

# **Towards Regenerative (Agri)Cultures**

An ethnographic case study of integrated socio-ecological restoration at the *Hof Lebensberg* community farm, Germany

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## **Abstract**

Agriculture is today the human activity most vulnerable to Climate Change, and one of its leading causes. Regenerative Agriculture offers powerful tools to restore ecosystems, without sacrificing abundant food production; nevertheless, a systematic adoption of such practices is incompatible with the existing economic structures and calls for a radical societal change. This study aims at exploring the cognitive and socio-cultural aspects underlying the transition to Regenerative Agriculture. By combining a Socio-Ecological Systems approach with tools of System Thinking, and employing ethnographic methods to the case of the “Hof Lebensberg” farm in Germany, this research individuates interacting factors of change, to identify possible leverage points for further transformation. Findings evidence a structural contrast between our current socio-economic imperatives and the values supporting the construction of personalities and thick social relations. Coordinated efforts across levels are therefore required to develop the environmental sensitivity necessary to trigger the desired cultural transformation.

**Keywords: Socio-Ecological Systems, System Thinking, Regenerative Agriculture, Agroecology, Ecosystem Restoration, Sustainability Transformations.**

**Word count: 11 762**

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At the end, perhaps, this thesis is a study on myself. Doing agriculture in the XXI century is a brave decision, that requires hard work and constant fight. I hope, however, that more and more people will choose this path in the coming years, and that farmers will increasingly be recognized for their fundamental role for creating a more sustainable world. I hope, as well, that more and more people will use their knowledge as the strongest peace weapon to fight against the contagious "blindness" affecting our society, that conceals belowground the disasters that we are making around us. Only by working together we can try to make this a more livable planet for all.

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*“Mentre viaggiavamo, senza meta, senza tempi prestabiliti, senza bussola né altre trappole, quella formidabile meccanica della vita che riunisce sempre chi si assomiglia ci ha portato a incontrare molti dei <<barbari>> a cui allude la poesia di Kostantinos Kavafis. I loro sogni erano temibili, perciò sono stati annientati o respinti in territori estremi appositamente prescelti, ma hanno continuato lo stesso a seminare l’insonnia fra i signori del potere, che sempre più ossessionati dal pericolo del loro ritorno hanno ordinato alle banche di screditarli, e a dei completi mentecatti di scrivere libri sull’<<idiozia dei barbari>>. E i <<barbari>> hanno risposto piantando boschi, immaginando un’alternativa alla disumanizzazione del sistema imperante, organizzando la vita, **perché vivere fosse un pò più di un verbo.**” (enfasi aggiunta)*

*Luis Sepúlveda, Ultime notizie dal sud, p. 14*

*“While we travelled, without destination, without preordained times, without compass or other traps, those terrific mechanics of life that always brings together those who are similar took us to meet many of the <<barbarians>> to whom the poetry of Konstantinos Kavafis alludes. Their dreams were fearsome, thus they have been annihilated or rejected to extreme territories specially selected, yet they have anyways continued to spread insomnia among the lords in power, who increasingly obsessed by the danger of their return ordered the banks to discredit them, and actual fools to write books about the <<idiocy of barbarians>>. And the <<barbarians>> answered by planting forests, imagining an alternative to the dehumanisation of the dominant system, organizing life, **so that living would mean a bit more than a verb.**” (own translation; emphasis added)*

# 1 Introduction

*“The imperatives of environmental sustainability call for ambitious societal transformations”*

*(Scoones et al., 2020, p. 65)*

## 1.1 Problem statement

Agriculture is the human activity most vulnerable to the consequences of the changing climate (Verchot et al., 2007). The most recent IPCC report shows evidence that the effects of climate change on land include, with high probability, processes of desertification (water quality and availability) and land degradation (including loss of topsoil, decreased nutrients and soil fertility, biodiversity loss, wildfire damage, loss of permafrost). The expected increase in magnitude and frequency of these processes and events is likely to jeopardize ever more the stability of our food systems, and thus our own survival (IPCC, 2019).

Climate change, however, only adds stress over an already exhausted planet (Verchot et al., 2007). Agriculture is in fact not only the victim, but a leading cause of global environmental change (Gordon et al., 2017; Toensmeier, 2016). Food production is today currently responsible for almost one third of total greenhouse gas emissions and two thirds of global freshwater use, with agriculture accounting for almost half of global land use (EAT Lancet Commission, 2019b). Land use change for agriculture is also the leading cause of global biodiversity loss (EAT Lancet Commission, 2019b) and the disruption of nitrogen and phosphorous cycles (Rockström et al., 2009). Today the global topsoil is being eroded 10 to 40 times faster than its rate of renewal, with a loss of about 10 million ha of cropland yearly on the planet (Pimentel, 2006) leaving us with, according to some, only 60 harvests left (FAO, 2015). Overall, conventional agricultural practices have dramatically increased land vulnerability, pushing most planetary boundaries over the safety level (Gordon et al., 2017). Despite this evidence, the relevance of this issue is often ignored by the public and scientific debate (Rhodes, 2017).

In this context, the search for sustainability represents “no longer a ‘merely’ normative desideratum, but an existential question concerning the survival of the human species and civilization” (Hammond, 2020, p. 222).

## 1.2 The way out: farming for climate

To respond to this human and environmental crisis, it is urgent to reverse this ecological degradation. We currently have enough knowledge and skills to know what to do: however, effective action remains limited (Chong, n.d.). In particular, extensive ecosystem restoration is widely recognized, included at higher political levels, for its enormous potential for restoring water and soil cycles, bring back biodiversity and stabilize the global climate (European Commission, 2020; Strassburg et al., 2020; *UN Decade on Restoration*, n.d.).

The good news is that ecosystem preservation and restoration and food production are not necessarily mutually exclusive (Chappell & LaValle, 2011; van Noordwijk et al., 2020). “Regenerative Agriculture”, a growing field of study and practice with close links to the field of Agroecology<sup>1</sup>, offers simple and low-cost solutions to restore the natural functioning of ecosystems, providing at the same time multiple socio-economic co-benefits (Perkins, 2019; Plieninger, 2021; Sachs et al., 2019; Sahu & Das, 2020; Toensmeier, 2016; van der Ploeg, 2020; White, 2020; Yu et al., 2020).

## 1.3 Building an alternative (Agri)Culture: a veritable political challenge

*“No other economic activity is so closely interwoven with the human and natural environment as is agriculture. If farming changes, so too the ecological and social systems that it hosts must change”*

*(Heinrich-Böll-Stiftung, 2019, p. 8)*

Ecological systems are deeply linked to cultural values and social practices, and with them constantly *co-evolving* (Cole et al., 2013). Regenerative Agriculture rises precisely from the recognition of such interdependent relationship between social and ecological systems (Bliss & Fischer, 2011), showing the importance of including societal elements into the processes of ecosystem recovery (Bliss & Fischer, 2011; Gliessman, 2015; Raworth, 2017; Rounsevell et al., 2012). However, a systematic adoption of agroecological practices, as called for by Regenerative Agriculture, is incompatible within the existing socio-economic structures of our society, and requires far more than a “technical” change (Gliessman, 2015; Gosnell et al., 2019). Shifting to Regenerative Agriculture requires a deeper cognitive and behavioral change (Barrios et al., 2020; Gosnell et al., 2019; Hathaway, 2016; Temper et al., 2018):

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<sup>1</sup> See *Key Terms*, Appendix 1.

an “ideological transition” across all levels of society (Hammond, 2020), the establishment of a new Regenerative *Culture*. In this perspective, ecosystem restoration becomes a “highly political”, rather than technical challenge (Hammond, 2020, p. 221).

The imperative of considering the human dimension of change rises from the need to address what has been called “the ingenuity gap”, i.e. our fundamental inability to grasp the interactions underlying our global socio-environmental problems (Westley et al., 2011, p. 762). This fundamental incapacity to “*feel*” (Safran Foer, 2020), elsewhere defined as a “sensibility crisis” (Morizot, 2020, own translation), or “crisis of consciousness” (O’Brien, 2018) has in fact been indicated as a main cause of inaction towards such challenges, hence, pivotal to address to enable transformations of this magnitude.

#### **1.4 Research aim**

The purpose of this study is to explore the role of cognitive, behavioural and socio-cultural aspects in the transition to Regenerative (Agri)Cultures. Given the existence of functional feedback loops between social and ecological systems (Gosnell et al., 2019; López et al., 2017), and the role of culture in understanding and managing the environment, I here intend to analyse the changes, in such spheres, needed to support the transition. The community farm of *Hof Lebensberg* represented my case study to observe the presence of existing zones of “friction” and “traction” (i.e., elements that either hinder or facilitate the change) and their interaction, with the ultimate goal to observe how these dynamics could be triggered, or modified, to facilitate the establishment of more sustainable socio-ecological systems.

With this research, I aim at critically contributing to the ongoing debate on agroecological transformations in the field of Sustainability Science (see e.g. (Anderson et al., 2019; Isgren & Ness, 2017; Neufeldt et al., 2013; Wezel et al., 2018a), by bringing the focus on the interacting socio-political elements involved in them. I hope, as well, that my research will provide a useful example of the adoption of a more integrated framework for assessing such processes of change.

#### **1.5 Research questions**

Given the structural interaction between social and ecological processes, my research departs from the following questions:

- (RQ1) Which elements of “friction” and “traction” are observable in the community of *Hof Lebensberg*?
- (RQ2) How do such elements interact with each other in the transition to a resilient and sustainable socio-ecological system?

### **1.6 Content structure: what to expect from this work**

This thesis is structured as follows: first, a reference to the broader picture allows a contextualization of the described problem. After that, I explain the theoretical lens through which the problem is observed. The third section illustrates the methodology employed to investigate the issue, while the following sections present and discuss the findings. Conclusions are finally drawn to reflect upon the broader impact of this thesis and future action.

## 2 The case study and its context

This section provides an insight over the concept of Regenerative Agriculture, followed by a description of *Hof Lebensberg* and the broader context in which the project takes place.

### 2.1 Regenerative Agriculture

Drawing from a variety of disciplines and concepts, such as Agroecology, Agroforestry, Permaculture, Holistic Management, Climate-Smart Agriculture and Carbon Farming<sup>2</sup> (Gosnell et al., 2019; Rodale Institute, n.d.), Regenerative Agriculture aims at the holistic rehabilitation of ecosystems while ensuring agricultural productivity and socio-economic benefit (Perkins, 2019). Particularly, its techniques aim mainly at regulating the local climate and restoring soil biodiversity and water cycles, by mimicking natural ecosystem processes and reducing inputs (Perkins, 2019). Solutions in this field include the establishment of multi-layered agroforestry systems and the use of perennials crops (Crews et al., 2018; Toensmeier, 2016). For its holistic nature, Regenerative Agriculture represents a transdisciplinary, participatory and politically engaged tool for sustainability transformations (Méndez et al., 2017).

Although such practices are proven to play an important role for climate change adaptation and mitigation, increasing resilience and agricultural productivity (EIP-AGRI, 2021; IPCC, 2019; Verchot et al., 2007), their adoption is still limited (Rhodes, 2012). However, a growing movement of research and practice within this field is globally observable<sup>3</sup> (Gliessman, 2015).

### 2.2 The *Hof* project

*Hof Lebensberg* is a community farm close to Mainz, in Rhineland-Palatinate, West Germany (*Fig. 1*). Its total land area extends for about 100 hectares, over a field used in the past decades for organic

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<sup>2</sup> See *Key Terms*, Appendix 1.

<sup>3</sup> Examples of this trend are the GACSA (Global Alliance for Climate Smart Agriculture) (Toensmeier, 2016), movements such as Kiss the Ground (*Kiss the Ground*, n.d.), or the Ecosystem Restoration Camps (*Ecosystem Restoration Camps*, n.d.), the initiative 20x20 (*Initiative 20x20*, n.d.), or enterprises such as the Climate Farmers (*Climate Farmers*, n.d.).

cereal production. Currently, the *Hof*<sup>4</sup> is privately owned by the initiators of the project, albeit the plan is to transfer its tenure to the newly born no-profit foundation *Zukunftsland*<sup>5</sup> (*Stiftung Zukunftsland*, n.d.), in order to secure persistence to the project in the future. *Hof Lebensberg* is part of a broader network made of already existing companies owned by some of the initiators of the project: *Ackerbaum*, a tree nursery specialized in edible gardens (*Ackerbaum*, n.d.) and *The Forest Farmers*, a consulting enterprise for the design and implementation of regenerative agro-ecosystems (*The Forest Farmers*, n.d.).



**Figure 1.** Location of the Hof, about 50 km away from Mainz and 70km from Mannheim. Source: Hof Lebensberg, n.d.. Used with permission.

Currently, around 30 people live at the *Hof*, most of them in their twenties. Around two thirds are permanent residents - the “core group”. They mostly joined the project at the early stage, and with

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<sup>4</sup> German term for “farm”, “*Hof*” is also the name with which the farm object of this study was normally addressed by its members.

<sup>5</sup> “*Land of the future*”, own translation.



bigger commitment. They are part of the shared economy system and participate in decision-making. The rest is composed by short- and long-term volunteers, mostly German.

The overarching vision of the project is to “to apply, develop and spread regenerative agriculture” (*Hof Lebensberg, 2020*, own translation). In practice, this is translated into the goal of making the Hof a valuable model of agroforestry system, able to provide diverse and abundant food while at the same time regenerating the area (*Hof Lebensberg, 2020a*). By combining different techniques drawn from the field of Regenerative Agriculture, including Permaculture, Syntropic Agriculture, Holistic Management, keyline design, no-till, and the use of terra preta<sup>6</sup> (*Landwirtschaft - Hof Lebensberg, n.d.*) the mission is to develop a synergic ecosystem working with closed operating cycles, which improves soil fertility, captures CO<sub>2</sub> and ensures climate resilience over time (*Hof Lebensberg, 2020a*)<sup>7</sup>.

By establishing of a bio-intensive vegetable garden, the *Hof* aims at producing and selling a wide variety of goods already from the spring 2021 (*Hof Lebensberg, 2020a*). These will be mostly sold at the regional level through a shop, local markets, and pick-up points. Online orders will facilitate clients outreach (*Hof Lebensberg, 2020d*).

The restoration of the local and regional landscape is however only part of the broader vision, aimed as well at triggering a socio-cultural transformation (*Stiftung Zukunftsland, n.d.*). In parallel with the agricultural aspect, *Hof Lebensberg's* broader goal is to “create a culture of trust and cooperation” (*Hofgemeinschaft, 2020*, own translation). Community-building and “togetherness” represent important pillars of the project (as well as a main point of discussion, as will be shown in the results). The values of equity, tolerance, and shared responsibility are highly considered in the daily life and work (*Hof Lebensberg, 2020a*). The use of Sociocracy<sup>8</sup> allow more inclusive decision-making processes and spreading responsibilities among the different working domains (*Hof Lebensberg, 2020b*).

