day or for half a day, to sort of interact a bit ... (P007, Project B)

Indeed, in all projects, the collective working days are mentioned as the primary moment for participants to communicate – whether this be informal conversation or more serious matters, such as feedback, novel ideas, and disagreements (these will be addressed in a following section). The communication that happens in collective moments such as working days may reduce the number of formal meetings required. The food forest is, after all, a meeting space where people come together – and are even addressed as such explicitly in some interviews, as expressed by a participant of the education food forest (Project C):

...yes, so when we are here, well, we often use this as a basically meeting space, just to talk with each other about all the things that we are doing... (P001, Project C)

5.3 Goals

One of the key elements of the experimentalist architecture is the existence of a broad goal which is targeted by the experimentalist intervention at hand. Therefore, the next section looks at the project goals.

Food forest projects usually begin with a broad design for the food forest as a practical, long-term goal to be achieved in the long term. This will usually involve a map with different broad zones (i.e. a zone with taller nut trees, a zone with particular shrubs & trees, etc). The map is often displayed in website/social media of the project, and frequently also near the project's physical entryway. However, the physical food forest design itself is not the main or only goal of the project, rather, as shown in the quote below, **the physical food forest is usually a tool to achieve a broader goal.** For instance, Participant 001 describes the goals of the education food forests as follows:

I think [restoring] healthy relationships with the environment, and also with people among each other, and also healthy economic relationships. That's our main focus, and food forestry is kind of the practical way in which we do that. (P001, Project C)

While all the projects have goals, what the goal exactly is varies between projects. **That is to say that despite using the same "tool" (food forests), the projects have very different main goals between them**. As a community food forest, for instance, Project A's goal is connecting the people in the neighbourhood and supporting them, going beyond only the goal to build a food forest ecosystem. Project B, on the other hand, is a CSA, which means it's goals are going to be production and economic oriented. It must have sufficient harvest for subscribers and make a sufficient profit as a business. As an educational food forest, Project C's goals are education oriented. This includes education in two ways: first, that of the people interacting with the project learning about nature, and second, that of the people doing research in the project contributing to the wider body of knowledge on food forests. Lastly, Project D's goals are ecosystem and community driven, being characterized not only by the desire to create a farm that can exist in harmony with nature, but also by the goals of connection, whereby people would reconnect to their food and each other. The table below (Table 3) summarizes the different main goals of the projects. Note that these are not necessarily the only goals of each project, but simply those characteristic main goals which differentiate them from the other projects. As the "Descriptive Name" column shows, these goals also inform the way in which the projects were named in text.

In this way, discussions of differences between projects will always be contextualized in relation to their goals (furthermore, on a practical side, using the descriptive titles will make the discussion easier for a reader to follow than referring to the projects as A, B, C, and D during the length of the text). Keeping the goals in mind when discussing the other elements of the food forests is important, because the nature or central goal of a food forest has an influence on governance decisions – for instance, a food forest meant to be public may have a more participatory model than one that is not. This is evident when we compare the neighbourhood food forest, which is public by design and has the most open/participatory governance model, to the other three projects.

Table 3. Summary of differing goals between the four food forest projects

	Descriptive Name	*Goals*
All	-	• Productive food forest • Alternative model of agriculture which is more sustainable than conventional, monoculture based agriculture
Project A	Neighbourhood food forest	• Connection between people • Connection between people and nature • Shared space and produce for neighbourhood members
Project B	CSA food forest & care farm	• Sufficient produce for all the harvesters who pay to be members • Sufficient income for the business to continue running
Project C	Education food forest	• Contribute to wider body of knowledge on food forests (research) • Connecting & educating people to nature and food production
Project D	Farm food forest	• Create a farm that can exist in harmony with nature • Connection between people • Connection between people and nature

5.4 Common Perceived Problem

A **common perceived problems** is a key element in Chinaglia's (n.d.) local experimentalism. As this relates to the broad goals in the experimentalist architecture, it will be addressed here.

The **broader goal of the projects discussed above are indeed informed by the project initiator's/participants' perception of what challenges** or issues (global and local) are addressed by a food forest. Here we see variability, as a range of issues are connected to the perceived role and need for food forests. In the case of an education food forest, for instance, the main issue appears lack of knowledge. In other cases, lack of connection (with other people, food, or nature) or the unsustainability of the current agriculture system are central. That is not to say these perceived problems cannot connect and overlap. For instance, in all project websites, connection with nature is mentioned, as it connects with both knowledge (people's knowledge of their own food and environment) and the current state of food production (where people do not engage with agriculture or their source of food, which is mass produced and disconnected from its origins).

Here it is important to momentarily address **the participants of food forest projects** separately from the projects itself. As they chose to start, stay, or join the project and its stated aims, it is not surprising that there are commonalities between their interests and goals as related to the project, as well shared ideas about why it is important to be involved, and what problems they address:

> *...There are some common views on people coming here who like to, who like, you know, let's say nature, diversity, being outside, you know, meeting like-minded people, working together, working with the earth. I would say, yeah. Yeah. But I also see even farmers from the neighbourhood, from around the [the city] coming here to take a look. (P006, Project A)*

It of course goes without saying that not all participants think the same, and the goals and projects they find most important personally may not be the same as that of the main food forest project. While the project's main goals resonate with them, there are also a host of personal reasons motivating people to interact with a project. Indeed, interviewees cited a variety of reasons they are involved with their respective food forest project, including interest in food forests, but also wanting to work with their hands, a desire to contribute to sustainability or change in food systems, mental health, wanting to connect to other people (or a wider belief that people should be more connected), leaning about farming, etc. None of these reasons, however, inherently conflicted with the main goal of the food forest or disrupted the existence of a common perceived (main) problem within each project,

5.5 Mutability of the Goals

Besides having a broad goal, experimentalist is also characterized by the possibility for this goal to be adapted and changed. An inflexible goal would be incompatible with the ethos of experimentalist governance and would indicate the limit of the extent to which participants can influence the project. Therefore, the following section examines the mutability of the project goals: that is, how flexible or susceptible to change these goals are.

For all four projects examined, both the general project design and its broader goals are usually defined at the start of the project, as highlighted below. However, the path between this start point and the objective is not pre-defined. This is most clearly exemplified in the following quote from the education food forest:

> *Well, the goals were set in the beginning, but how those goals would be then enacted in this place, that was the big question. [...] there are many ways to organize that, and that has been the big question. Okay, how do we organize all those goals within this small space? (P001, Project C)*

According to the interviews, **the main or broader project goal will usually remain unchanged** (it is important to note here however that most projects in the study are relatively young, with the oldest being 6 years old). The idea of a food forest and the broad visions associated with it are the guiding thread, as well as what draws interested people to the project. However, **that is not to say that the goals cannot shift**. The shift in goal can come due to feeling of the participants with regards to the project, coming across new information/knowledge that informs their practices, or even just the experiential learning of dealing with the food forest over time. For instance, the neighbourhood food forest (Project A) began as a "lazy food forest idea" (P006, Project A), a plan that would involve little interaction between people and the land. However, over time this changed to a more interactive vision, where not only the land and product was for the people, but

that people would interact with the soil (and each other) during regular working days. The main idea, that of a community food forest, stayed the same. What that meant to the participants, however, changed slightly.

It is interesting to note that rather than goals being shifted, **food forest goals can change by being added to**. That is, by **growing, or expanding** based on the experience and knowledge of the participants. For instance, in the education food forest, the goal of connecting to nature came after the project had started:

> *...there are more aims added and maybe, no, most of the initial aims, they still stand, but there are farm, there are a lot of new aims came, yeah, were added in this last five years. That, for example, that an aim like, this is a place, a food forest is a nice place to reconnect with nature. That was not a clear aim [at the start] [...] we did not realize that the food forest is such a nice tool to reconnect with nature, but for a lot of people, they, they have absolutely no idea what it means to reconnect with nature... (P003, Project C)*

5.6 Distribution of Power

Polyarchy is one of the preconditions of larger scale experimentalism. As argued by Chinaglia (n.d.), this is less likely to be the case in the local scale (see Chapter 3). However, for some experimentalism to emerge, there needs to be at least some distribution of power, as a command-and-control system would not leave room for the iterative cycle of feedback and revision that is characteristic of experimentalism. Therefore, the next section looks at the distribution of power in the food forest projects.

5.6.1 Stewards and Coordinators

While they have many participants and ways for interested people to get engaged, **in all four projects there is a steward/coordinator or coordinating group**. In fact, when asked to draw a diagram of the food forest's organisational structure, most participants started with a circle at the centre, representing a person or group of people. Who exactly these people are, and how they are selected or end up in this position varies between projects.

In the neighbourhood food forest (Project A) for instance, the project initiator (who was also P006) was identified as this centre figure or steward. He was not alone in this position of leadership, however: surrounding him at the project's centre were a core group of more active participants who work on the project more often, or volunteer for particular responsibilities or positions.

In the CSA food forest (Project B), on the other hand, there is a bit more formality regarding who is in charge, as it is owned by a cooperative. Therefore, the members of the cooperative have specific, defined roles. While they made the starting plan and the larger decisions, they hired people to be responsible for the market garden, and these two caretakers are now part of the project inner circle as well. The caretakers do not have the same oversight and ownership as the cooperative members, but have an influential role as organizers and experts, having a lot of freedom in the garden (although this influence lessens in the rest of the food forest, as there is a design to follow).

In the education food forest (Project C), the centre is made by the initiators who made the plan and are part of the NGO (*stichting*) they created. Similar to the neighbourhood food forest, however, people can take on particular projects within the food forest. The original institution member who initiated the project, although not actively managing the food forest anymore, is still

recognized as having a lot of influence on the project's ideals and philosophy. When one of the participants was drawing a food forest diagram, for instance, they placed him not in the centre, but around it, with arms stretching to support the coordinators and the project goals.

Lastly, the food forest farm (Project D) would appear to be the odd one out, as it is privately owned, and we would expect it to be managed by a single person. However, while one person does have an organisational oversight role, the WWOOFers involved are seen as part of the core team as well, taking on responsibilities aligning with their interests and skills.

5.6.2 The role of the stewards

The project leader or core group are often **involved in creating the goals, and will usually be the one(s) guiding the project towards them**. They are also often in charge of the organisation and carrying out of everyday practical tasks. In this way, they are **stewards, more than an authority figure**. Usually (but not necessarily) these will be the initiators of the project, and are the ones guiding the project via their knowledge, experience, and/or resources. In the neighbourhood food forest, for instance, this guidance role of the coordinators was particularly evident when participants were not sure about an answer to a question, as they would refer to the person they identified as steward for an answer:

[The steward] would know that... (P005, Project A)

In particular, the steward is cited by other participants as the one who keeps the goals 'in mind', carrying them through and maintaining them in the project via the everyday activities and decisions. There clearly is an important role of trust here. Just as in experimentalism, national actors "trust" local actors to implement actions, in food forests, members trust the stewards to implement the goals of the project (of course, in the national scale trust is not an adequate term, as this has rather to do with power and creating bodies to implement actions). For instance, in the neighbourhood food forest case just referred to, the stewards often experiment and try new things in the food forest. In all the interviews, this experimentation was never seen as a reason to doubt the steward's guidance, and was rather seen as something interesting and exciting:

> *So, [the steward] has ideas, and he's experimenting, because there was one small piece where he decided to combine plants very close together, and he said he'd learned about that from somebody, and he wanted to see how it works. [...] . And it's really nice. Every time you come, you see new stuff, and he has new ideas, and he tries out things. And, I mean, there was a plan at the beginning, and he still has a plan in his head. Yeah. For me, it's just, wow, new stuff, and we're planting this. Great. (P005, Project A)*

While the case of the neighbourhood food forest project and its associated quotes best illustrated the stewardship idea, this guidance position of the coordinators as the people who held knowledge was present across all projects.

It is interesting to note here that there is a **potential for over-reliance on the stewards/coordinators**. That is, that the project may become dependent on them as sources of knowledge and guidance. As they have the knowledge and "carry" the goal, there is a risk the project depends on them being there to continue. This is particularly the case where the leadership and the associated knowledge lies solely with one or two people, as the project can be very vulnerable if they for some reason become unable to continue working on it.

Here the over-reliance does not necessarily have to do only with the concentration of knowledge in one or few people, but can also relate to the concentration of the goals with the stewards (as we have already identified their role as carriers of the goal). In theory, everyone who joins the project agrees with the goals to some extent and will be working towards them. However, in practice, if they do not think about it frequently, participants (and potential successors) for the project coordination may not necessarily be as closely acquainted with them and the related learnings accumulated over time. With regards to governance, such an over reliance and collapse would throw in question whether the governance arrangement in question was at best effective or at worst ever truly in place (versus a command and control system by the people holding the knowledge, who were in charge of every single decision and process).

This is likely associated with the time frame in which the goals are considered, and what the coordinators or stewards consider a short- or long-term goal. That is, in most cases the participants see themselves as being involved in the long term, but have not considered even longer term moments in time where they are no longer there to steward the project. This makes sense, as the oldest project studied here is in fact Project A (neighbourhood food forest), which is only 6 years old.

Whether coordinators are rule enforcers or not is less clear within and between projects. In fact, in most interviews, **participants struggled to even think of rules at all**. **Rather, most participants ended up referring to what they considered as common-sense everyday behaviour,** such as not trampling the plants (P002, Project C).

That is not to say they had no formal rules at all, however. The CSA food forest (Project B), for instance, had written down rules for the members (that is, the people who paid a membership-subscription to harvest the produce) on what they can take in a certain week, which is communicated in the website or orally when they come by the garden. In the neighbourhood food forest (Project A), there are signs (and also on the website) asking people not to take too much and to keep it clean, as the food forest is meant for everyone. In the education food forest (Project C), the rules are not written and only communicated orally. They refer in great part to the rules of the institution they are in, namely regarding opening hours and that only institution related people should participate in the project. In the food forest farm (Project D), the rules were particularly difficult to pinpoint beyond common sense behaviour (P008), but it can be said that the rules of private property apply – that is to say, someone from the community can visit, but as it is not public land one should not walk onto the project any time of day (or night) as is the case for the neighbourhood food forest.

Breaking of these rules (or principles) and related disagreements were rare across the four projects. In one case, for instance, an interviewee could not even recall an example of such an instance (P010, Project B). When such situations do arise, they are dealt with via conversation with the people involved. This idea of conversation as a tool brings back to the point made earlier in regarding everyday governance being carried out via informal conversation. When rule breaking arises, stewards will often be the ones to have these conversations, but are not necessarily the only ones who can talk to someone to resolve disagreement or rule breaking.

An interesting case arises in the education food forest (Project A), where the participants sometimes expect the steward to talk to others when disagreement arises, but the steward does not see this as their responsibility alone and encourages them to solve disputes by communicating directly with each other.