During this first year, started in summer 2020, the plan was to build the first agroforestry system of 30.000 trees on an 11 hectares area (*Hof Lebensberg, 2020a*) (*Fig. 2*), followed by the establishment of the market garden and welcoming the first animals. This is the work that I have mainly been included in during my stay.

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<sup>6</sup> See Appendix 1.

<sup>7</sup> Among the pioneers inspiring this project are: Ernst Götsch, Allan Savory, Percival A. Yeomans, Mark Shephard, Gabe Brown, Joel Salatin and Richard Perkins (information obtained through a presentation by L2 for the volunteers group, in date 27/01/2021).

<sup>8</sup> See Appendix 1.



**Figure 2.** The typical lines of the agroforestry systems, built on the landscape keylines. Here, before the planting. Photo by a volunteer, 2021. Used with permission.

### **2.3 The Hof community: *Farmers 2.0***

The people composing the community deserve, in the context of this research, particular attention, as embodying a new figure recently observed in the agricultural scene (Rico & Fuller, 2016), what I define “*farmer 2.0*”. *Farmers 2.0* are young people, equally representative of both genders, mostly newcomers to the field of agriculture, and generally entering the scene via “unorthodox” paths (Rico & Fuller, 2016, p 533). Frequently highly educated (i.e. university degree) mainly, but not exclusively, in the environmental field (Riedy, 2020), they master skills related to communication, new technologies and business innovation (Rico & Fuller, 2016; Riedy, 2020), reason of their definition as “*farmers 2.0*”.

The main motivations of these youngsters in their come to the fields are normally a combination of push and pull factors, related to the living and working conditions in the cities, and the rising opportunities offered by the rural areas (Rico & Fuller, 2016). Normally highly aware of the current sustainability challenges faced by today’s society, the *farmers 2.0* are often united by the desire of contributing towards the establishment of more sustainable food systems and life conditions (Rico & Fuller, 2016).

To overcome the three major barriers faced by this new farmers generation when entering the scene – access to land, capital and markets (Rico & Fuller, 2016) – normally *farmers 2.0* start their business with smaller and highly diversified farms, that allows lower initial investments and higher resilience in case of adversities. Further common characteristics are also the establishment of various forms of cooperation and direct marketing for the sale of products (Rico & Fuller, 2016).

For these very features, the *farmers 2.0* represent veritable “sustainability brokers” (Leach et al., 2012, p. 8): by introducing innovative ideas and techniques, they revolutionize the way agriculture is conducted. Simultaneously, they foster new socio-political relations within the rural areas, as well as between them and the urban spaces and across the local and global levels, thus representing an important motor of development in rural areas (Rico & Fuller, 2016). This way, they create a new “agrosocial paradigm” (Rico & Fuller, 2016, p. 545) impregnated with new forms of human and social capital (White, 2020).

Overall, for the first time in decades, this trend of returning to farming is observable all over Europe (Rico & Fuller, 2016), with Germany in the lead for the number of young farmers in the business (Rovný, 2016). In a world where high unemployment rates paradoxically coexist with a growing abandonment of rural areas, this movement travels upstream against the traditional downgrading of the agricultural work (White, 2020). Slowly, farming is reconsidered as a valid job opportunity, with farmers increasingly seen as “stewards of human and planetary health” (EAT Lancet Commission, 2019a). Despite the significant impacts of such grassroots innovations, however, their potential is rarely considered in the political arena (IPES Food, 2018).

## **2.4 The broader political and economic context**

### **2.4.1 EU level**

In Europe, agriculture policies are regulated by the CAP (Common Agricultural Policy). This is connected to a range of agreements and strategies conceived within the European Climate Action and the European Green Deal (European Commission, n.d.)<sup>9</sup>. More specifically, agroforestry systems in the continent are regulated by the European Agroforestry Federation (EURAF), that “aims at promoting

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<sup>9</sup> e.g. the European Climate Law, the European Climate Plan, the 2030 Climate Target Plan, the EU Strategy on Climate Adaptation, the EU biodiversity strategy and the “Farm to fork” plan (European Commission, n.d.).

the use of trees on farms as well as any kind of silvopastoralism throughout the different environmental regions of Europe” (EURAF, n.d.1).

This said, the European agricultural policy has been heavily criticized for its deficiency (Heinrich-Böll-Stiftung, 2019; Scown & Nicholas, 2020). The CAP is in fact one of the oldest European policies and, despite being revised every seven years, it still supports “an outdated, misguided system” completely inadequate to reach our environmental and social goals (Heinrich-Böll-Stiftung, 2019, p. 8). Not surprisingly, in Europe small farms are increasingly disappearing, ‘swallowed’ by big agricultural corporations (Heinrich-Böll-Stiftung, 2019). It has been demonstrated that the EU available funds would be enough to support a more sustainable agricultural system: however, they are currently being used against it (Heinrich-Böll-Stiftung, 2019). For this reason, the EU is to be called “jointly responsible” for the missed achievement of the world’s major sustainability goals (Heinrich-Böll-Stiftung, 2019, p. 9; EAT Lancet Commission, 2019b).

Given this, it is not surprising that previous research has revealed many serious challenges to the full establishment of Agroecology in Europe. These include: the lack of a broadly accepted definition; scarce education and knowledge sharing; lack of research and relative funding; lack of adequate policies; illiteracy over its practices and potential; co-optation and misuse of the term; and the acknowledgment of the need of a radical structural change in order to apply it (Wezel et al., 2018b).

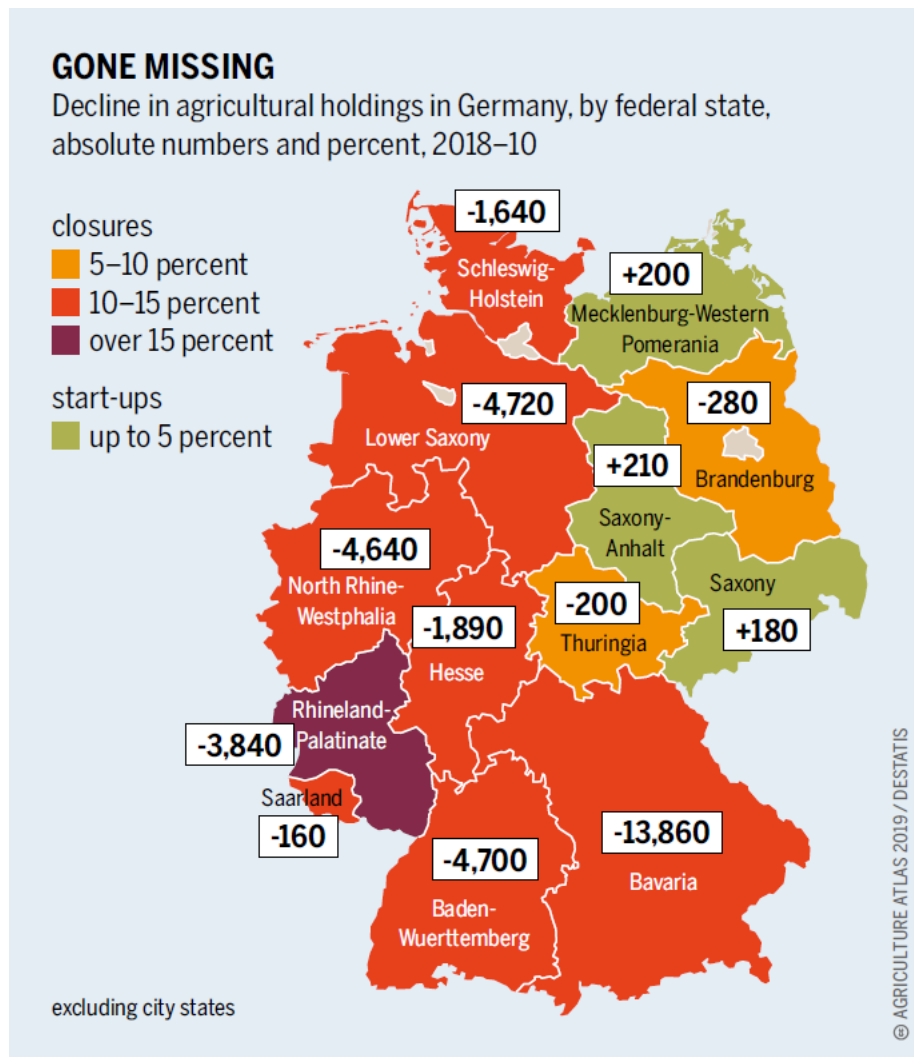
#### **2.4.2 The German scene**

In Germany, following the European trend, there is a net decline in the number of farms, with the Rhineland-Palatinate showing the worst score in the country (-15% of agricultural holdings over the last decade) (Heinrich-Böll-Stiftung, 2019) (*Fig. 3*).

At the same time, this country still counts a big number of practitioners in organic agriculture compared to the others in Europe, with an remarkable increase in the last years, despite the unfavorable ruling policies (Heinrich-Böll-Stiftung, 2019; Federal Ministry of Food and Agriculture Germany, 2021)<sup>10</sup>. However, some argue that, especially in Germany, organic farming is becoming just a slightly modified model of conventional agriculture (e.g. Best, 2007; Darnhofer et al., 2011).

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<sup>10</sup> Data from 2019 register a total of 34,110 organic-production holdings in Germany, covering 1,613,834 hectares. This represents almost 13% of the total number of farms (Federal Ministry of Food and Agriculture Germany, 2021).



**Figure 3.** Change in number of agricultural holdings in Germany between 2010 and 2018 (absolute and percent). An overall decline is observable, with the Rhineland-Palatinate showing the steepest decline. Source: Heinrich-Böll-Stiftung, 2019, p. 30, graphics: Bartz/Stockmar CC BY 4.0. Used with permission.

Agroforestry, for its part, has a long history in the German scene: the integration of forests with pastures (so-called “*Hutewald*”), as well as the used of hedgerow systems (“*Wallhecken*”) and orchard meadows (“*Streuobstwiesen*”) have in fact traditionally been practiced since the Middle Age (EURAF, n.d.2). Over time, however, these techniques have progressively been abandoned, and only recently rediscovered and re-applied in new experimental farming systems (EURAF, n.d.2). The broader adoption of agroforestry practices in this country remains however limited, on an absolute level as well as compared to its neighbors (EURAF, n.d.2). This is partly attributable to the ruling agricultural policy, which gives little room to these methods (EURAF, 2019): the absence of a clear definition in the European and national laws also contributes to the lack of financial and political support (EURAF, n.d.2).

In response to this, the German Association for Agroforestry (DeFAF) was created in June 2019, with the goal of promoting the implementation of agroforestry, by raising awareness about the opportunities offered by it (EURAF, 2019). Similarly, since 2012, the WG Agroforest Germany, brings together experts, consultants and practitioners in the field to exchange knowledge around agroforestry systems and foster their application (*AG Agroforst Deutschland*, n.d.).

## 2 Theoretical Framework

*“perhaps the most profound act of transformation facing humanity as it comes to live with climate change requires a cultural shift from seeing adaptation as managing the environment ‘out there’ to learning how to reorganize social and socio-ecological relationships, procedures and underlying values ‘in here’”*  
(Pelling, 2011, p. 129)

### 3.1 Theoretical entry points

The very premises of this research are built, as mentioned, on the fundamental interactions between human societies and the environment. For this reason, my theoretical perspective is based on a **Socio-Ecological Systems (SES)** approach (e.g. Berrouet et al., 2018; Smith & Stirling, 2010) conceived within the frame of **Political Ecology**, and the field of **System Thinking (ST)** (Meadows & Wright, 2009). This section will describe my “theoretical toolbox”, going from its broader foundations (3.2; 3.3) to the selected research tool (3.4).

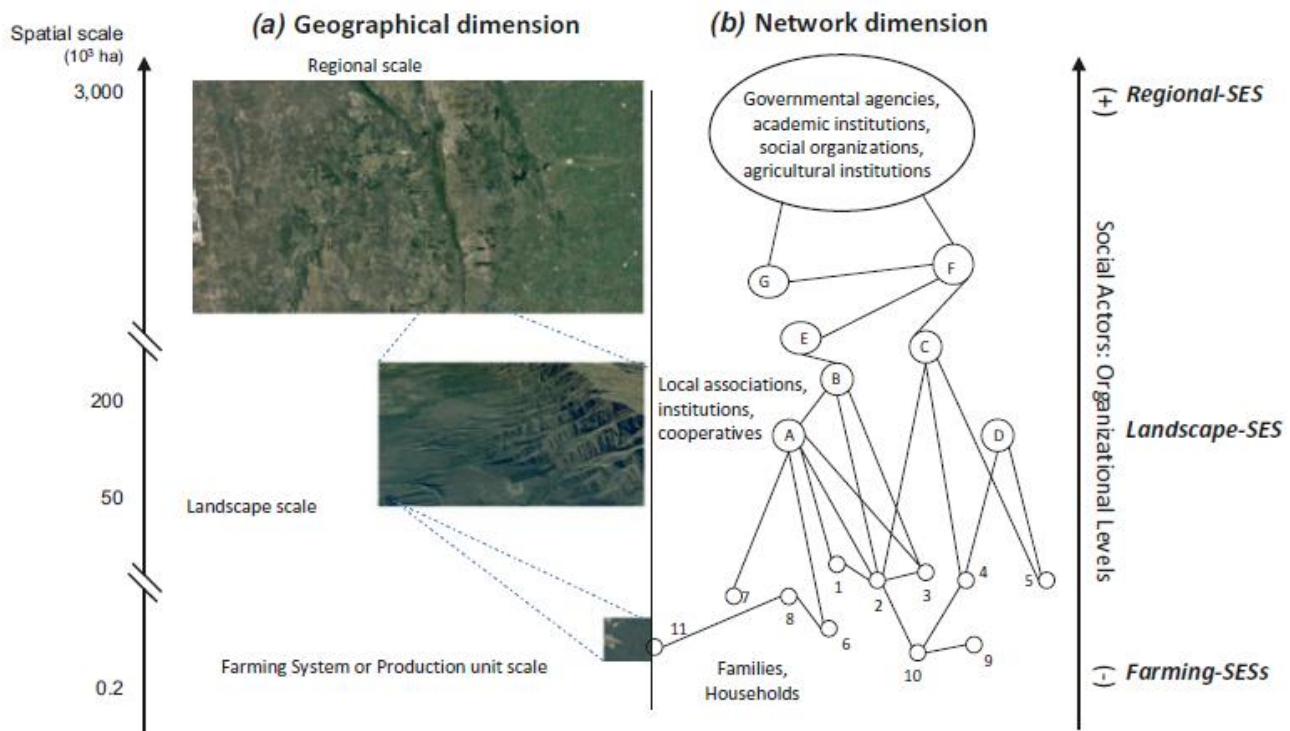
### 3.2 Socio-Ecological Systems from a Political Ecology perspective

While there is a broad range of literature on SES, and multiple frameworks developed to analyze them, in this thesis I mainly draw on SES works influenced by the field of Political Ecology.