As the rules are often not formalised and the responsibility of enforcement unclear, it follows that **consequences for breaking the rules are even less thought about and defined**. As evidenced by the following quote from the food forest farm, the attitude of the people within the project is that they will cross that bridge when (or if) they come to it:

> *We didn't have the problem yet that's that we needed to manage or say to someone no you shouldn't take more than that so that we actually saw it [...] so there's not actually a consequence at the moment I would say but of course we should we will talk about it if that happens but at the moment its not a problem. (P010, Project D)*

5.6.3 Members & participants

While the food forest studied in the research shared a steward (or group of stewards), that **does not mean participants cannot have influence in the project** as well. In fact, in all projects there are opportunities for participants to interact and voice their opinions. However, **the way and degree to which members can participate and interact with the project varies**. Similarly, how easy it is for the participants to become more involved and take on greater responsibility varies, with some cases having set roles people can join (i.e., volunteering), whereas in other the permeability of the core group is linked only to time and willingness. Regardless of the power a member may exert, in all cases they are part of the project's community and contribute to the ideas and philosophies present.

In the neighbourhood food forest (Project A), as stated earlier, anyone can walk through the food forest project, and anyone can join the regular working days. Participants who are interested in becoming more involved can participate in the working days more often, or volunteer for particular projects or tasks. These may be tasks or projects proposed by someone from the core group, or ideas that they came up with themselves. As best put by Participant 004, if someone wants to try something new, *"[...] it's basically up to them to lead that system," (P004, Project A)*.

Therefore, one can easily make their way into the core group by simply putting more time and involvement. In fact, while concentric circles were frequent in the diagrams made by participants, Project A is the only one where a participant drew a spiral diagram (that is, one which shows mobility towards a centre). Furthermore, it is the only project to attempt a meeting with the community to involve them in the direction of the project.

In the CSA food forest (Project B), on the other hand, who does what is a bit more structured. As covered previously, there are official roles and responsibilities split between the cooperative members and the caretakers of the market garden. Harvesters are free to come by and interact with the garden and food forest (as noted previously, the market garden has more freedom of interaction than the forest itself), and people who want to become more involved can become volunteers. That is not to say it is impossible to become part of the core group – one of the garden caretakers was a volunteer prior to assuming their current position. Additionally, Project B was the only one to use a questionnaire/survey to collect feedback.

In the education food forest (Project C), participation is somewhere in between Project A and B. There is also a core group making central decisions, but there are different opportunities for interaction. The weekly working days are recognized as one such key moment for people to voice ideas. Beside the weekly working days, members of the institution can propose research and related projects across many topics, getting a chance to get involved more deeply for a few months or even propose new ideas and practices for the forest.

Lastly, in the food forest farm (Project D), there are also working days, where people can take on additional responsibilities. In addition to the regular working days, it is possible to join and participate in events, and different cooperation projects with the food forest (P008). Furthermore, besides being open to collaborations from the community, the project is always open to WWOOFers (within capacity), who take roles of leadership according to their skills.

5.6.4 External Influences

While this project focuses on the governance within food forests, there are external influences and factors which also affects the power of and within a project. These will be noted briefly here.

Firstly, all researched projects exist within **Dutch regulation**, and as such must follow the land use law *(Omgevingswet)*. For instance, one of the ambitions of the private food forest farm (Project D) is to have a structure built in the food forest to function as an education centre. However, this has not been achieved yet as per the land use code it is agricultural land and cannot have permanent structures. **Therefore, not only does the government have influence over the goals of a project, but can also be a direct limiting factor for these goals**. On the other hand, the government can also be a facilitator for projects – such as the case of the neighbourhood food forest (Project A)). In this project, not only did the municipality subsidize the start of the project, but they also helped prepare the land and dig the pond.

Furthermore, with regards to land ownership, the municipality went from a limiting factor to a facilitator for the neighbourhood food forest (Project A). The municipality leased the community the land, and the first arrangement was a temporary 5-year contract. However, upon the success of the project, when time came to renew the contract, this was changed to an indefinite one:

> *At the beginning we had this agreement with the* gemeente *that we can use this land for five years. [...] And then let's see further. So these five years passed and then I came into contact with the* gemeente *again and I asked for, you know, for a longer term. And we got a* onbepaalde tijd*, so for indefinite time agreement. So [...] there's no ending as long as we are, you know, involved. Involved. Yeah. And take care of the land. (P006, Project A)*

Land ownership is another key factor that blurs the boundary between internal and external influence and power within projects. In the case of the neighbourhood project listed above, the land ownership is linked to the municipality, and now that the contract is indefinite less of a concern. Similarly, the education food forest, being part of an institution, does not own its own land (as this belongs to the institution). Here, there is not an explicit long-term contract, and therefore land ownership is much more insecure. If the institution decided it no longer wanted to have a food forest, it could end the project. Therefore, here an “external” actor has great power and influence in the project. Furthermore, the institution as land owner is a limiting factor for the project ambitions, as they must act within its rules and tailor their goals and plans to meet these external expectations.

In the CSA food forest (Project B) and the private food forest farm (Project D), land ownership is not a worry or limiting factor, as here the ownership is within the coordinating team. However, that does not mean it has no influence in the power dynamics within the project, as it means that one person or set of people own the land. Therefore, even if the projects consider themselves to be open and to be a team effort, ultimately there is someone who has the final say over the land.

A last (but not least) potential influence in the project is the **local community.** This is more explicit in the case of the neighbourhood food forest (Project A), but the influence opinion of the

neighbours was also mentioned for instance in the case of the CSA (Project B). Even in the private food forest farm (Project D), building relationships is noted as a key factor for the project's success.

5.7 A Growing Mycorrhiza network

Here it is interesting to note that just as the goals of the project may be added to, the idea that the projects **can grow organically** (not only in terms of goals, but also in terms of structure) rather than just move linearly towards a goal comes back in many of the interviews. It is best explained by this participant of the education food forest (Project C):

> *So I have to say that, well, we, in fact, I started just with these aims of the food forest and the rest, the whole structure or also how the paths here were developed. It has grown by itself. We didn't design the path. They just came by themselves. […]. And that's maybe a kind of metaphor. That's how it should go, I think. We could also have designed them. But if it is, if it is OK, if it is logical, then these paths they develop themselves. B: That's maybe a nice metaphor of how the whole project is started. If it is OK, then it grows by itself. Yeah, that's how life develops. It's interesting. It grows organically. (P003, Project C)*

The reason why this is included following the power distribution discussion, rather than in the goals section is that this concept seems inherently linked to the people involved in it on a day-to-day basis, regardless of whether they are in the coordinating team or not. The project grows with the community it forms around itself, and as such even if they are not leaders, the participants have great importance to the project's identity and continuation. For instance, the people who volunteer for particular projects for the neighbourhood food forest mentioned earlier may not have been involved in the goal setting, but they still contribute to its identity and character via their contributions.

Furthermore, building the "mycorrizha network" (P008, Project D) of the food forest is also important with regards to the external connections of the food forest. For instance, one participant of the neighbourhood food forest (Project A) is a woodworker, and the connection made with him via his job gives the project access to wood chips for the paths. This idea of a growing "mycorrizha network" of the food forest comes from P008, from the food forest farm (Project D), who illustrates the concept well in the following quote:

> *It feels like this is a really a building mycorrhiza year, so we have a lot of events, but the events are not for PR, they're not for fundraising, it's all about mycorrhiza networks, building a network, yeah, the mycorrhiza, you know, building a healthy soil, which is the community, you know, building a healthy community, building a healthy soil there as well, so. (P008, Project D)*

6. Discussion

This research paper began with the aim of answering the following question: ***What can the application of experimentalist governance tell us about the relations of governance in the Netherlands' food forest context?*** This means that in the following discussion session, two separate things need to be addressed. First, what can be learned about food forest governance using the experimentalist informed method? Second, what were the strengths and limitations of using the experimentalist method on local scale projects?

6.1 Food Forest Governance: Main Takeaways

The main takeaway of the research project is that in terms of general governance structure**, food forests are often led by a few motivated individuals** (often the same individuals who initiated the project). This was the case across all projects examined in this study, and it corroborates the research of Albrecht and Wiek (2021b) on motivated entrepreneurs being a key success factor in food forest implementation (Albrecht and Wiek, 2021b).

This motivated individual led model also held true in the neighbourhood and institutional food forest case studies analysed here, meaning that even though Albrecht and Wiek look at food forests as economic ventures, this particular feature or success factor of food forests may hold true also for food forests that do not have an economic or money-making model or purpose. Besides holding true in the case of 'Den Food Bosch' Food Forest examined by Albrecht and Wiek (2021b) and the projects examined here, this entrepreneur–led structure of governance also appeared in other food forests examined in the literature (2.4).

The Picasso food forest examined by Riolo (2019), for instance, is initiated by a group of activists (Fruttorti di Parma) (Riolo, 2019), and the Purple Thistle project examined in McClintock and colleagues' (2021) work was similarly also initiated and managed by a collective (McClintock et al., 2021). Other cases in the literature do not go into sufficient detail to give a hint on whether this finding is broadly generalisable to food forests at large, but it is notable that all the projects examined in detail feature this led-by-a-few model of governance.

When looking at the project via a lens of experimentalism, **the steward or coordinator led model can however be a point of weakness for certain food forests**. As the results section highlighted, the participants look to the steward for knowledge and guidance – if they do this too frequently, they may become over–reliant on the steward. Looking at it from a strictly experimentalist viewpoint, this could mean that the projects de facto revert to a more authoritative model, with one person making decisions and the others implementing, rather than the more co-constructed and continuous revision model of experimentalism.

On the more practical side, however, the stewards in the interviewed project were highly conscious of both their role and the importance of getting participation from other project members. However, this still can be seen as a challenge point for food forest governance, particularly if the steward(s) make(s) all the decisions. If they could not continue the project, there is a risk of a knowledge and experience gap when they leave. This notion emerged in the interviews of the food forests case studies examined here (particularly the neighbourhood food forest, which has one main steward), and was also found in the literature: In Albrecht and Wiek's discussion of Den Food Bosch, they highlight that the departure of the initial coordinators led to a loss of site–specific historical knowledge (Albrecht and Wiek, 2021b). Therefore, member participation in running the project activities and governance can become a key factor to offset the over reliance on coordinators.

There is much less cohesion between the case studies when it comes to **the extent and influence of participant and/or public participation in the governance of the food forest projects**. It was clear between the case studies examined in this research, which varied from the neighbourhood food forest's openness to anyone who would show up and want to work there being able to gain influence via time spent on the project to the more formal interaction opportunities for specific purposes or at specific organized moments (research, volunteering) of the other three projects.

Even between these projects, the ability to become more influential via participating frequently varied, and how exactly one could voice feedback or express ideas varied. The projects featured in the literature appear to be more formally structured for participants, offering events or volunteering moments (for example in Picasso Food Forest, Den Food Bosch, and previously in Purple Thistle).

Here we come to the issue of formality. **How formal this stewardship by a core group of people was varied** in the projects of the study, from participants simply showing up more and becoming more influential in the neighbourhood food forest to the formal, led by a cooperative nature of the CSA food forest. The cases examined in the literature were closer to the more formal projects: Den Food Bosch is led by a foundation (Albrecht and Wiek, 2021b), Picasso Food Forests is led by a group of activists (Riolo, 2019), and Purple Thistle was led by a collective (McClintock et al., 2021).

The collaboration food forest between the Arizona State University and local NGOs (Spaces of Opportunity) does not have a very explicit governance description, but is part of a collaboration between institutions, and part of a research project. This does not necessarily mean that food forests tend to be more formally led but could indicate that the food forests with formal leadership are more visible or accessible to aspiring researchers.

The **degree of formality does not necessarily implicate weakness for a food forest project**, as an informal governance structure is still a structure – and it is structured governance, rather than formality, which forms one of the base pillars of local experimentalism. Less formality can make a project easier to access, such as the neighbourhood food forest being open to anyone walking by, as opposed to requiring a paid or institution membership (CSA and Education food forest).

However, when it comes to the time to join events and most importantly, **feedback moments, formality could be an asset**. For instance, all case studies relied on the collective working moments or activities to get member ideas and feedback (rather than having any formal procedure to gather opinions). However, this relies on people being willing to share such ideas in a moment not designed for it, which requires a degree of social skill. Furthermore, the coordinators are human, and even if they receive feedback in these working moments, might have a bias for remembering things they find more relevant or interesting. A pre-determined moment (even if an informal meeting) or method (such as survey) for feedback could ensure novel ideas and feedback is both received and considered. It must be noted that nearly no disagreement was alluded to in any of the interviews, and no wish for a way to provide feedback beyond conversation was mentioned by any of the participants. It is possible participants have a good amount of trust in the project leaders, or that they are comfortable sharing their thoughts in the collective working or event moments, and therefore do not feel a need for such a formal feedback mechanism. Indeed, it Is important to remember that people who do not like the way they are able to interact with a project would simply not join the project and look for other initiatives to join instead.

The extent of member participation is not explicitly discussed in the case studies present in the literature, so it cannot be concluded with certainty that this was only via the formal interaction moments or events (Albrecht and Wiek, 2021b; McClintock et al., 2021; Riolo, 2019). This means it is hard to extrapolate the findings here regarding member feedback and adjustments based on this feedback of this study to other food forest projects.

This lack of literature on member participation and influence also makes it hard to contextualize the findings of this study regarding the **mutability of the broad goal** which guides the project. The projects studied in this paper all had goals set at the project start which remain relatively consistent, but which still allow for additions and adaptations over time. A clear example of this was given before in section 5.5, where an interviewee from the education food forest (Project C) describes the addition of the goal of connecting to the nature to the pre-existing research goals of the project. While this suggests that the projects are to some extent flexible, addition is also the lowest barrier in regards to change. Therefore, the degree of flexibility with regards to the broad goal – and therefore the flexibility in the face of uncertainty, which is one of the central features of traditional experimentalist governance – remain uncertain.

The projects in the literature already say little on participant or public participation in the projects beyond whether there is events for them to join, much less how much these participants can influence the goals and ethos of the project. This is particularly important in the context of **time**: all the projects examined in this case study were relatively young, with the oldest one being 6 years old at the time of writing. Therefore, we cannot say whether the project goals become more solid and inflexible over time, or whether they will continue to be open to additions or adaptations.

Furthermore, in the case studies we see many long-term goals are still within participant lifetimes: once their long-term goals are met (when a productive food forest is thriving, for instance), what will this mean for an even longer-term picture? Will the broad goals such as a collective space for the neighbourhood stay the same since they are broad and only the shorter-term goals be replaced? Or will the broad and longer-term goals be revised?

These questions are particularly relevant in the context of a developing field: as the food forestry field grows and develops, novel ideas may emerge about food forestry practices and goals, leading either to shifts or possibly new ideas and disagreements to contend with. For instance, currently food forests remain broad, but perhaps in a few years opinions on whether animals should be part of a food forest system may lead to new ideas or disagreements.