The idea of SES is based on a relational approach, i.e. a specific focus on the interaction between the different (natural and social) elements of the system across scales (Gosnell et al., 2019; López et al., 2017) (*Fig. 4*). The adoption of a SES approach naturally expands the vision over the consideration of different capitals<sup>11</sup> available in the system, bringing awareness of other significant resources available beyond a mere economic evaluation (Bliss & Fischer, 2011).

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<sup>11</sup> In particular, I here focused on the value of human/cultural (intellectual, experiential), social (relational) and natural (environmental) capitals (see Bliss & Fischer, 2011; Bourdieu, 1986).



**Figure 4.** Illustration of Socio-Ecological Systems (SES) related to farming. Geographic (physical) (a) and network (social) dimensions (b) interact across the different levels, with increased complexity along the hierarchical scale. Source: López et al., 2017. Used with permission.

Questions of power are however embedded in the very premises of ecological restoration: what we call ‘natural’ are in fact completely ‘anthropogenic’ ecosystems, and the claim itself of their need of restoration “means engaging in choices upon (often competing) human values, preferences, and cognitive constructs about naturalness” (Bliss & Fischer, 2011, p. 138). In this perspective, justifying ecological restoration becomes extremely problematic: a more realistic goal should instead be the “constructive management of socioecological change” (Bliss & Fischer, 2011, p. 139).

Governance and power (in both its formal and informal modes) represent therefore critical elements in the study of agroecological transformations, to uncover the deeper societal dynamics embedded in such processes (Anderson et al., 2019; Fischer et al., 2021; Olsson & Jerneck, 2010). A “(re)politicization” of sustainability issues (Pelenc et al., 2019) is necessary to investigate *who* determines when an ecosystem needs restoration, according to *whose* values and needs, and for *whose* benefit (Bliss & Fischer, 2011). Saying that environments are constructed, moreover, means that we can *re-construct* them according to new principles and values. Political Ecology allows, in this sense, not only to shed light over the cultural dynamics underlying such processes, but also reconstruct

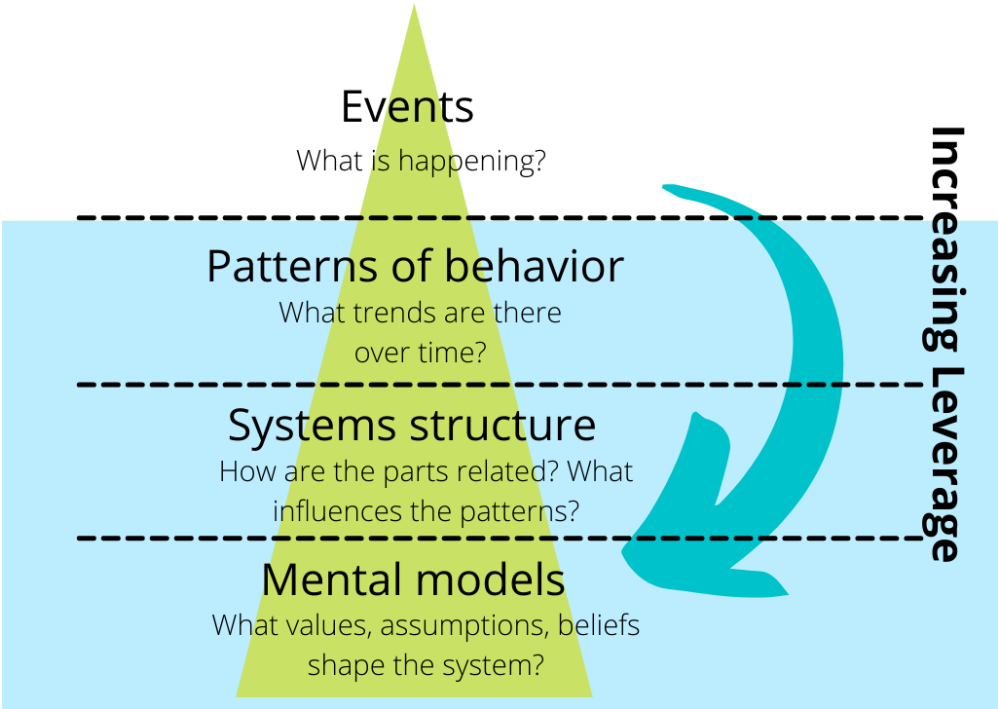


them according to new values and goals, more beneficial to both human and natural ecosystems (Bliss & Fischer, 2011).

### 3.3 System Thinking

The relational perspective underlying SES explicates the link between this approach and the field of **System Thinking** (ST) (e.g. McCarthy, 2006; Meadows & Wright, 2009). For this reason, ST represented a valid complementary tool for my research.

'System' refers to "a set of things—people, cells, molecules, or whatever—interconnected in such a way that they produce their own pattern of behavior over time" (Meadows & Wright, 2009, p. 2). Such patterns, often developing in form of either reinforcing or balancing feedback loops, can be modified to trigger a change in the system. By focusing on the analysis of the existing interconnections among elements in a system, ST re-directs the focus from the observed events (symptoms), to the patterns of behavior, and societal and mental structures underlying them, to find possible leverage points for change (Meadows & Wright, 2009) (Fig. 5).



**Figure 5.** System Thinking’s Iceberg model, for the investigation of the deeper structures of thought and behaviour acting behind the observed events. Adapted from: *Systems Thinking Resources*, n.d.

Causal Loops Diagrams (CLDs) (see Haraldsson, 2004), used in the field of ST for the visual representation of interactions within the system, represented important working tools.

### 3.3 The framework

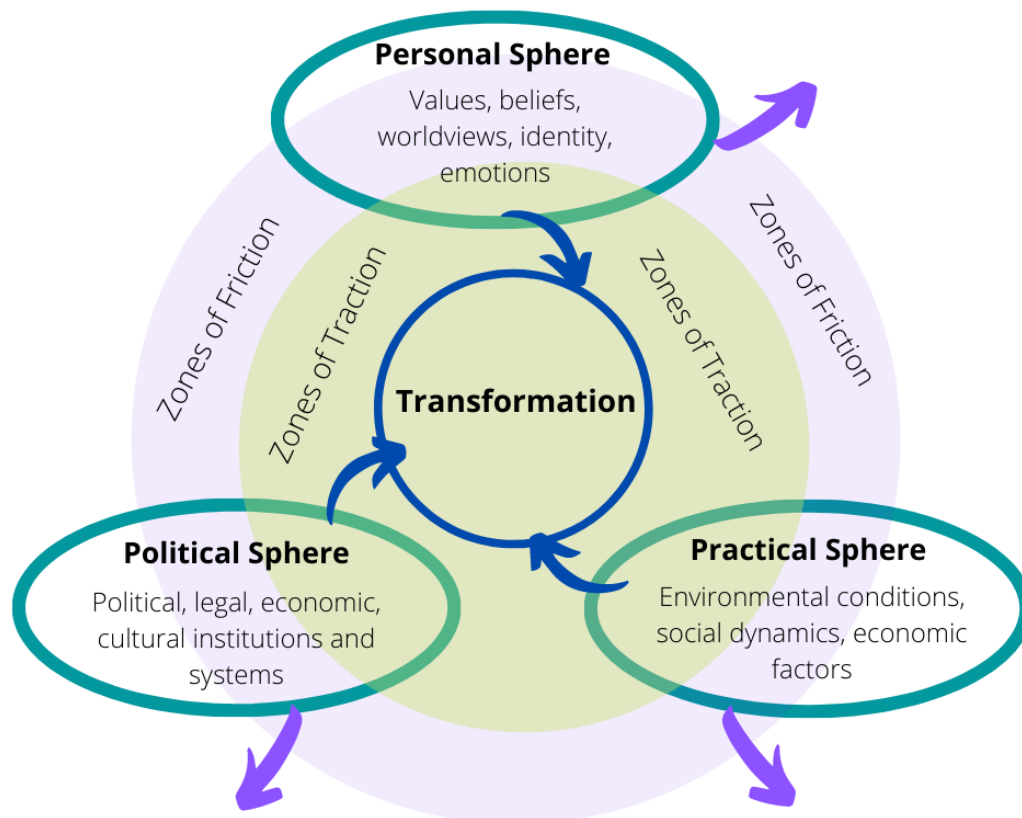
*“The farm does not exist a priori, it does not precede its relations; rather it becomes”  
(Gosnell et al., 2019, p. 5)*

Seeking an integrative framework that would allow me do justice to the multifaceted dimensions of Regenerative Agriculture, I decided to apply the theoretical framework proposed by Gosnell et al., (2019). Drawing itself from the mentioned theoretical approaches, this framework aims at facilitating “transformational adaptation” at the farm level, through the individuation of sources of “friction” and “traction” involved in the process (Gosnell et al., 2019). More specifically, **zones of traction** include those elements that facilitate or initiate transformational change, while **zones of friction** are those that restrain or block it (Gosnell et al., 2019). All these elements are investigated across three “spheres of transformation” – the practical, political, and personal levels (O’Brien & Sygna, 2013)– so to disentangle the multiple dynamics that contribute to “create, sustain or disrupt particular outcomes or configurations of actors, technologies, and relationships” (Gosnell et al., 2019, p. 5) (*Fig. 6*). The overarching goal of the presented framework aims therefore at investigating how specific cognitive, behavioral and cultural factors interact in shaping the adopted practices (practical sphere), and what is needed on the personal and political levels for them to change (Gosnell et al., 2019).

In particular,

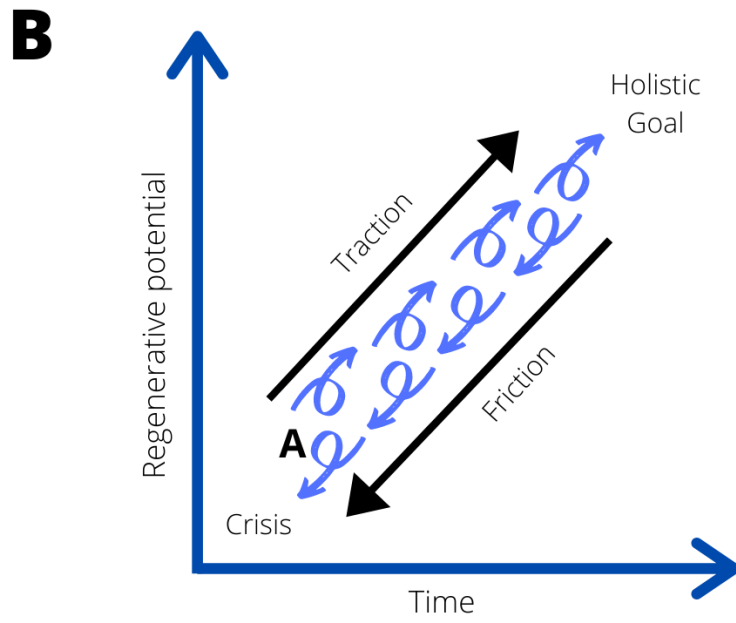
- a) the **Personal sphere** includes all that has to do with people’s values, beliefs, goals. It investigates cognitive processes, patterns of behavior, as well as underlying emotions and motivations. Changes in this area are often the consequence of a moment of crisis or sudden realization.
- b) The **Practical sphere** pertains to what is connected to everyday life and work practices. It comprises the more down-to-earth difficulties encountered in the transition to more sustainable systems, i.e. technical innovations, behaviors, practices, economic challenges etc... Questions of unpopularity, criticism and possible conflicts among the actors are also included in this sphere.

- c) The **Political sphere** encompasses the pressures and opportunities coming from the broader structural level. Many agree that this sphere defines the enabling and constraining conditions for such transformations (O'Brien & Sygna, 2013; Scoones et al., 2018). To this sphere relate economic, legal, and socio-cultural dynamics; governance, market, lobbies, educational institutions and mass media are also included.



**Figure 6.** Representation of the conceptual framework: zones of “friction” and “traction” are individuated across the three spheres (personal, practical, political). Adapted from: Gosnell et al., 2019.

The relational approach derived from the SES perspective explains the focus, in the adopted framework, on spheres interaction and mutual influence, to individuate self-amplifying feedbacks fostering or blocking the transition (Fig. 7). In this perspective, farms are not considered “static units”, but constantly transforming, guided by “flows of energy, commodities, knowledge and information, people, and influences of all sorts across and through porous boundaries” (Gosnell et al., 2019, p. 5). Transformation on the farm becomes in this sense the management and re-direction of these flows across different spatial and temporal scales (Gosnell et al., 2019).



**Figure 7.** Self-amplifying positive feedbacks (A) are the motor of regeneration (B). Adapted from: Gosnell et al., 2019.

## 4 Methodology

*“The greatest stimulus to the exploration of the rationality of the universe is a sense of wonder at its immensity, beauty, strangeness, and solemnity. Yet that sense of wonder proves generative, creating a desire to understand our beautiful and mysterious universe, and our own place within it. It precipitates a process of reflection, grounded in what we observe, stimulated by our sense of wonder, and directed towards grasping at least something of the greater vision of reality that lies behind what we can observe”.*  
(McGrath, 2019, p.1)

*“la ricerca, sia pure in differenti modi e gradazioni, è agitazione, trasformazione, desiderio”<sup>12</sup>*  
(Cortese, 2002, p. XXXIV)

### 4.1 Research philosophy

The unpredictability and high risks characterising the interconnected challenges that we are today globally facing call for innovative ways of doing scientific inquiry (Lang et al., 2012). A “post-normal” science arises with the acknowledgement of the dynamicity and complexity of natural and social systems, the existence of plurality of perspectives and our incomplete control over the unfolding processes (Funtowicz & Ravetz, 1993). Following these stances, I tried as much as possible to make my research process transdisciplinary, participatory, politically engaged, action-oriented, and transformation-aimed, as Sustainability Science (Lang et al., 2012) as well as Agroecology (Méndez et al., 2017) require.