It is interesting to note that just as **land ownership and support from local government** or other institutions featured as main facilitating or challenge factors in both the projects examined in this study and those in the literature. The Den Food Bosch project, for instance, had support from the local water authority, which also is the owner of the land it is on (Albrecht and Wiek, 2021b).

On the other side of the spectrum, the Purple Thistle project had challenges from the local government, and while these died down due to the local officials wanting to avoid bad press, the project was eventually bulldozed by the land owner (McClintock et al., 2021). This corroborates the findings of Albrecht and Wiek on the importance of land access for successful food forest implementation (Albrecht and Wiek, 2021b).

Overcoming regulatory restrictions is another of Albrecht and Wiek's success factors, which is their only institutional success factor (see Figure 2) (Albrecht and Wiek, 2021b). Relations to the

local institutional was indeed a relevant factor in the literature (as described at the start of this paragraph) and in the case studies examined in this study.

Support from the local government facilitated the initiation of the neighbourhood food forest, for instance, and local subsidies and regulations impact the CSA food forest and the private food forest farm. The land ownership of the education food forest, like that of 'Den Food Bosch', is not of the project organizers, but of a local institution, but while this facilitates the initiation of Den Food Bosch, it is a source of insecurity regarding long term plans for the education food forest.

The point being made here is the following: interaction with local institutions is indeed an important factor in successful food forest implementation, but it goes beyond Albrecht and Wiek's point of overcoming regulation (Albrecht and Wiek, 2021b). This relates to the broader scale literature on food forest implementation as well: in section 2.3, we identified that at the local government level, urban planning and governance was a key challenge for the implementation of food forest projects (Borelli et al., 2017; Cariñanos et al., 2019). This makes sense – these institutional actors are key in creating the "comprehensive entrepreneurial ecosystem" to facilitate the development of food forest projects (Wiek and Albrecht, 2022).

Networking and building connections within and without food forest projects is a key factor in all the projects identified in the study. This is also the case in the work of Albrecht and Wiek (2021b), where they identify it in the Den Food Bosch case and add it to their list of success factors (Albrecht and Wiek, 2021b). It is also relevant in the case of the Picasso Food Forest, Purple Thistle, and the Arizona State University food forest cases (McClintock et al., 2021; Riolo, 2019; Wiek and Albrecht, 2022). The food forests may be started by a group of small individuals, but they thrive by increasing their connections with the public, with other institutions, with other food forests, etc. This allows them to gain knowledge, resources, ideas, and relevance in their local ecosystems. The food forests that thrive are all indeed mycorrhiza networks which continue growing with time and with the people they connect to.

The other success factors identified by Albrecht and Wiek (2021b) are less relevant in a discussion of food forest governance, and more suited to discussions of the success of the implementation of a general sustainability entrepreneurship project (Albrecht and Wiek, 2021b). Indeed, this is the main limitation of their work: the success factors and the ecosystem services provided by the food forests are informed by an economic view of food forests, which is not the only format in which food forests may exist, or necessarily be part of their goals the project leaders pursue. However, their work is still one of the most comprehensive pieces of published literature on food forest project implementation and governance to date.

Lastly, it is worthy to note that the projects examined in this study **varied from projects in small municipalities to larger urban centres**. In the work of Coffey and colleagues, the potential for implementation of food forests in small municipalities is lower than in larger cities (Coffey et al., 2021). The findings of this work do not corroborate this: the projects examined in this study varied in location from small municipalities to larger urban centres, showing that the urban centre size is not the only defining factor in implementation potential. The food forests in or closer to larger urban areas do, however, see more government support (in this case, the neighbourhood food forest and the CSA).

This is in line with the study by Coffey and colleagues, which looks at the interest and willingness of local government officials in adopting these type of projects (Coffey et al., 2021). This does not necessarily mean that the potential for food forest implementation in smaller municipalities is

smaller, but simply that the need perceived by public authorities to have public land and funds allocated to this is smaller. Therefore, the projects here would likely have other types of ownership (non-public), such as the food forest farm and the education food forest.

6.2 Experimentalist Governance and Local Scale Projects

In this next section, we reflect on experimentalism, and what applying it as a framework in a local context contributed to with regards to our learnings.

Experimentalist governance was a useful tool to examine food forest governance. This was particularly the case because changes through time could be seen as part of the process itself, rather than a fundamental change to the governance structure of food forests. Indeed, the system of governance in the food forest projects examined in this paper resemble an organically emerging experimentalism, where a central problem leads to a broad goal which gets iteratively implemented and reviewed as the project moves forwards.

The degree of this experimentalism match varied between projects, particularly with regards to **how explicit the peer review and revision steps are**. In some food forests, peer review is embedded explicitly in feedback meetings (such as the anniversary event of the neighbourhood food forest, or the beginning evaluation survey of the CSA food forest), whereas in others the peer review and revision is less explicit, and carried out through conversations during working days. In these cases, the peer review is organic, and the revision part of the process depends entirely on the willingness of the stewards to listen to and enact change.

Experimentalist was particularly useful to getting a full picture of the interactions within each project with **the local level lens adjustment by Chinaglia (n.d.).** Applying the original experimentalist governance framework alone would have missed a few important local context details. Adding scope conditions such as the willingness to adopt structured governance and the interaction with local institutions allowed for the capturing and discussion of a broad range of activities and challenges at the local level. Without these additional elements, the ability to create a full picture of project governance would have been hampered, and we would be missing knowledge on key external or ecosystem factors (such as local government support or lack thereof). **However, from these added scope conditions, a couple points of attention regarding local scale experimentalism** arise in the discussion in section 6.1.

The first was the **degree of formality in the projects**, which relates to the first of the added scope conditions of local experimentalism (a degree of structured governance). In section 6.1, it was noted that the degree of formality of the projects is not inherently a weakness, as an informal structured governance was still structured governance (even if the method in which it was carried out was informal). Rather, this finding is more revealing with regards to the weaknesses of local level experimentalist governance than food forests themselves. That is, in the local experimentalism theory, the distinction between the 'degree of structured governance' for which it calls, and formality needs to be further explored or defined. This is because it is hard to spot structured governance in the absence of formality – but as shown here, the absence of formality does not necessarily correspond to an absence of governance. It is important to note here that this paper is not arguing against the added scope condition – rather, it reinforces its importance in calling for further definition.

The second point of attention is the added scope condition of **interaction with local institutional actors**. As mentioned in section 6.1, the interaction with local land and government institutions (from land ownership arrangements to local water or such government authorities)

could be a major facilitating or difficulty factor for food forest projects. The existence of external actors who may influence the effectiveness of governance to such an extent is not included in traditional experimentalist governance, which deals with the supranational context, and usually has to do with polyarchic countries with no overseeing authority. This discrepancy was anticipated by Chinaglia's (n.d.) work, and this is why in the diagram of local experimentalism (Figure 4), interaction with local institutions is included as an added scope condition. Indeed, without this intentional addition to the local experimentalism framework, it would have been easy to miss these very important (facilitating or debilitating) factors in the operation and governance of food forests. However, this factor appears to be so influential to projects that it would perhaps make more sense to bring it to the main model cycle/interactions, rather than leave it as a scope condition. Especially in the case where local institutions or such external influences are obstacles for food forests, they could be an interruption which prevents the experimentalist cycle, as opposed to a background condition. The research did not have explicit examples of this, as the projects interviewed all inherently have some success (otherwise they would not have existed to be interviewed). Cases in which projects fail to emerge could be more revealing to further examine examples of institutions/external influences disrupting the cycle than success stories (this is a limitation of the research design).

Based on these findings, the diagram of local experimentalism presented in the conceptual framework (Figure 4) has been adapted with an attempt to reflect this more central role of institutional actors (see below). Here most of the local experimentalism stays the same, but interactions with institutional actors is in a position where it may stop the cycle from continuing (if this interaction is a barrier, or a solid line), The exact placement of the red and dotted oval is the following: The local institutions may also impact the perceived problems of local citizens and therefore also influence the common perceived problem and its associated goals. Furthermore, it may hinder implementing actors from implementing.

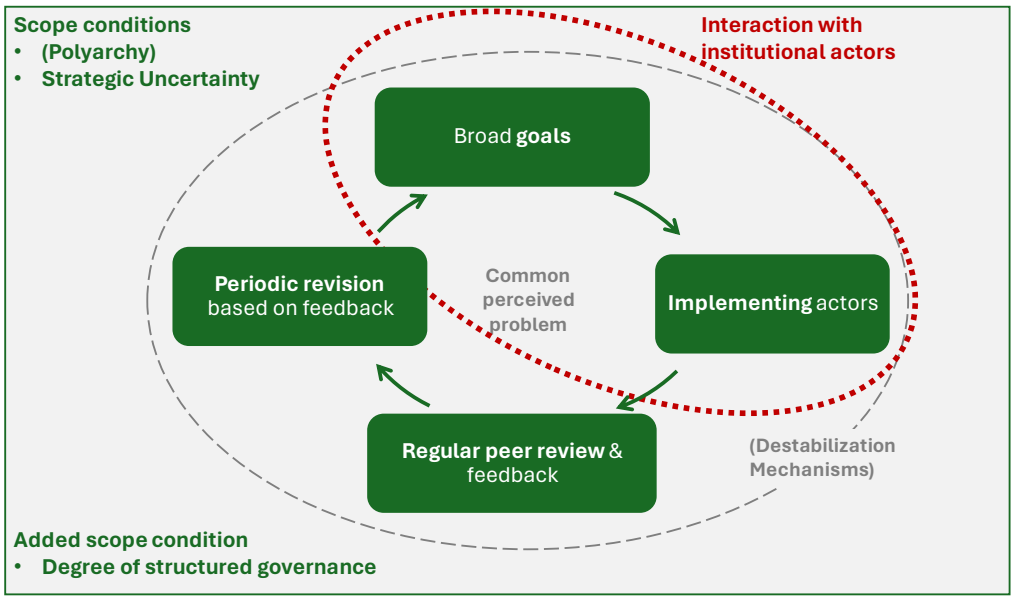

Figure 5. Figure 4 revisited - Experimentalist governance representation from Figure 4 featuring local level factors identified by Chinaglia (n.d.), with interaction with institutional actors moved to central cycle

Even with these minor changes and attention points, the governance of food forest projects in the Netherlands follows a cycle of feedback and revision around a central goal which closely mirrors experimentalism. It is of course possible that because the interview questions were structured

after the experimentalist governance framework, that some elements could have been overlooked. However, the interview was semi-structured and allowed for participants to discuss themes they found relevant themselves, so it does not appear that a key or major element was missing from the discussion entirely.

That is not to say that experimentalism is necessarily the most suitable such small and local scale project analysis. For instance, as mentioned in the results, network building was a key aspect of the food forest projects (the "mycorrizha building" mentioned in section 6.1). The idea of changes and revision is explicit in the experimentalist framework, but the notion of a rhizomatic, growing network of connections or participants is not strongly represented. In this case, one could argue that a framework inspired by for instance network analysis could be suited in capture factors that the experimentalist informed framework here missed. However, a network-based approach could also mean things like feedback and revision would not be examined, so it is useful to say that it is not necessarily a better approach either.

Furthermore, this study has a limited sample size of only four food forest projects. As briefly alluded to in the methods, many food forests were contacted, but they had different degrees of openness and availability. It is possible that the food forest projects here represent a more accessible subset of food forest projects, and that more closed or limited access projects would exhibit very different patterns and structures. More public oriented projects are, after all, both easier to find and research/interact with. It is likely that in cases where the projects are strictly businesses or private initiatives with a clear authority and limited access to member participation, experimentalism would not be a relevant or suitable framework for understanding governance related questions.

The issue of project age has already been mentioned before but will be repeated here. While initiatives are young and the exact project structure and particularities still under development, experimentalism is a great tool for understanding project governance and related changes. Revision is, after all, key aspect of experimentalism. However, as projects become more established over time, the exact associated activities and governance structured may become more formal and clearly defined. This could mean that the format for feedback and revision becomes clearer, or the opposite: that more defined authority figures or structures could shift the project to a more command-and-control type governance scheme. Therefore, our understanding of experimentalism's applicability is limited by the timeframe and relative youth of the examined projects. Furthermore, two of the projects examined here began during the start of the Covid-19 pandemic and associated lockdowns (2020), and while the interviewees did not mention this, it is possible that this start time could have impacted some decisions made regarding the food forest and/or its governance.

Ideally, future research would look at older food forests. In this way, more can be concluded about the applicability of experimentalism at the local scale in the long term. Beyond food forests, it could also be relevant to examine other such local-scale initiatives in order to see if experimentalism is only suitable to food forests or whether its local application can suit analysis of any local level project with a minimum of structured governance and member or public participation. In fact, the exact boundary of how much structure and participation would be necessary to apply experimentalism is not yet defined here and would be an interesting area for research for development for experimentalist governance scholars interested in the boundaries and limitations of its application.

7. Conclusion

In conclusion, applying experimentalist governance was an effective way to learn about the relations of governance in the Dutch food forest context. It revealed that the common perceived problem informing each food forest and the goals that they seek may vary between projects, along with their broad structure.

However, despite the variation in goals, it can be concluded that Dutch food forests often have a steward–led governance model, regardless of if the food forest is economic, public, or education oriented. This finding is also supported by the literature.

This steward centric leadership can be both a source of project implementation success as well as a point of weakness: as holders of knowledge and experience, a project in which the steward does not delegate tasks or have supplementary teams may be very vulnerable to the steward leaving. Furthermore, if the coordinator takes on too much authority, the project would likely revert to a participation-less, command–and–control–based structure which would not suit an experimentalist analysis.

This was not the case in any of the projects studied, but it is possible this is because the projects which would be open to new people would also be the ones easier to find out about and research (as opposed to it never being the case, as there are private food forest initiatives).

Regarding member participation, the exact way in which members/participants may interact and engage with the food forest (as well as the influence they exert by doing so), vary across projects. In all cases, governance was mainly informal, based on everyday communication. This everyday communication (during collective working days, events, or such meetings) is also the main form in which new ideas and feedback are given and received. That is, they are informally communicated via conversations, rather than formally asked for in a dedicated moment (or format such as a survey). The extent of experimentalism rested largely, therefore, on the extent to which the feedback and revision process was explicit.

This is a second vulnerability of projects: they rely on members choosing to initiate such conversations, and on the coordinators remembering the discussions. Land ownership, interaction with the local government, and network building were identified as key factors in the governance and success of food forests. In fact, the impact of local institutions was so influential that this paper argues that this factor should be considered as part of the main cycle of experimentalism at the local level, rather than being denoted as a scope condition.

It is important to note that a main limitation of this study is sample: we only examined four cases, and these were relatively young projects, so the picture of food forest governance could still change into something slightly different when more mature projects are considered. As expressed in the paper by Roodhof, the heterogeneity and young age of Dutch food forest projects make it difficult to make generalizations (Roodhof, 2024). However, this heterogeneity was the driving force behind this paper to begin with and does not apply to the topic of governance alone. Rather, this paper drives home the difference in goals, structure, accessibility, and governance of food forest projects should be considered in all literature on food forests, as these may impact the services, relations, and other impacts which they may bring to their communities and environments.