By adopting an **abductive** research strategy, I preferred letting “situations of breakdown, surprise, bewilderment, or wonder” (Brinkmann, 2014, p. 722) direct my data collection, and analysed the events and structures spontaneously emerging with a “playful, deconstructive attitude” (Brinkmann, 2014, p. 724). A **critical realist** perspective complemented my approach. While acknowledging the existence of a self-standing reality, critical realism stresses the highly social nature of the scientific practice and its produced results, becoming reflective about the capacity of thought and language of representing it (Benton & Craib, 2011). This is based on a “sociological ‘feel’ or ‘eye’” (Bourdieu 1996, in Heyl, 2007, p. 380) that allows to unfold the “stratified” nature of reality, by questioning the way this is understood, represented and manipulated by cognitive and discursive processes (Benton & Craib, 2011).

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<sup>12</sup> “Research, albeit in different ways and gradations, is agitation, transformation, desire” (*own translation*).

The aforementioned standpoints led me to the adoption of an **interpretivist** perspective<sup>13</sup>. Drawing by the Geertzian concept of “thick description”, defining feature of the ethnographic research (Geertz, 1973)<sup>14</sup>, I focused on the analysis of cultural meanings – those “webs of significance”, i.e. the personal interpretations of events and interactions - rather than on the surface content of conversations (Geertz, 1973). This approach aimed at overcoming the distorting ideal of neutrality that, as many argue, hide the inevitably subjective and political character of any research (Harding, 1992).

## 4.2 Positionality

Once abandoned the ideal of neutrality and objectivity, a trustworthy research can be built upon the elements of “fairness, honesty and [...] ‘detachment’” (Harding, 1992, p. 570), this last intended as the capacity to take distance from one’s own perspective and beliefs, and adopt new unusual points of view, seeing himself “merely as one object among many” (Harding, 1992, p. 571).

Detachment, therefore, means acknowledgment of one’s own positionality, through **reflexivity** and self-criticism (Harding, 1992). Only by adopting this “standpoint approach” (Harding 1992, p. 583), it is possible to observe the influence of values, interests and the cultural-historical context in the scientific research (Benton & Craib, 2011; Funtowicz & Ravetz, 1993). In this lens, uncertainty and the diversity of values and perspectives are not banished, but outspoken and managed (Funtowicz & Ravetz, 1993), and the produced knowledge “co-constructed” (Heyl, 2007, p. 370), through genuine communication and respectful listening. Following Atkinson’s (2002) principles for producing a robust research, I paid attention to the quality of relationships and interaction established with the subjects of the study, aware of my theoretical entry points, my attitude towards the project, and the variety of framings derived from people’s different perspectives and undergone experiences.

In the context of this integrated science, a **transdisciplinary and participatory approach** is crucial for producing rigorous results (Lang et al., 2012; Tracy, 2010). Such methods have in fact the double

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<sup>13</sup> Interpretivism is defined as “the understanding of the social world through an examination of the interpretation of that world by its participants” (Bryman, 2012, p. 380).

<sup>14</sup> The concept of “thick description”, developed by Geertz mostly in its *“The Interpretation of Cultures”*, indicates the description of an action with consideration of its multi-layered nature, therefore with attention to the deeper contextual and implicit meanings of a physical event and its interpretation made by the actors involved (Geertz, 1973).

benefit of both fostering the integration of different bodies of knowledge (from both inside and outside academia) and enhancing legitimacy, ownership, and accountability during the whole research process (Lang et al., 2012; Lebel et al., 2006; Wiek et al., 2011).

The aforementioned standpoints contributed all together to build an anticipatory, normative, strategic and systemic research process, thus appropriate to the field of Sustainability Science (Wiek et al., 2011).

### **4.3 The research process: a triangular research methodology**

Having experienced oftentimes living and working on a farm, I find myself being quite skeptical with academic research in the agricultural field conducted from the office desk, the same way as the early “armchair anthropologists” used to do. I believe, indeed, that it is not possible to completely grasp the connected issues and propose solutions without experiencing what it actually means to be involved in the farming work, with its connected risks and responsibilities. I was therefore extremely decided on moving to a farm during the process of thesis writing, and this represented an essential circumstance to fully dive into this world, and at the same carry out research over a prolonged time.

On the practical level, a triangulation of methods allowed to constantly challenge and evaluate my findings, to improve the validity of the results. This process embraced three complementary and reinforcing qualitative methods: participant observation, in-depth interviews, and a literature review.

#### ***4.3.1 Participant observation***

Participant observation is “a qualitative method of social investigation, whereby the researcher participates in the everyday life of a social setting, and records their experiences and observations” (Jupp, 2006). In my case, big part of the collected data was gathered through the active participation in the daily life and work on the farm, via informal talks, observations and involvement in meetings, over the three months of my stay. Used to keep a journal for myself, it came naturally to me to register everything in a field diary, written almost every day during my stay.

Everyone on site was aware of the aim of my work: many showed me curiosity about the research and offered me their availability for discussing it together. Some people in particular (such as C2, C3, V6...<sup>15</sup>) represented for me important gatekeepers<sup>16</sup>, being always available to answer my questions and explain things more in detail. With the passing of time, however, the natural deepening of relationships made this group of “informers” larger: in general, I was always surprised by the openness and will to share that almost everyone showed.

Life at the *Hof* is conducted in both German and English, depending on the present group. Most people on the farm mastered English comfortably (see 2.3), and this represented an essential component for reaching depth during conversations and interviews. Meanwhile, my basic understanding of German allowed me to understand most conversations and fully participate in the daily life. Overall, I rarely had the feeling of being “excluded” from a situation because of linguistic difficulties.

#### **4.3.2 Interviews**

The ethnographic in-depth interview is a research method derived from the field of cultural anthropology (Heyl, 2007), and represented the second pillar of my research trajectory. 15 individual semi-structured interviews were carried out during about a month on a voluntary basis, without any material reward: the enthusiasm encountered in the subjects of research made it unnecessary to adopt further incentives for it. The interviewees were selected upon a purposive sampling following the criteria of representativity (specifically, maximum variation in terms of age, gender, origin, background, and role on the farm) and relational distance (avoiding too “close” and too “distant” relationships) (Clifford Geertz & Leonini, 1988). For this reason, this process of research began about two weeks after my arrival, in a moment where I could feel quite included, but still not completely part of the group: this allowed me to establish significant connections while avoiding the risk of “going native” (Heyl, 2007; Bryman, 2012)<sup>17</sup>. Most subjects, moreover, were interviewed towards the end of

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<sup>15</sup> All names have been anonymized for privacy reasons. For the purpose of the study, however, I decided to keep the distinction between project leaders (“L”), core members (“C”) and volunteers (“V”).

<sup>16</sup> Gatekeepers are key informants that facilitate the researcher’s access to the group (Bryman, 2012).

<sup>17</sup> ‘Going native’ refers to a situation where researcher loses his role of external observers and gets shrouded by the cognitive and social context of the studied reality (Bryman, 2012).



their stay, to make sure that they had experienced enough time on the farm before answering my questions. Anyhow, all of them had been there for at least a month before participating.

The interview guide, composed of 36 open questions, was built on the frame of the adopted theoretical framework, with slight differences for the core group and the volunteers<sup>18</sup>. Placing the recorder out of view (obviously after obtaining their consent for recording) was a technique adopted to make conversations more natural. Over time, I progressively adjusted and refined the interview structure following what had emerged from the previous conversations. Eventually, the point of saturation was clearly reached, indicated by the increasing recurrence of topics during the talks.

### **4.3.3 Literature review**

Finally, the described methods of research have been supported by a literature review, started before my arrival at the *Hof*, and carried out continuously throughout the whole stay. This research was mostly based on books and scientific articles, retrieved through the research engines of Google Scholar and LubSearch, from literature of previous courses and other owned resources, and gave important theoretical support to the empirical findings.

## **4.4 Data analysis**

Interviews were transcribed with the help of the Word dictation tool, and data transferred into Excel using a Google Form module. These were further integrated with the field notes, thematically coded, and analysed jointly with the help of the supporting literature. At the end of the study, findings were presented to the group and discussed in a process of respondent validation (Bryman, 2012).

## **4.5 Limitations of the research methods**

It is important to consider that, due to its qualitative nature, this research offers an in-depth understanding of one specific case: hence, although it might represent a valid example for the broader field of the agroecological research, its results must be considered contextually. Reflexivity about the

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<sup>18</sup> Motivated by their different involvement and knowledge in the community.

inevitable subjectivity of the findings is necessary: my story, my education, my personal character certainly shaped not only the interpretation of the results, but already the choice of *what to look for*. While, on one hand, my different background might have hindered me from completely “grasping” the culture encountered, on the other the - for me - “exotic” context in which the research was carried out perhaps made accessible to me all those aspect that are normally hidden to the locals by a “dulling sense of familiarity” (Geertz, 1973, p.14). Meanwhile, sharing values, interests, age, and often social class with most participants represented both an advantage and a drawback of the research process. As typical in processes of transdisciplinary and participatory research, challenges also included unbalanced problem ownership and direction, and my positioning within the group (Lang et al., 2012).

Limitations concerning specifically the field work relate to the use of non-native languages (from both parties) during the process. Although my fair knowledge of the languages spoken on site likely attenuated the possibility of misunderstandings, this factor has surely influenced the communication and my understanding of the studied reality.

Additional points have to be highlighted regarding the interviews, concerning both their sampling and conduction. Firstly, the purposive sampling undoubtedly brings partiality into the findings. Secondly, as the interviews often touched on sensitive topics, I had to be very careful when entering such fields, to avoid uncomfortable situations. That said, no one ever showed boredom or discomfort during the talks, and I was instead often surprised by the “openness” of my interlocutors. This made me reflect about the opportunity of my presence as a “neutral ear”, someone who could embrace their feelings without major consequences for the balance of the group.

For the very nature of this method, the narrative produced is inevitably fragmented and partial, and it is role of the researcher to acknowledge its unicity (Scheper-Hughes, 1995; Heyl, 2007; Atkinson, 2002). However, as two portraits painted from the front and the side can both be considered faithful, these differing products of the ethnographic research are similarly worthy, despite their positioning (Frank, 1980; Runyan, 1982, in Atkinson, 2002, p. 92).

## 5 Results

This section presents the obtained results through the lens of the framework previously defined, focusing on the most important zones of friction and traction in each described sphere (RQ1) and their interaction (RQ2). A brief account of life at the *Hof* introduces the scene to give the reader a more concrete idea of the context within these dynamics plays out.

### 5.1 Life at the *Hof*

Life at the *Hof* starts around 7 (earlier for those in charge of the breakfast and of making the fire) with breakfast accompanied by the *Tagesbesprechung* (“the daily talk”), an organizational meeting where the tasks of the day are presented and divided. After that, some “warm-up” games give start to the working day. Work goes on until the sunset, with a break for lunch (*Fig. 8*). With the dinner, usually around 18 o’clock, the working time ends and there is time for relax. People normally hang out in the living room, reading, playing games or music together. *Check-outs* are held on most evenings: these are sharing rounds where everyone is welcomed to express their thoughts about the day. Once a week, this is held in form of a *Verbindungsrunde* (“Connecting round”), where most extensive reflections can take place.



**Figure 8.** Work goes on with any weather conditions, and it can sometimes be exhausting. However, the atmosphere within the group is supportive and funny, and we motivate each other to continue. Photo by a volunteer, 2021. Used with permission.

## 5.2 The game pieces: concurrent elements of change

The content of interviews and informal conversations tended clearly towards some recurring topics. Given the limited space, I will here focus on what I consider being the most significant points; a more extensive list of the results is presented in *Table 1*<sup>19</sup>.

		Traction	Friction
<b>Personal Sphere</b>		Presence of a personal crisis, exhaustion or unhappiness in the previous life; Experience of a sort of “epiphany”; Shared values and goals within the community; Rich relational and social environment; Possibility for learning and personal development; Recovered sense of self-worth (sense of doing “something meaningful”); Re-found alignment of actions with values (possibility to act, to “create our own reality”); Opportunity to step out of the “comfort zone”, try something new; Mutual acknowledgment and gratitude for the work done.	Feeling constrained by societal requirements and pressures (i.e, profit-oriented society); Personal consequence of dealing with insecurity, risk and time pressure; Personal consequences of the hard and difficult work (physical and psychological); Doing disliked works; Conflicting priorities and perspectives within the common goal; Knowledge and power hierarchies; Ownership of the project; Personal consequences of dealing with risk and insecurity; Comparison with others; Lack of confidence in one’s own skills; Feeling undervalued, work not acknowledged; Delusion from initial expectations.
<b>Practical Sphere</b>	<i>Economic</i>	Availability of land; Available funding; Success of the crowdfunding campaign and free donations; Availability of volunteer work.	Very high initial investments; Financial risks and consequent pressure of obtaining an income to make a living and pay back the loans.

<sup>19</sup> As similarly observed by the authors of the adopted framework, confining the various elements in a specific sphere is quite challenging, as they often tend to overcome the borders between them. I tried, for my case, to solve this issue by avoiding as much as possible repetitions, trusting the reader to be able to grasp the interactions connecting the elements across different spheres.

<i>Broader social level</i>	<p>Presence of supportive networks at different levels (local, regional, national, global);</p> <p>Use of social media;</p> <p>Positive feedback by the local administration and the public;</p> <p>Collaboration with universities.</p>	<p>Network circumscribed to the “bubble” (difficulty to reach out different social groups);</p> <p>Image and reputation in the surroundings (skeptical acceptance of the project);</p> <p>Conflictual relations with the neighbors – e.g. the hunter).</p>
<i>Local social level</i>	<p>Knowledge sharing (within and outside the community);</p> <p>Availability of a diversity of skills and pieces of knowledge;</p> <p>Availability of physical and online resources for learning;</p> <p>Closeness to nature;</p> <p>Good food and healthy lifestyle;</p> <p>Inner and group motivation;</p> <p>Possibility for outside, handy work;</p> <p>Working together;</p> <p>Possibility to try out different works (at the “borders”, out of the “comfort zone”);</p> <p>Flexibility of the working routine;</p> <p>Commonly agreed schedule;</p> <p>Tangible results;</p> <p>Mutual acknowledgment of work;</p> <p>Spread responsibilities and mutual trust.</p>	<p>Lack of specifically agricultural knowledge;</p> <p>Lack of confidence in one’s own skills;</p> <p>Hard work and life conditions (“exhausting”);</p> <p>Lack of infrastructure;</p> <p>Adaptation to the new lifestyle;</p> <p>Newness of work;</p> <p>Disorganization in the everyday life and work;</p> <p>Sensation of not-acknowledged work;</p> <p>Lack of time (for learning and teaching, for personal care and group processes);</p> <p>Need of compromises between values and goals, and project’s feasibility (e.g. need of using machineries on the field);</p> <p>Lack of commitment by the group members.</p>
<b>Political Sphere</b>	<p>Increased acknowledgment of the validity of such practices by academia and the public;</p> <p>Increased inclusion of agroforestry systems in agricultural regulations;</p> <p>Available funding and land;</p> <p>Increasing number of specific educational programs (e.g. <i>Demeter</i> education or University courses);</p> <p>Increased societal awareness of the urgency of the environmental crisis;</p> <p>Increasing consumers demand of organic products;</p> <p>Presence of a supportive wider global movement.</p>	<p>Constraints of societal requirements and pressures (i.e. profit-oriented society);</p> <p>Rigid agricultural regulations and lack of specific agroforestry regulations;</p> <p>Lack of funding for Regenerative Agriculture;</p> <p>Competitiveness of other businesses;</p> <p>Low consideration of the farming job.</p>

**Table 1.** Summary of the personal, practical and political elements of traction and friction relatively to the development of the project at *Hof Lebensberg*. Own creation.