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Appendices

Appendix 1 – Semi Structured Interview Guide

While it is nice to start with asking their story and ending on the diagram, the sections listed below don't necessarily need to be discussed in this order (especially the in between ones on roles, rules, and disagreements). Ideally will be kept within an hour, so it is not to daunting for the participants or myself.

Story of the food forest (and any changes herein)

1. Can you tell me the story of your reality? *Very broad, so translated into question 2:*
2. Can you tell me your story/the story of the food forest? (May be two separate stories depending on who we are talking to)
    a) Is this story linear, or were there big changes in the plan or structure of the food forest along the way? (If yes, ask to elaborate)
3. Ask them to illustrate how they interact with the food forest on a day to day basis
    a) How often do they come, and what they do when they are there
4. What are the short and long term goals of the food forest? And possibly also: what are your short and long term goals (within the food forest)
    a) Have these goals changed in the course of the food forest's history/your history in the food forest? If yes: Can you tell me about this time and how these changed?

Interactions, relations, and rules within the food forest

5. Who do you interact/cooperate with the most inside and outside your reality? *Translated into less personal question 6 below:*
6. Who interacts and cooperates to make the food forest operate?
    a) How and why
7. Follow up questions related to roles and responsibilities within the food forest: Tasks/who does what and the associated power dynamics.
    a) Who decide(d) what will be planted?
    b) Are there regular meetings or gatherings? Who participates? Are they part of a particular subgroup (if applicable) and how often do they participate in it?
    c) Other relevant practical themes
8. Are there some people/entities/parts of the food forest with which its more difficult to interact with within the food forest?

Rules (formal or informal) and documents

9. What are the rules of the food forest (formal or informal)? *Good point to also ask for documents*
10. How are they communicated?
11. How were the rules decided, and who was involved?
12. Have these changed over time?
13. What happens if someone does not comply with a rule?

Disagreements or new ideas

14. Can you give me an example of what might happen If you had a new idea for the food forest?
15. On the negative side: can you give me an example of one time you disagreed with person x/person x disagreed with you on the rules (or goals/structure) of the food forest (or a more specific topic, like which plants or such more everyday issue)?
    a) Open question that would ideally help field the following questions in a less yes or no manner:
        1. Do they feel included in the decision model adopted by the food forest?

2. Do they feel decisions are taken together?
3. Do they feel they/their interests are representative?

Diagram

16. Do you mind if we try drawing together a scheme of the food forest organization?
    a) *Paper and pen in hand, I want to draw with them a map of the food forest ecosystem in terms of the people and organizational structure as this person understands it. For an informal association these may vary widely*

Appendix 2 – Participant Information sheet

MSc Thesis Interview Food Forest Governance

PARTICIPANT INFORMATION SHEET

What is the project?

This research project is a MSc Thesis Project led by Maria Clara Oliani (student and lead researcher, contact details below) of the Masters in Organic Agriculture at Wageningen University and Researcher. This project aims to study food forests are organized and governed using interviews of participants in different case studies and document analysis. The aim is to fill a gap in the academic literature on the governance of food forests, which often focuses on the advantages and disadvantages of food forests and skips over the variety of organizational forms that these take (which could impact what their main benefits are).

Why have I been chosen to take part?

You are invited to participate in this study because you have experience working and/or otherwise participating in a food forest initiative.

What are the benefits of taking part?

By sharing your experiences, you will be contributing to greater understanding of the people side of food forests, and therefore to filling a gap in the academic knowledge of food forest.

Are there any risks associated with taking part?

There are no significant risks associated with participation.

Do I have to take part?

No – it is entirely up to you. If you do decide to take part, please keep this Information Sheet and complete the Informed Consent Form to show that you understand your rights in relation to the research, and that you are happy to participate. Please note down your participant number (which is on the Consent Form) and provide this to the lead researcher if you seek to withdraw from the study later.

You are free to withdraw your information from the project data set at any time until the thesis completion date of October 1, 2023. You should note that your data may be used in the production of the MSc thesis prior to this date and so you are advised to contact the university at the earliest opportunity should you wish to withdraw from the study. To withdraw, please contact Maria Clara Oliani (contact details are provided below). You do not need to give a reason. A decision to withdraw, or not to take part, will not affect you in any way.

What will happen if I decide to take part?

You will be interviewed on your participation in the food forest. Provided you give consent to recording, this interview will also be recorded and transcribed (see data protection and confidentiality).

Data protection and confidentiality

Your data will be stored according to the Data Management Plan of the Rural Sociology Group of Wageningen University. All information collected about you will be kept strictly confidential. The data cannot be fully anonymized due to the nature of the research: in order to use the interviews to make conclusions on governance: interviews need to remain linked to one of the food forest projects involved, and these projects need to be at least generally described and identified.

Participants will be referred to by pseudonyms rather than by name. This pseudonym will be agreed to in the informed consent form (and this process will be explained orally before each interview to obtain explicit consent). Participant private data or mentions thereof will be removed from transcripts or quotations used in the research.

Until they are anonymised in our records, your data will be referred to by a unique participant number rather than by name. If you consent to being audio/video recorded, all recordings will be destroyed once they have been transcribed. Your data will only be viewed by the research team. All electronic data will be stored on a password-protected computer file on the secure servers of Wageningen University. Only the research team have access to this date. All paper records will be stored in a locked filing cabinet in the office of Dr Jessica Duncan on the Wageningen University campus. Your consent information will be kept separately from your responses in order to minimise risk in the event of a data breach. The lead researcher will take responsibility for protecting your data, which will be stored for at least 10 years following the end of the project. After this time, the data can be destroyed.

What will happen with the results of this study?

The results of this study may be summarised in in the final thesis work, which is not published but is made available via the Wageningen University library catalogue. Quotes or key findings will always be made anonymous in any formal outputs unless we have your prior and explicit written permission to attribute them to you by name.

Making a complaint

If you are unhappy with any aspect of this research, please contact Maria Clara Oliani (lead researcher of this MSc thesis) at mariaclara.oliani@wur.nl

If you still have concerns and wish to make a formal complaint, please write to Dr Jessica Duncan at jessica.duncan@wur.nl. In your letter, please provide information about the research project, specify the name of the researcher and detail the nature of your complaint.

Appendix 3 – Participant Consent form

MSc Thesis Interview Food Forest Governance
INFORMED CONSENT FORM

You are invited to take part in this MSc thesis project. The aim of this project is to understand different ways in which food forests are governed in the Netherlands. Food forests can provide environmental, social and economic services to their community, as well as provide access to fresh food, green space, and other of the challenges associated with urbanization and climate change.

These interviews are to open conversations on the ways in which food forests are governed in practice, as these may impact the services and disservices which they provide. Literature tends to treat food forests as one and the same, as a polyculture farm before anything else, thus failing to document the ways in which they are organized in practice (and the impact that this may have on the forests themselves, the communities they are in, and the services they provide).

Please do not hesitate to ask questions if anything is unclear or if you would like more information about any aspect of this research. It is important that you feel able to take the necessary time to decide whether or not you wish to take part.

If you are happy to participate, please confirm your consent by circling YES against each of the below statements and then signing and dating the form as participant.