### 5.2.1 Traction and friction in the Personal Sphere

Traction in this sphere is often resulting, similarly to what Gosnell et al. (2019) observed, from some sort of “**crisis**” – often consequence of a mismatch between people’s actions and their most deeply held values, or of the acknowledgment of the complexity of global socio-environmental problems<sup>20</sup>. This is shown, for example, through dissatisfaction regarding one’s previous job or studies, or the feeling of not being understood by the people around them. Such “crisis” emerges with sentiments of exhaustion and sadness, sometimes resulting even in physical illness, becoming what most commonly motivated the people to join the project<sup>21</sup>.

*“I decided to leave [the previous workplace] and then we stood there and said ‘what now? what do we do now?’ [...] I was totally crushed” (C7)*

In this sense, *Hof Lebensberg* is described by many as a “healing space”, where they can rediscover a **sense of self-worth**. By doing something “meaningful” (C2), many mentioned their feeling of having here the possibility to create their own reality, respectful of their inner values and goals. Motivation to change, sometimes, also comes in the shape of an “**epiphany**”, i.e., a sudden realization, triggered for example by a travel, or other people’s behaviors<sup>22</sup>.

*“at that point I learned that... a meal without meat is cool! [...] because I lived with two vegetarians...” (V4)*

A second crucial aspect often mentioned is the **rich atmosphere** characterizing the community. Diversity, cultural exchange, and mutual learning bring happiness and motivation to group members, enriching the everyday life and stimulating personal development. Physical and emotional closeness are positive levers, considered by many essential. Overall, this shared culture allows community members to feel “heard” and understood at any time, without need of many explanations<sup>23</sup>.

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<sup>20</sup> In some cases, also the current Covid crisis, with its socio-economic consequences, represented a push for the change.

<sup>21</sup> See Appendix 2, a-b.

<sup>22</sup> See Appendix 2, c.

<sup>23</sup> See Appendix 2, d-l.

*“When there are emotions there's every time someone who sees or who take... take care of it, and asks, and that's cool [...] that there's someone who can hold this this room, and he can hold these emotions and I can hold the emotion of the other” (V8)*

**High sensitivity**, by a volunteer described as “some kind of emotional intelligence” (V6), also characterizes the group. High levels of respect, openness and care are in fact defining elements of the group<sup>24</sup>. Particularly, care to others and the environment seems to be linked with higher attention to oneself, expressed through the consideration given by group members to psychological and physical health, observable through attention to eating well, having an active lifestyle and a healthy mind.

*“When we look at ecosystems you see – like – everything is dependent on each other and so are we as human beings as well. So it's important that we help each other, and that we help also other beings like animals or plants...” (V7)*

The peculiar configuration of **values and goals** creates, here, a particular sub-culture – often referred to as the “bubble” – in which most members recognize themselves. Belonging roughly to the same age cohort contributes to this “closeness”, by allowing same generational cultural references. Among the foundational pillars, the common urge for a radical change in society, although not necessarily connected with political activism or a focus on the environment<sup>25</sup>. In this regard, individual actions are described by most participants as crucial for influencing others: in this sense, planting trees and participating in projects of this kind are considered by many veritable political acts. An interesting point is that many cannot identify themselves with a “standard” political party, or even in being “political” in the traditional connotation of this term: when asked about their political positioning, most of them rather describe it in negative terms or through a more general set of values.

*“if I would or if I should tell if I'm rather left or right or middle, I would say I'm left but doesn't really mean that much to me” (C1)*

Community life is, for everybody, either the motivation to come or an immense discovery, and often the reason to stay. This is observable as well in the feeling of “**inner motivation**” that surprised and

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<sup>24</sup> See Appendix 2, m-q.

<sup>25</sup> See Appendix 2, r-s.

fascinated me since my arrival: despite no one checking on the amount of work done, everyone works very hard (even over their limit) to contribute to the project<sup>26</sup>.

At the same time, however, group dynamics trigger constant **comparisons**. Comparison is often made about skills and capabilities, the amount of work or engagement for the environment, both within and outside the group, and represents therefore simultaneously a factor of traction and friction, being at times a push for hard work, and an element of personal insecurity about people's own skills and position within the project<sup>27</sup>. Mutual acknowledgment and thankfulness for the work done are thus described as represent important actions to contrast these feelings and keep up the motivation in the group.

Main points of friction concern, finally, the topics of **conflicting priorities within the common goal** and **knowledge and power** imbalances (discussed in sect. 5.3.1). Despite being united by a common vision, in fact, conflicting perspectives persist over the way and the pace of achieving these goals. Deciding over giving priority to the agricultural business or community processes is a main topic of discussion within the group.

*“utopia is... quite easy to be conformed with it... it's more about the way how we get to utopia” (C6)*

### **5.2.2 Traction and friction in the Practical Sphere**

The element of **knowledge** is central, too, in the practical sphere, as it allows sharing responsibilities and delegating tasks within the group. Doing something new is indeed concomitantly exciting and hard, also due to the connected risks for the project<sup>28</sup>.

*“I think... everyone is doing... things he didn't do before. And a lot of people go above their borders too” (V8)*

The lack of knowledge, in fact, causes inefficiency since it requires time for every task to be learnt and organized, causing frustration that drags down the general mood of the group. **Time pressure**,

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<sup>26</sup> See Appendix 2, t-v.

<sup>27</sup> See Appendix 2, w-x.

<sup>28</sup> See Appendix 2, y.



however, does not allow much time for sharing knowledge, and contributes to the overall emotional stress (see 5.3.2). For this reason, knowledge sharing (both within and outside the project) represents an important element of traction, also thanks to the use of social networks and online sources. **Technological skills** are hence facilitating the change by allowing the use of programs such as GIS or Trello<sup>29</sup> for the daily work.

**Money** is also both a push and a pull factor in the scene. While the lucky availability of resources (land and capitals) represents a significant advantage, financial pressures are the main reason behind exhausting working schedules as well as huge emotional pressure. Furthermore, the **hard work and life conditions**, due to the weather, the new lifestyle, the lack of infrastructure (due to the young age of the project) and the very nature of the agricultural work, are acknowledged elements of friction<sup>30</sup>.

*“I mean we get up really early... you work a lot and ... then there are also a lot of group times where I feel that yeah I'm always... on demand” (C4)*

A final point is the **project's reception** in the surroundings<sup>31</sup>. Public acceptance is pivotal to overcome the skepticism that often accompany innovations especially in rural areas (Pannell et al., 2006, in Gosnell et al., 2019). For this reason, much attention is given in the *Hof* to self-definition and building good relationships with other actors in the area (e.g. other farmers, local administration...), which is not always easy. A striking example is the conflicts that have emerged with a local hunter, whose diverging needs regarding living and working on shared land have represented a major obstacle for the project's development.

### **5.2.3 Traction and friction in the Political Sphere**

Finally, elements in this sphere mainly revolve around the topic of **societal awareness** and **governmental support**.

First, the creation of a more environmentally aware culture emerges as a key traction for the project. The acknowledgment of the importance of such actions has in fact consequences on both the local

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<sup>29</sup> *Trello* is a software for the organization of work in groups.

<sup>30</sup> See Appendix 2, z.

<sup>31</sup> See Appendix 2, aa.

(increased products demand) and the broader societal levels (public awareness). This would as well contribute to give a new value to the profession of farmers<sup>32</sup>.

*“I think it's a cool job!... but the image that you have is not cool I think... and the image that everyone has it's not cool... like it's something old... that old people do” (V8)*

Secondly, regarding the governmental level, many claim the need of an improved agricultural governance, with a clearer inclusion of agroforestry into the regulatory framework, and the removal of “abstract” laws that still rather limit the action of farmers. For instance, today the current organic regulations require a minimum living area per farmed animal, giving for granted their fixed living location. However, holistic grazing involved their daily moving over the field, with fresh grass in every new space. In this context, some regulations might become uselessly rigid when applied regardless of the context. The recognition of the potential of Regenerative Agriculture practices in the political arena is essential also to promote the development of educational programs and supporting funding. Such processes are, however, still limited in Germany, thus constraining the project’s development.

### **5.3 Interaction among the spheres**

As observed, factors often influence each other across the spheres’ borders: considering these interactions is essential to find leverage points to change. In my case, I identified the elements of **knowledge-power, time-financial pressure and insecurity** as central in the analysis.

#### **5.3.1 Knowledge-power**

Knowledge is a main topic of discussion at the *Hof* (Fig. 9). Although many community members have higher education and various experiences in their background (see 2.3), only a minority holds enough farming skills or agroforestry knowledge to manage a project of this kind<sup>33</sup> (*practical*). Additionally, the ambition of the project and the financial risk do not allow much flexibility for mistakes: every error might carry huge consequence for the project, in terms of finance and reputation (*practical/political*).

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<sup>32</sup> See Appendix 2, bb.

<sup>33</sup> More specifically, as highlighted by the initiators of the project, the lack of knowledge is not limited to missing agricultural skills, but refers more generally to the absence of a particular attitude, a way of “seeing and doing things” specific of farming, that is developed with experience over time.

People counter this problem through self-teaching and peer exchange, with impressive results: it is not rare seeing someone spending hours in front of a *YouTube* video, diving into piles of books, visiting other projects to get inspiration.

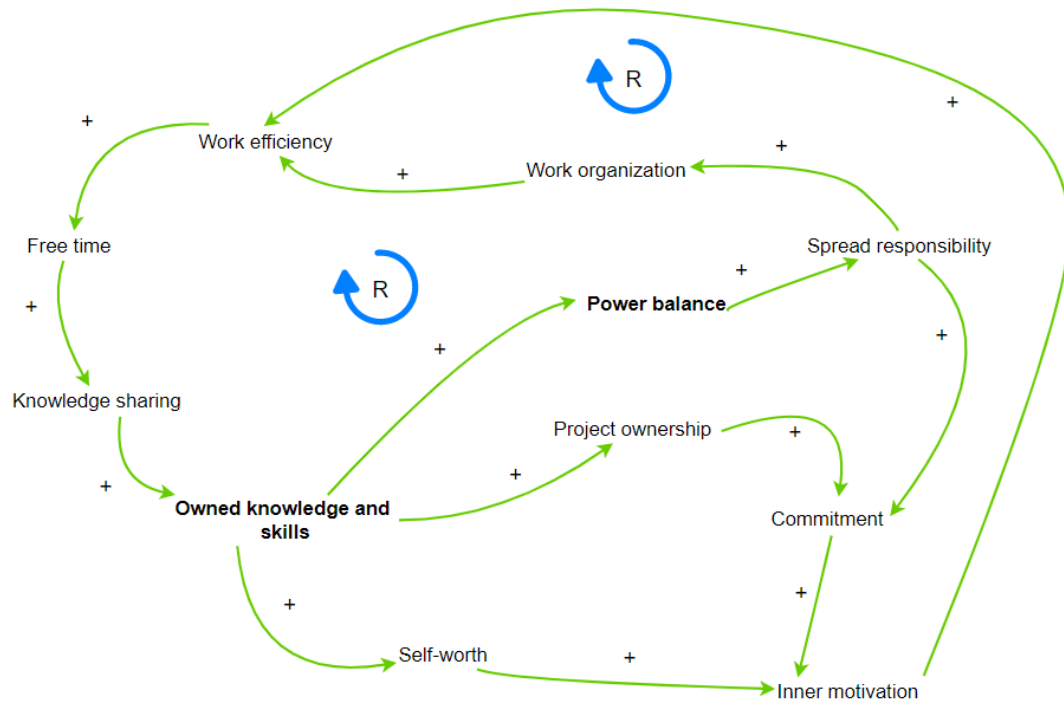
This knowledge gap, however, generates **power imbalances** within the group<sup>34</sup>: the impossibility of sharing responsibilities, due to the knowledge gap, makes the ones who hold the power feel the weight of the responsibilities (financial and of outcome) of the whole project on their shoulders (*personal/practical*). For this reason, these people become (even involuntarily) leaders of the project, by establishing its “possibilities and the borders” (C7), and exercising a strong influence on other members.

*“[L1] is a working machine, all the time, and he creates the culture... and he say[s] “this is what's normal”. [...] A lot of people who are staying here are saying ‘we can't rest here! When we are here we can't rest!’. And I say: ‘How do you want to rest if there are the mightiest is in unrest... mode?’. He is always working, always stressed, always” (C7).*

In parallel, this power gap often results in decreased ownership, demotivation and lack of commitment to the project by the other members (*personal/practical*). Agricultural work requires, in fact, especially in the first stages of implementation, exhausting working rhythms and many sacrifices: this is only bearable on the base of a strong “inner motivation”, especially in case of a flexible working culture.

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<sup>34</sup> See Appendix 2, cc-ff.



**Figure 9.** CLD 1: elements interactions connected to knowledge and power. Own creation.

### 5.3.2 Time-financial pressure

The topic of time is another central node of interaction (*Fig. 10*). In particular, the financial pressure (*political*) has consequences for both the practical (exhausting working rhythms) and the personal spheres (quantity of stress and unhappiness).

The strong time pressure requested by the starting of an agricultural business (financial pressure) (*political*) and the ambitious goals, in fact, does not leave any time for knowledge sharing and the essential community processes, becoming therefore counterproductive for the work (*practical*).

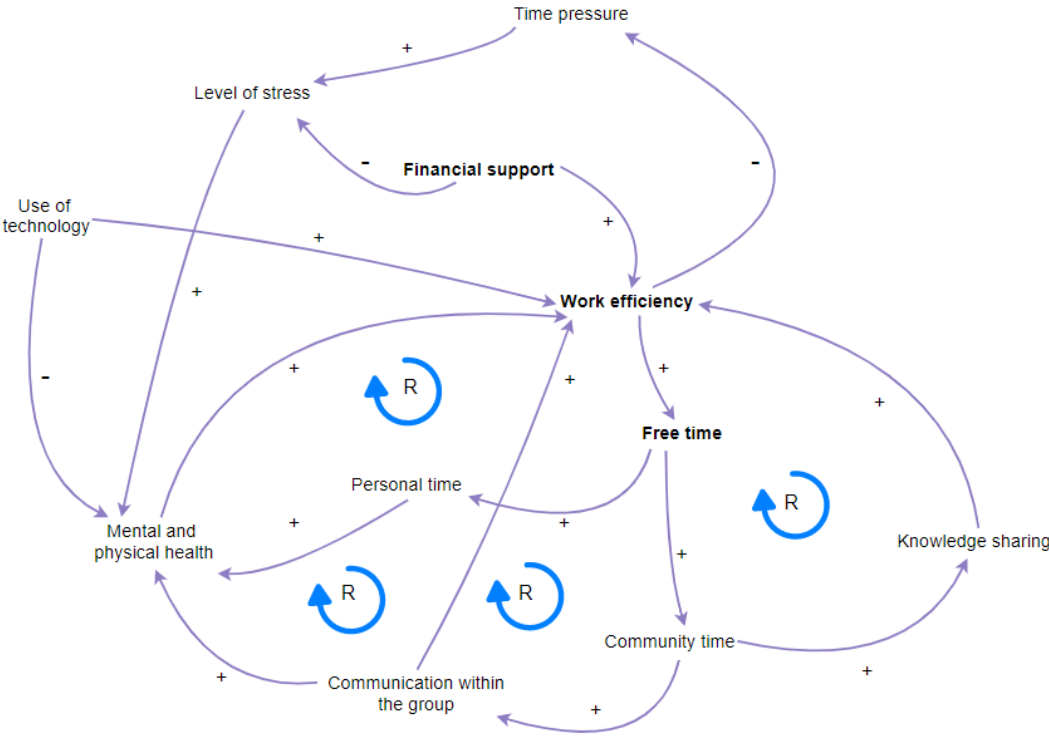
*“it's not easy because usually the people who have like these experiences or knowledge, they are also the people who already work the most and have few time” (C6)*

Many deplore, furthermore, that the exhausting working rhythm do not leave much time for social interaction and personal care (*personal*). This has important consequences for both the individual and group stability, colliding with the shared fundamental value of care of the self and the others. Deciding

on the right balance between time devoted to the group (community-building) and to business is indeed a highly discussed topic in the group<sup>35</sup>.

*“I see that like maybe myself I'm struggling under this like expectation of myself like continuously working working working and I see others like really suffering under this as well...” (C3)*

The use of technology, while on the one hand increasing efficiency (*practical*), on the other ends up totalizing the working time by forcing the aspiring farmers to paradoxically spend their whole day in front of the screen. This contributes to creating a widespread sense of frustration for doing a totally different job from the one desired and expected (*personal*).



**Figure 10.** CLD 2: elements interactions connected to time-financial pressure. Own creation.

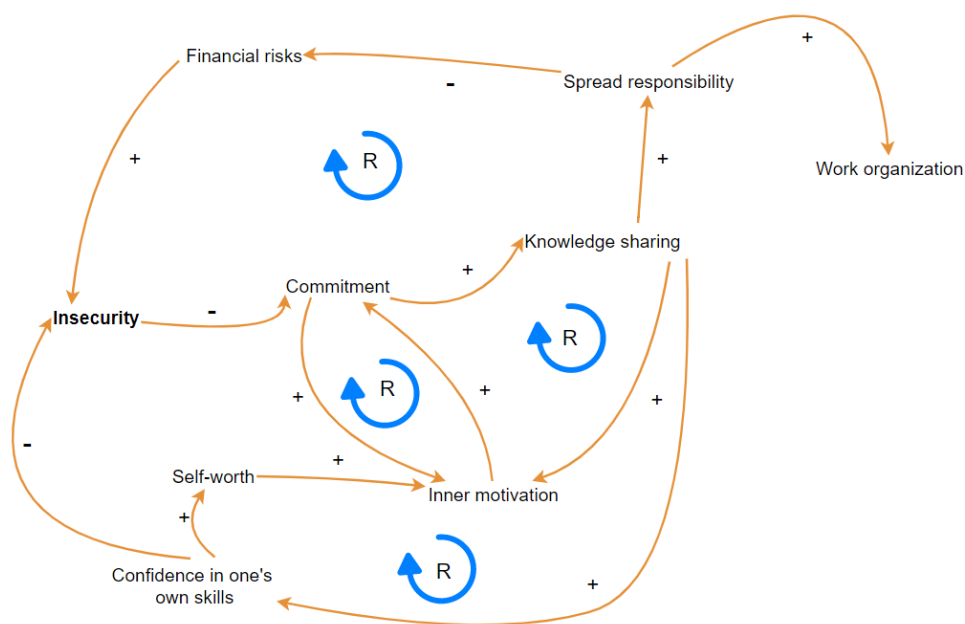
<sup>35</sup> See Appendix 2, gg-ii.

### 5.3.3 Insecurity

The last core node in the picture is the concept of insecurity (Fig. 11)<sup>36</sup>. Caused at times by the sensation of being unskilled and undervalued, from doing something completely new, or as a general sentiment about the future, this is often a widespread feeling in the group. Insecurity appears also connected to broader generational characteristics (see *farmers 2.0*) as well as the current socio-economic context (*political*), where the precariousness of work and life conditions make individual futures as well as the one of the farm uncertain.

*“because I was already travelling and had no job and no flat, so it wasn't very difficult for me to come here” (C1)*

Because of this feeling, assuming responsibilities becomes hard, and most interviewees expressed difficulty in committing to the project. This has consequences for the both the financial aspects<sup>37</sup> (*practical*), and the overall motivations of group members (*personal*). Similarly, the lack of commitment makes it hard to share knowledge within the group, since investing in short-term participants is a waste of time and energies, resulting in an overall unskilled working group (*practical*).



**Figure 11.** CLD 3: elements interactions connected to insecurity. Own creation.

<sup>36</sup> See Appendix 2, jj-II

<sup>37</sup> Members of the core group, in fact, devolve of a set amount of money for the project building.

## 6 Discussion

*“short-term capitalism threatens to corrode his character, particularly those qualities of character which bind human beings to one another and furnishes each with a sense of sustainable self.”*

*(Sennett, 1999, p. 21)*

The presented results have evidenced the existence of several interrelated factors of “friction” and “traction” within the context of community-based implementation of Regenerative Agriculture. As observed, in *Hof Lebensberg* the knowledge-power gaps, time-financial pressure and insecurity provoked by the high ambitions of the project and the need of quick profit represents main hindering elements for the project’s development. However, such factors are symptoms of deeper issues; System Thinking allows to investigate their roots of such issues and avoid “end of pipe” solutions (Meadows & Wright, 2009, p. 5). This section discusses the findings to explore solutions for re-directing the existent feedback loops and find possible leverage points of transformation, both within and outside the project. A discussion about the used theoretical tools concludes the section.

### 6.1 Digging deeper: capitalist culture and the construction of resilient communities

Findings show that, despite the efforts of creating a different reality, it is hard for the *Hof Lebensberg* community to “detach” from the pressures of the dominating economic system in which it is embedded<sup>38</sup>. Behind the observed dynamics of frictions lies in fact a structural contrast between two opposed ideological systems: the capitalist culture and the ethos of societal construction. The values promoted by capitalism sharply contrast with the ones sustaining the formation of personalities and thick social relations: **loyalty, trust, mutual responsibility, commitment** (Sennett, 1999). Building human, social, and cultural capitals, in fact, requires time to consolidate and the possibility of wrong attempts: elements currently unavailable in our society, as in the context of the *Hof*. The capitalist profit-oriented culture, in fact, supports a context of superficiality and self-interest (Gliessman, 2015), where temporary, “weak” social ties (Granovetter, 1976) are promoted as better suited to navigate the context of constant change (Sennett, 1999). Such context brings younger people, often freer to move and more open to risk taking, to dominate the scene, as observed in the *Hof*.

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<sup>38</sup> Callinicos (2007, p. 256) describes brilliantly the fallacy of the promises of the “resistance as exodus” from capitalism.

When accumulated experience lose value, so does the delayed gratification derived from the pursue of long-term goals, key element for the construction of personal narratives and motivation (Sennett, 1999). Such disorientation leads to situation of **frustration and insecurity**, as observed in the *Hof*, for doing something totally different from what learned and expected. This has important consequences: as seen, it is mainly through work that people feel part of the *Hof* community, and build self-confidence and commitment. This way, capitalism hinders people's possibility to build a narrative of their own "self" as well as to create the social ties necessary to establish a strong community. **Technology** also contributes to this superficiality: delegating skills to machines, it does not allow the build-up on-the-ground experience (Gosnell et al., 2019), alienating the aspiring farmer from their profession.

The consequence of these dynamics is often insecurity about one's own abilities, and an overwhelming **feeling of responsibility** for events outside of one's control. This leads people to cling onto static values and not acknowledge their mistakes, in the vain attempt to resist such "corrosion" of character (Sennett, 1999). This attitude, as observed in the *Hof*, makes it hard to agree within the group upon goals and pathways to undertake.

This context, moreover, produces new subtle dynamics of **power and control**, creating a highly competitive landscape where some people assume a lot of power, with the others left "gravitating" around them (Sennett, 1999, p. 89). This was highlighted, by some interviewees, about the initiators of the project who, having more knowledge and responsibilities, have the power of creating the culture of the place, by defining the frame according to which skills, knowledge, and working rhythms are evaluated. While, at the *Hof*, hierarchies are formally avoided, factually the new structures are only apparently more collaborative: bosses still hold the power of decisions, while responsibilities are discharged on the group through a facade of "teamwork" (Sennett, 1999). The illusory freedom derived from flexible working hours contributes as well to these dynamics, hindering the detachment from the work, itself further enhanced by the coincidence of the working and living spaces and the invasive presence of technology (Pascuzzi, 2021). Hence, specious forms of control hide behind an appearance of freedom, provoking high pressure on *Hof* workers, that struggle to even realize where it is originated and suffer from it, until even deciding to leave, as I sadly had to witness during my stay.

## 6.2 Finding solutions

Such dynamics confirm what argued in the introduction: **a full adoption of Agroecology is not compatible with the current socio-economic structures**, and requires a radical change of paradigm.



The question becomes therefore: how to promote the establishment of a Regenerative *Culture*, with well-developed personal identities and deep social relations, while still ensuring economic sustainability?

According to Meadows & Wright, (2009, p. 16), the most crucial leverage points of a system lie in its - often hidden – purposes, being those the main drivers of behaviors. In human systems, purposes are represented by individual goals and motivations. In my case, findings show that on the short term, **increasing work efficiency** currently represents a key goal in the project, to ensure its survival within the system in which it is embedded, while safeguarding time for individual and group processes. Reflections following my participant observation also seem to confirm Sennett’s idea that sees this attitude to hard work as a distinctive characteristic of the German culture, heritage of the value given to work for one’s self-worth in the Protestant ethics (*see* Weber, 1930)<sup>39</sup>. At the same, a goal on a longer term is the **promotion of a new culture**, based on the valorization of personal and group development. The need to conciliate these two missions is a primary aim. In this perspective, possible pathways of action are envisaged, and summarized in *Fig. 12* (p. 46).

### **6.2.1 Solutions at the local level**

At the local level, as observed, inner motivation is highly dependent from **knowledge sharing, learning,** and **deep communication** within the group. In this context, leaving room for personal and group time, despite seemingly a “waste of time”, represents a crucial action to trigger positive feedbacks in all spheres (*see* Anderson et al., 2019).

On the one hand, increased skills and awareness of the pathways undertaken could allow a more equal division of responsibilities and power within the group, increasing ownership and commitment to the project, with benefits for both the personal (increased self-worth) and practical (work organization and efficiency, shared financial risks) spheres. On the other hand, honest communication enables sharing values and goals, allowing group members connect to the others and their goals, thus increasing their motivation. Feeling understood and welcomed represents, as observed, a main traction factor in the *Hof* community.

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<sup>39</sup> It is not surprising, in this perspective, the famous German proverb “Nur die harten kommen in den Garten” (“Only the strong ones grow in the garden”).

In this light, practical solutions on the local level include, firstly, the encouragement to share individual **goals, motivations, and skills**, and making explicit the inevitable **differences of power** within the group. The acknowledgment of different levels of power and commitment to the project would make group members aware of their responsibilities and role within the project. Consequently, a second step becomes to clarify the **separation between “core group” and volunteers**, on the base of such elements. The present confusion on this is, in fact, one of the main reasons for the feeling of exhaustion, alienation, and confusion encountered in the group. Furthermore, a **serious consideration of the skills and knowledge** that both core member and volunteers bring to the group, as well as sharing **gratitude** for the efforts done, would bring benefits on both the practical (work efficiency) and personal levels (self-worth/inner motivation).

Finally, in the search of a balance between ensuring profit and community building, a critical reflection about culturally shaped attitudes towards work would help **lowering the ambitions** and working for a more gradual development of the project, thus allowing room for the construction of knowledge, skills, and fundamental human connections.

### **6.2.2 Solutions at the structural level**

*“we have this crisis because a lot of humans can't feel themselves, and if you can't feel yourself you only can treat the world like we do” (C7).*

The friction coming from an unequal distribution of power, observed within the *Hof*, hinders the establishment of an agroecological regime also at the broader societal level (Gliessman, 2015, p. 304). Here, as well, the “mighty ones” create the frame according to which values are judged and goals created. Following the described link between knowledge and power, possible solutions at the structural level can be therefore individuated in **education and awareness raising**, and through the establishment of a more **decentralized agricultural governance**.

Firstly, governments have the fundamental duty to promote a diffused **transmission of knowledge**. From primary schools to universities, and through media and campaigns, States have a huge role in creating responsible citizens, conscious of the current social and environmental challenges and their impacts on them.

Raising awareness, moreover, needs to go well beyond formal education, and requires the promotion of a **whole different culture** (Nussbaum, 2021). I use the term sensibilization, therefore, to indicate a

broader valorization, in society, of the aspects of care, mutual trust, and cooperation, as the *Hof* does. It is through learning to work and live together, deep listening, and collaboration for a common goal that such values can slowly be built.

Awareness rises by educating people to “*feel*”: themselves, the others, and the environment around (Nussbaum, 2021): “no matter the object, grief and sadness focus our attention on what matters in our lives, and they turn us into human distress signals: they summon help” (Nicholas, 2021). Building empathy becomes a crucial element to support the change.

Secondly, a serious political recognition of the socio-ecological problems is pivotal for the creation of **appropriate regulations and funding** that would support, instead of hindering, the transformation. This includes, importantly, the cessation of subsidies to conventional agriculture, which make destructive practices competitive on the market (Gosnell et al., 2019), and the **decentralization** of agricultural governance, necessary to create a more agile structure to produce regulations more suitable to the local characteristics and needs (Anderson et al., 2019). Such shift would also promote a different consideration of the farming job, acknowledging its importance for the whole society.