1	**I confirm that I have read and understood the Participant Information Sheet for the above study and have had the opportunity to ask questions**	**YES**	**NO**
2	**I understand my participation is voluntary and that I am free to withdraw my data, without giving a reason, by contacting the researcher (Maria Clara Oliani) at any time before October 1 2023**	**YES**	**NO**
3	**I have noted down my participant number (top left of this Consent Form) which may be required by the lead researcher if I wish to withdraw from the study**	**YES**	**NO**
4	**I understand that all the information I provide will be held securely and treated confidentially**	**YES**	**NO**
5	**I consent that the information I provide can be used in this MSc thesis paper and further scientific publications and reports.**	**YES**	**NO**
6	**I consent to this interview being audio/video recorded**	**YES**	**NO**
7	**I consent to taking part in the above study**	**YES**	**NO**
8	**I consent to being referred in the MSc thesis with the pseudonym(s) or initials thereof written here:** **Pseudonym:** _____	**YES**	**NO**

Thank you for your participation in this study. Your help is very much appreciated.

Participant's Name	**Date**	**Signature**
Researcher	**Date**	**Signature**

Appendix 4 – List of Student BSc Thesis, MSc thesis, or other research or academic reports encountered during the literature search

The list below is **not exhaustive** but reflects the volume of academic papers existing in the academic unpublished literature on food forests.

1. Bakker, M., 2016. Sustainability assessments of complex agroecosystems: a case study at Ketelbroek Food Forest (MSc Thesis). Wageningen University & Research, Wageningen. https://edepot.wur.nl/418372
2. Bisson, C., 2013. Forests for the people : resisting neoliberalism through permaculture design (BSc Thesis). Carleton University, Ottawa, Ontario. https://curve.carleton.ca/f1ef8db3-08d0-4e8c-af82-018e234fc1d6
3. Boulestreau, Y., Eck, W.V., 2016. Design and performance evaluation of a 1 ha productive food forest model (Internship Report). Wageningen University & Research, The Netherlands. https://www.netwerkvoedselbosbouw.nl/wp-content/uploads/2020/11/Boulestreau-Y.-van-Eck-W.-2016-Design-ans-performance-evaluation.pdf
4. Cykman, N., 2022. Cracks in the Concrete: Urban Multispecies Justice at the Isla Vista Food Forest (CA) (MSc Thesis). UC Santa Barbara, Santa Barbara. https://escholarship.org/uc/item/2gh457mg
5. Friedrichsen, P.J. 1993-, 2020. Taking up the plow (again)? Exploring the resurgence of First Nations farming and food production in the Canadian Prairies (MSc Thesis). University of Saskatchewan, Saskatoon. http://hdl.handle.net/10388/12558
6. Gábor, K., 2023. The potential of food forests to contribute to nutrient demands of European food systems in different climate zones (MSc Thesis). Wageningen University & Research, Wageningen. https://edepot.wur.nl/642940
7. Genello, L., 2018. From food forest to microfarm: values, practices and relations of first generation farmers in the U.S. and the Netherlands (MSc Thesis). Wageningen University & Research, Wageningen. https://edepot.wur.nl/446099
8. Giese, J., 2022. Food Justice and Urban Agriculture: Using City Spaces to Foster Equity (MSc Thesis). Hamline University, St. Paul, Minnesota. https://digitalcommons.hamline.edu/cgi/viewcontent.cgi?article=5550&context=hse_all
9. Gupta, R., 2023. Ecosystem Services Assessment of Dutch Food Forests Rohan Gupta MSc Thesis in Environmental Sciences (MSc Thesis). Wageningen University & Research, Wageningen. https://edepot.wur.nl/638179
10. Heyde, S., 2018. The potential of food forestry on historic estates (MSc Thesis). Wageningen University & Research, Wageningen. https://edepot.wur.nl/564235
11. Huijssoon, M., de Leeuw, P., Mooij, M., Mens, L., 2017. Sustainable Food Forests (MSc Report (ACT)). Wageningen University & Research, Wageningen. https://greendealvoedselbossen.nl/wp-content/uploads/2020/12/Huijssoon-M.-et-al-2017.-Sustainable-Food-Forests.pdf
12. Hulshof, J.J., 2019. A food forest design for farm estate De Koekkoek on behalf of the Farm Life project (BSc Thesis). Van Hall Larenstein, Velp. https://hbokennisbank.nl/details/samhao:oai:www.greeni.nl:VBS:2:146881

13. Kat, R., 2021. Land ethics as innovative force : a study into the ethics of relating with the land in Dutch transformational initiatives for sustainability (MSc Thesis). Wageningen University & Research, Wageningen. https://edepot.wur.nl/561284
14. Kruse, J., 2019. Facilitating development of Food Forest Roggebotstaete (BSc Thesis). Aeres Hogeschool, Almere. https://hbokennisbank.nl/details/aereshogeschool:oai:www.greeni.nl:VBS:2:146113?q=%22Ekkel%2C+E.D.%22&p=1
15. Limareva, A., 2014. Ecological Principles in Natural Temperate Forest Ecosystems Relevant for Productive Food Forests (BSc Thesis). Van Hall Larenstein, Leeuwarden. https://greendealvoedselbossen.nl/wp-content/uploads/2020/12/Limareva-A.-2014.-Ecological-Principles.pdf
16. Rebisz, S., 2021. The socio-cultural value of food forests in the Netherlands : an exploratory study of perceived values by participants of the National Monitoring Programme on Food Forests (NMVB) (MSc Thesis). Wageningen University & Research, Wageningen. https://edepot.wur.nl/511035
17. Rebisz, S., 2019. Exploring temperate food forestry as a sustainable land management practice: starting at the soil (MSc Thesis). Wageningen University & Research, Wageningen. https://edepot.wur.nl/553478
18. Rözer, T., 2022. Food forests in the Netherlands: A study on landscape policy and its effects on the food forest movement in the Netherlands (BSc Thesis). Radboud University, The Netherlands. https://theses.ubn.ru.nl/handle/123456789/13736
19. Schokker, J., 2022. A qualitative case study of the Ecoliteracy Program at the Droevendaal Food Forest (MSc Thesis). Wageningen University & Research, Wageningen. https://edepot.wur.nl/568767
20. Spangler, A., 2020. Campus Food Forest (BSc Thesis). Coastal Carolina University, Conway, South Carolina. https://digitalcommons.coastal.edu/honors-theses/374
21. Spenrath, D., 2023. Is food forestry the way forward? : diverse economies and convivial conservation at the Cloud Forest Organics food forest in Ecuador. (MSc Thesis). Wageningen University & Research, Wageningen. https://edepot.wur.nl/633278
22. Swart, F., 2022. Food forest case study: from forest to table (Internship Report). HAS University of Applied Sciences, 's-Hertogenbosch. https://www.has.nl/media/pqpbjrk4/food-forest-case-study-from-forest-to-table-has-hogeschool.pdf
23. van Gent, T., 2019. Food forest business models in the Netherlands: Challenges and opportunities for scaling (MSc Thesis). Utrecht University, The Netherlands. https://studenttheses.uu.nl/bitstream/handle/20.500.12932/33602/Food%20forest%20master%20thesis%20Thijmen%20van%20Gent%20open.pdf?sequence=2
24. Wang, K.M., 2023. Soil Microarthropods in Dutch and Belgian Food Forests and their relationships with biotic and abiotic factors (MSc Thesis). Wageningen University & Research, Wageningen. https://edepot.wur.nl/637099
25. Ziegler, M.C., 2024. Beyond a capitalist canopy: Ethnobotanica contributions to cultivating diversity and multifunctionality in a Dutch food forest (MSc Thesis). Wageningen University & Research, Wageningen. https://edepot.wur.nl/648443