In Germany, the main actions needed in this sense are: the recognition of agroforestry as a self-standing land use system, with a shared definition of its fundamental features (DeFAF, n.d.); a clearer division of responsibilities and areas of administration (Hübner & Guenzel, 2020); and the acknowledgment of the delays characterizing productivity in agroforestry systems and their consideration in the regulatory and financial frameworks. Despite things starting to move in this direction, such changes should be supported and speeded up, with enlarged attention to environmental protection and the promotion of small businesses.

#### **6.4 Connecting local to global: political activism and creating networks**

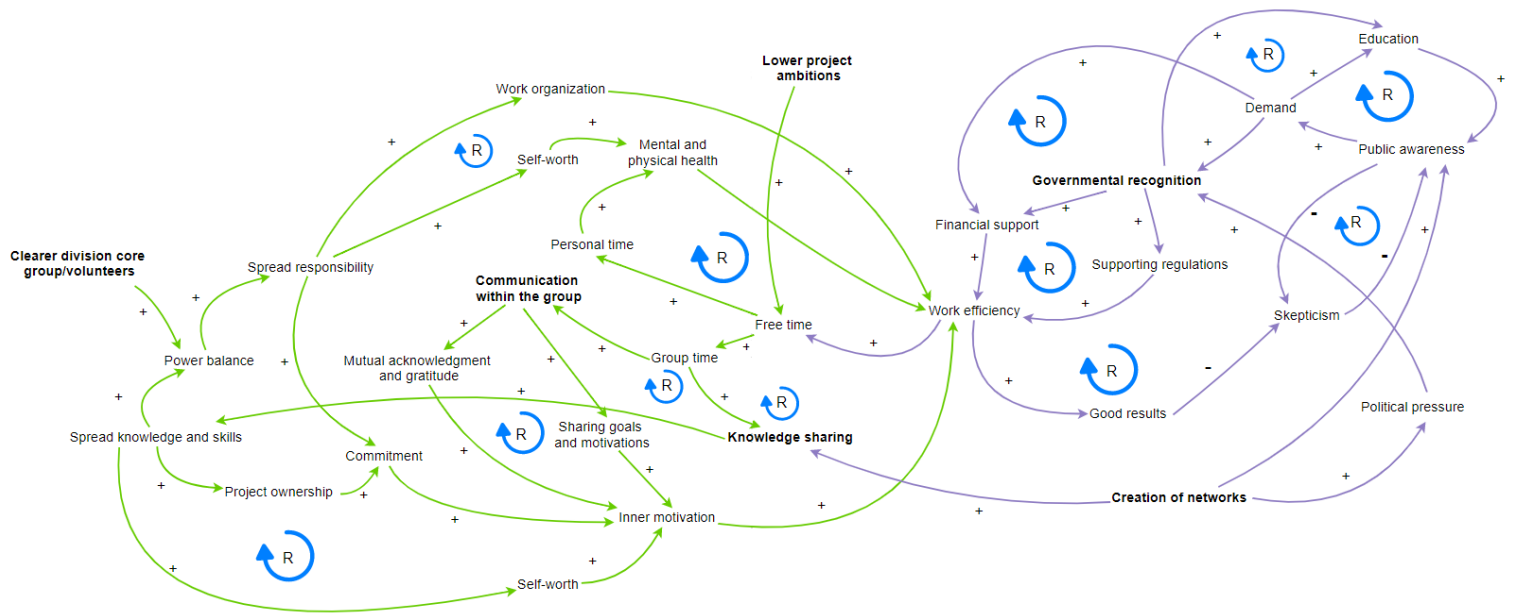
Farm units are, as observed, inherently embedded in broader societal structures. Meanwhile, however, local communities can also have a powerful impact on them. Processes at the internal and external levels are indeed connected and mutually reinforcing. However, the simple political acknowledgment of the fallacy of our food system, as well as isolated individual efforts, are not enough for transforming it: it needs instead joint action across all societal domains (Gliessman 2015).

Whereas sustainability transitions often assume the form of technocratic, top-down, incremental changes (Darnhofer et al., 2016), an agroecological transformation implies more radical societal

changes, aimed at subverting power relations, values and behaviors across all spheres (Temper et al., 2018). Agroecology, for its foundational features, has in this sense an immense potential to become a veritable **social movement** (Wezel et al., 2009).

In this light, **creating networks** becomes crucial to connect individual actions and grassroots movements, as the one of the *Hof*, to higher structural levels and leverage the desired cultural change (Anderson et al., 2019; Wilson, 2012). Building connections with other actors, not only from the field of Regenerative Agriculture, would allow the creation of strong communities of *practices* (Bliss & Fischer, 2011). Here, the sharing and understanding of goals, motivations and experiences, allows the development of the aforementioned elements needed to build social capital, and create resilient communities and individuals, able to fight the “indifference” radiated by the system (Sennett, 1999, p. 114). Consequently, sharing the *Hof*'s experience and knowledge the broader public (through events, courses, talks) represents a powerful tool for the creation of engaged consumers (Gliessman, 2015), necessary to create demand and push governments to action.

In this perspective, the **use of social media** assumes particular importance for communication among the levels, especially in the current times of pandemics. In parallel, significant importance assumes the connection of the action of the *Hof* to broader movements working for the inclusion of such topics into the political arena, such as Fridays for Future (FFF), Extinction Rebellion (XR), or la Via Campesina. In Germany, DeFAF and the WG Agroforest Germany are, as well, important actors involved. In this perspective, a stronger **focus on political action** in the *Hof* would allow the project to have a bigger impact and promote the creation of other initiatives of this kind. In this context *farmers 2.0*, by linking intellectual and practical knowledge, and connecting actions at different levels, represent powerful triggers of transformation, necessary for promoting the systemic shift for the agroecological transformation.



**Figure 12.** CLD 4: proposed solutions on the local (green) and structural (purple) levels. Own creation.

## 6.5 Contribution and limitations of the adopted research tools

The framework proposed by Gosnell et al. represented a powerful tool of analysis: by classifying elements into different spheres, it allowed to simplify the complex reality, and individuate the interacting factors. Upon observing such elements, however, it was hard to identify their connections and the direction of the encountered feedback loops. The use of CLD, therefore, successfully complemented this framework, facilitating the individuation of leverage points. A suggestion for future research lies in the proposal of systematically integrating these two tools for a more effective research.

## 7 Conclusions. Future steps: towards a new (Agri)Culture

This thesis investigated the cognitive, behavioral, and cultural factors involved in the shift to Regenerative (Agri)Cultures. A Socio-Ecological System perspective, together with tools from System Thinking, allowed the individuation and analysis of the interacting elements in the personal, practical, and political spheres, with the aim of finding leverage points for transformation. The interconnected concepts of knowledge-power, time-financial pressure and insecurity resulted being key factors characterizing the process of change, as symptoms of the broader structural contrast between the values promoted by the dominant socio-economic structures, and the ones underlying the construction of personalities and social ties.

For a substantive adoption of Regenerative Agriculture, it is thus crucial to make room for developing such fundamental societal pillars, through integrated action across all levels. Understanding the connections between social and ecological systems forces us to rethink the way we connect to the world around us, and re-build a empathy towards other beings. In this perspective, the goal of restoration becomes the creation of a broader sense of integrity, in society and within the self, to resist the destructive superficiality promoted by the currently dominant socio-economic system. According to the same principles with which Regenerative Agriculture fosters plants strength by working on the health of the whole ecosystem, constructing a *Culture* of cooperation and respect is necessary for developing just and resilient food systems.

The interconnected global challenges we are facing today cannot be fought by people alone, and only the sum of coordinated efforts would allow the radical changes necessary for an agroecological transformation to happen. Coming together in communities around the shared vision is therefore vital to re-bring awareness in a drifting society. Projects like the one of *Hof Lebensberg* are brave examples in this direction, 'islands of resistance' where a different reality can be reimagined and finally enacted.

*“Changing the food system is a big order because at a fundamental level it means changing the way human beings relate to nature, land, resources, the earth’s biota, and each other. But these relationships need to change anyway if humanity is going to successfully confront the challenges posed by climate change, widespread ecological collapse, and population growth. In this sense, agroecology is part of a larger movement aimed at insuring long-term human survival” (Gliessman, 2015, p. 311).*

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## 9 Appendix

### 9.1 Key Terms

**Agroecology.** Agroecology is a broad field of study and practice that applies ecological concepts and principles to agricultural production (Altieri, 1995, in Wibbelmann et al., 2013). Its holistic approach encompasses the ecological, economic and social dimensions, and makes it difficult to enclose this concept in one single definition; recognized features are, however, the focus on building diversity, synergic and resilient ecosystems, the use of renewable resources, and the consideration of human and social values, including the valorization of indigenous traditions, co-creation of knowledge, responsible governance, and solidarity economy (FAO, 2018; Snipstal, 2015).

**Agroforestry.** Agroforestry indicates a land use system that integrates woody perennials (trees, shrubs) with agricultural or livestock production, working with dynamics of temporal and spatial succession within the system (FAO, 2015b).

**Carbon Farming.** Carbon Farming is the implementation of practices that to speed up the removal of CO<sub>2</sub> from the atmosphere and stores it into the soil by converting it into plant material or organic matter (Carbon Cycle Institute, n.d.).

**Climate-Smart Agriculture (CSA).** Climate-Smart Agriculture is a farming practice that ensures agricultural productivity (food security), while simultaneously working for climate change mitigation and adaptation (e.g. reduction/removal of GHGs, building resilience (adaptation) (FAO, 2010). This concept, however, has been debated for its controversial meanings and use (see, e.g., Neufeldt et al., 2013; Taylor, 2018).

**Holistic Management.** Developed by Allan Savory, holistic management (or holistic grazing) is a husbandry technique that, by simulating the natural behavior of herds on the fields, has been proven successful to regenerate grasslands ecosystems (Savory Institute, 2020).

**Keyline design.** Keyline design is a water management technique that, through changes at the landscape level, aims at slowing, sinking and spreading rainwater in the soil, thus buffering its concentration in the lower areas of the land (Keyline Water Management CR, n.d.).

**Permaculture.** Permaculture (from “permanent” and “agri-culture”) is an ensemble of concepts and techniques for the design and management of resilient and productive ecosystems, based on the respect of natural processes and the holistic integration of human and the environment (The Permaculture Research Institute, n.d.).

**Sociocracy.** Sociocracy is a dynamic self-governance system, built upon the principles of equality and decentralized power, applied through the creation of semi-autonomous collaborating groups (Rau, n.d.).

**Syntropic Agriculture.** Syntropic Agriculture (also defined as successional agroforestry) is a kind of Regenerative Agriculture that focuses specifically on the spontaneous processes of complexification

characteristics of natural ecosystems, on whose dynamics farming interventions are built (Andrade, 2019).

**Terra preta.** Terra preta is a very fertile soil of anthropogenic production, originally from the Brazilian Amazon region, resulted from the incomplete combustion of charcoal and other organic material. Very dark due to the high level of char, this soil is also extremely rich organic matter and nutrients such as nitrogen, phosphorus, potassium and calcium (Sohi et al., 2010).

## 9.2 Interview extracts

### *Personal Sphere:*

- a) "So I just earned money and money and didn't know what to do with this, and it felt like 'this feels so wrong'. And at one point I started to loose hair, because I was so stressed, and then I thought "oh my God I'm 25 I can't lose my hair now". So I went also to a doctor and he said "yeah this could be, and it will never go better anymore". So this was my diagnosis and I was like 'no... this is not possible'... and against my family I decided to quit my job" (V7)
- b) "At one point I realized how... what milk is and how is taken from the cows and I was really really shocked and I think I cried for three days [...] I know that this is my only way because I can never forget what I learned now" (V4)
- c) "We said ok then let's go... then we - I don't know the word... - yeah we stopped our flat, we give it away and took all our stuff and put it into a bus and go to the first meeting. And then we said "ok now we are here", so it was a quick decision and then we cancelled everything and come to this place... and now let's have a look if it is the right place, or even not" (C7)
- d) "All these volunteers bring like their own way of spirit and their own way of enriching us as a community in a social way as well... that's pretty cool and inspiring... and yeah... so that's for me is a so important... ingredient like it makes... it's a very important part of how... life is up at Hof Lebensberg" (V8)
- e) "in here you can be yourself and you don't have to expect to be judged for anything" (V6)
- f) "I can come with my emotions" (V8)
- g) "I think it's important that they feel how they are okay how they are ...perhaps is the most important thing" (V9)
- h) "for me it is really important to understand people and to... in German we say 'abholen' - like 'to take them, to understand them from where they are'" (C2)
- i) "I think it's also important to accept that what is my truth it's not the truth for other the people" (V4)
- j) "I don't have to explain in front of the others - why I... why it's important to me to do it a certain way because that just seems like common sense within this group" (C4)
- k) "I think we, I, each person, change a bit their personalities when they are confronted with new situations and especially with new people. I learned a lot with each person: other... perspectives and the others' opinions and other...attitudes, uhm, made me think about it" (V1)
- l) "I asked myself even more questions about uhm possession [...] because before I came here I was rather concentrated on 'I just care for my own life'" (C1)

- m) “the biggest problem in our climate change crisis is the human... [...] we have this crisis because a lot of humans can't feel themselves, and if you can't feel yourself you only can treat the world like we do... if you can feel... if you can really feel what we are doing we couldn't do it... but we can kill animals as much as possible, we destroy a lot of forest... natural systems like... yeah and we don't feel anything about it!...[...] I think we don't feel what we are doing...[...] the earth doesn't care about us, it's our own environment that we destroy” (C7)
- n) “I think we have to go back “closer” and talk a lot more and being more connected with nature... so to take a step back to earth our connection and I think we...we unlearned a lot of things for ok some connections and feelings and... I think because of that, there's a lot of disturb all around the world so I think we have to do... things like ecological or... yeah in different directions but things like... agriculture that works and not destroys... or works and rebuilt... and the same in community process I think we have to do... some things that we can go closer to each other” (V8)
- o) “we are living a living planet... and that every part of this living planet that we destroy is... is that we destroy part of ourselves. So I think that to realize this and to get a deeper understanding of this can make things change” (C1)
- p) “I spent the last months in a place where they cut a lot of trees and I saw a lot of destroying and then I... I said to myself that I need to spend the next weeks in a place where I can yeah maybe heal a little bit from this destroying” (V4)
- q) “I want to change society I want to change culture... I want to create a world where it is not necessary to educate people how they can communicate with their hearts... this is what we have to learn at the moment and I don't want a world where we have to learn it.... this is... our normal state. Children always communicate with their heart...they are not able to think about what they want... they feel what they are what they want and what they need, and this is what we need to communicate with and they are always they are absolutely related to their hearth.... to their feelings... and it is what I want to support, to create... create society where is absolutely NORMAL to communicate with your heart... to sit in and meeting and you can say well I'm really sad about to hear this... it makes me sad and I can show that I'm sad about... and then we can look about why I'm sad... because it's me!... this is something inside of me makes me sad to hear or something...” (C7)
- r) “I think they say ‘oh, all this is really unjust’ or something like this but they don't do anything... so they still have the same lifestyle they see the problems but they also say ‘yeah if the others don't change why should I change?’” (V7)
- s) “I think in school I felt really alone with this” (V4)
- t) “Hmm... I like it because I have this motivation for it coming from myself and not from an external part that tells me you have to work eight hours and... in this time of the day and then you have your break because you're... I can create it in a more open way” (C1)
- u) “here everything felt so meaningful [...]it feels good to do something that makes sense” (C2)
- v) “I think if you change this in your mind you will also change your behaviour, because if you like or love something, then you don't want to destroy it” (V4)
- w) “if it really needs ... as a group decision ‘ok we take more time for ourselves’ or is it if it's not just rather than me saying ‘ok people I'm taking my time off and... that's it I can't go further’ [...] it's... it's really hard because you see the others working so hard” (C4)

- x) “our competition in the world is like... we all have to compete for success... and it's a zero-sum game we like it we have to run faster and faster and faster... because if other people are running faster than us, we are left behind, relatively. So that's why they - like the whole society has to compete against everybody [...] that I think is really destructive as it leads us into a way we can't look forward - like what's good for us for the world - but we always just have to see what brings us short term success... and that's very destructive” (C3)

*Practical Sphere:*

- y) “all the things we are doing are things we don't know much about.” (C2)
- z) “my body was really tired, and also my mind was really tired... because you get so much information during the day, and you have six hour six day weeks (laughs) and only the Sunday there is a chance for resting and breaking out a bit” (C1)
- aa) “There are some words that I don't like for example ‘hippie’ and ‘permaculture’... which I try to avoid, because these words don't have a clear definition...what is the image. Like then they come with negative aspects and... so I think we have to take care about this” (V6)

*Political Sphere:*

- bb) “when you set your own farm nobody would say ‘oh wow you are a farmer!’. But when you say you're working in the bank or when you say you are CEO or whatever in companies, they are like ‘wow it's important’. So I think like actually that the role of farmers is so so important because they are producing our food which we need for our day to day life... I think also this kind of view, or the importance of farm, should also be like much higher” (V7)

*Knowledge-power:*

- cc) “there is the hierarchy of knowledge and experience and this gives certain people lot of power and others not... especially if we stay in the in the scope or like in the vision of doing like... model agricultural enterprise... and so there are a lot of decisions made by very few people and there are a lot of people who don't really.... who are not really able to participate in these decisions because they don't have the experience” (C7)
- dd) “just agricultural knowledge to... I think I expected to... have more grown on that... which I haven't” (C4)
- ee) “and I think here is a point: we have a really powerful and really mighty person who is not aware of what he is doing. And this is what... what I think, what I feel, is really dangerous for a project”. (C7)
- ff) “What I think about the mighty one, have to look for all of them around... this is a huge task which... when I want to be the mighty one... I have to be aware that I have to do a lot of shit, not only the hard stuff, to create room - I mean decide what we have to do and this... that I have to care about the people around me! And how they are feeling. And this... because of this I become really... that I have to be really aware... if I start a new project, what I do there. And to be... to create a place which is not... which creates a place of regenerative agriculture and absolutely destructive... culture of the environment between the people...and this is what I always say here and maybe this is maybe it's... it's my...it's my task here to create a regenerative culture for the humans, too.” (C7)

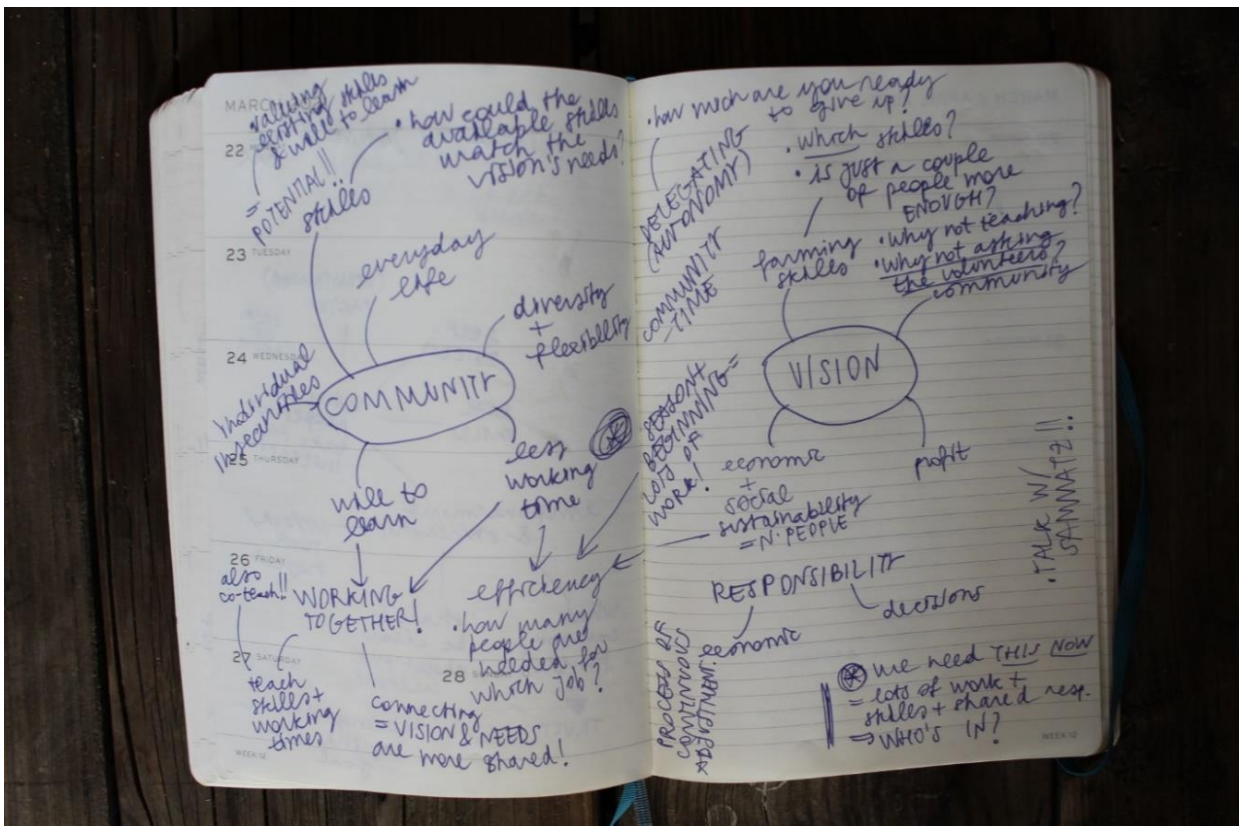
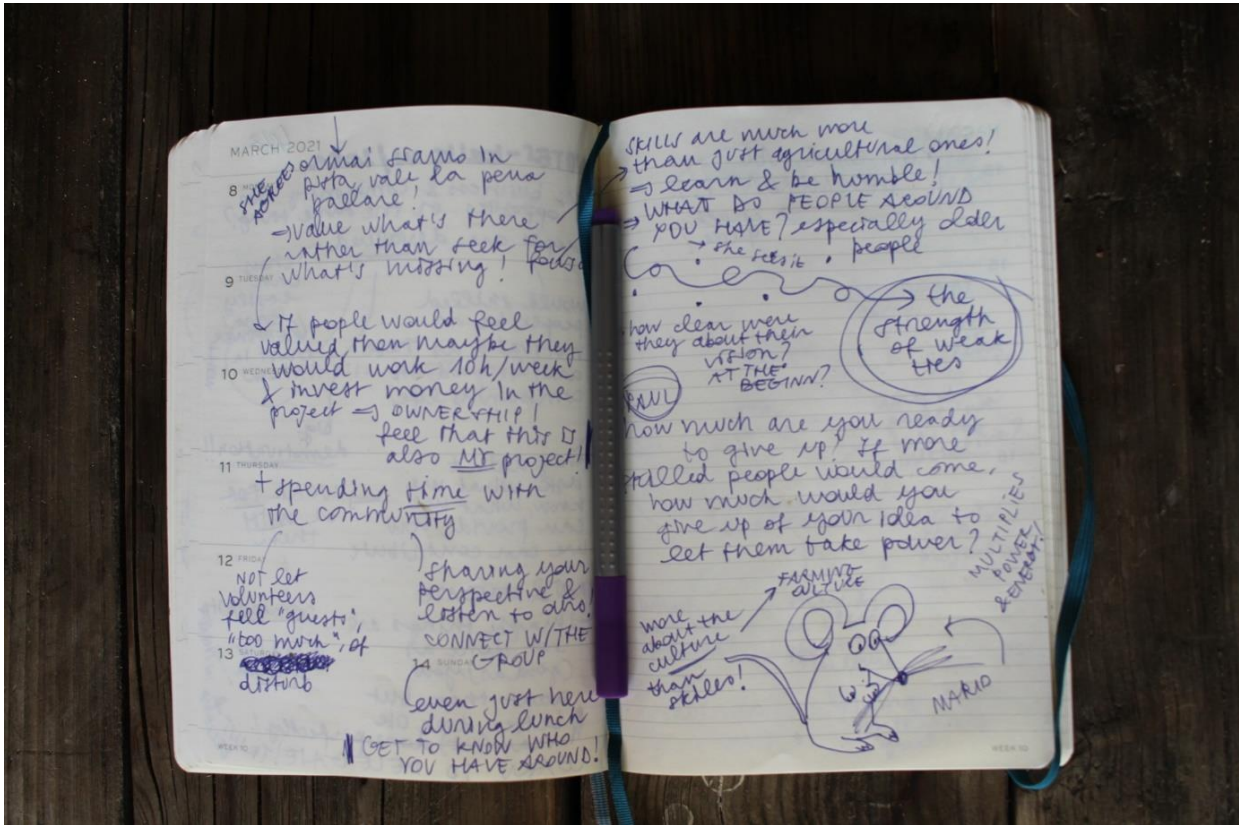
*Time-financial pressure:*

- gg) "it's much about time and I'm afraid that, if it's always time pressure, that the first thing people will forget is their feelings and their emotions [...] and ... yeah, that's my fear - that it would be difficult to get this together" (C2)
- hh) "there's like... a hurdle at the moment is how much room does the social part have. And it's not really sure which part the community plays in this vision, and this is the point where I'm a little insecure about how I really... yeah, who is going to tell what the vision is at the moment" (C1)
- ii) "for them it's just like really important to work, and they also really enjoy that work, and it's like they are really motivated... and then there are some who are more afraid that there's not enough time for community group building" (C2)

*Insecurity:*

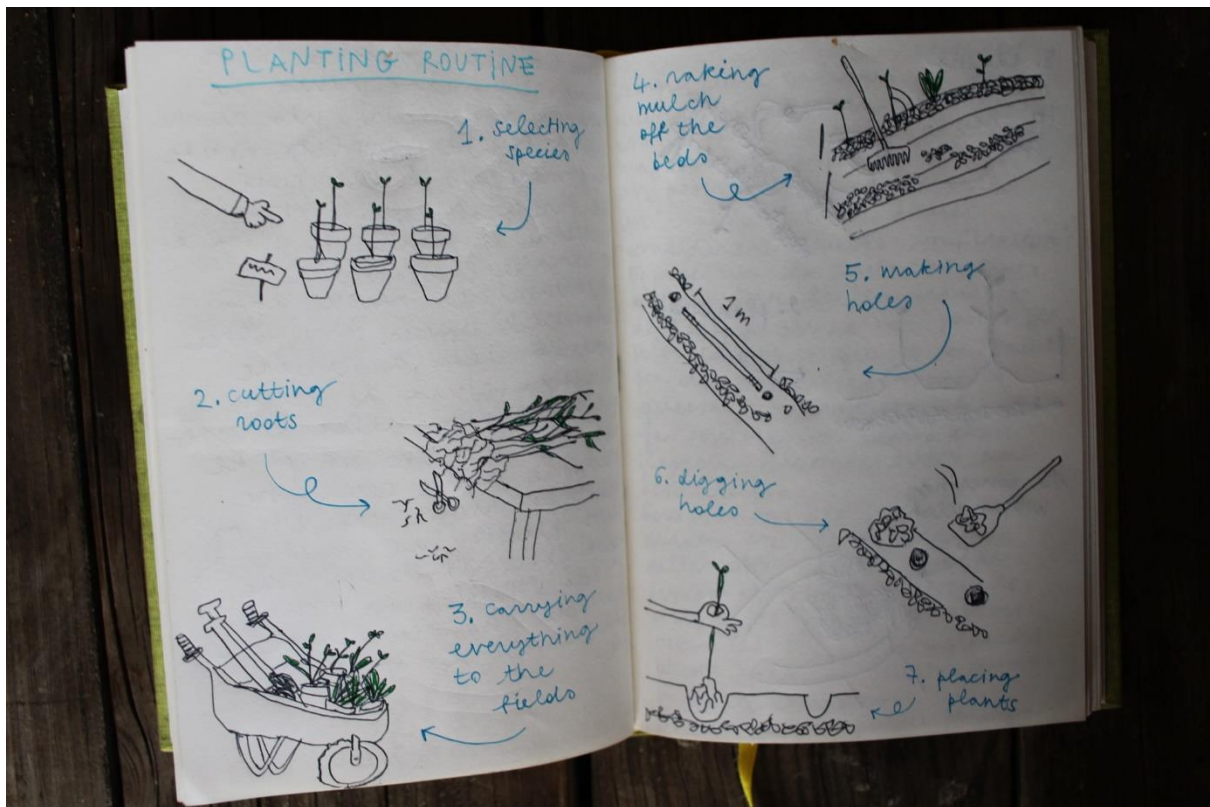
- jj) "I don't know what I want... I'm not sure if it's the right place or not" (C7)
- kk) "there are moments where I think: 'oh, is it really the right thing?'" (C4)
- ll) "I don't know yet what's going to happen afterwards" (C2)

### 9.3 Visual resources



Figures 1-2. Quickly sketched notes helped fixing the insights coming from informal talks. Field diary, own photo, 2021.





Figures 3-4. Sketches of the planting routine from the field diary. Own photo, 2021.



**Figure 5.** Tea break in the fields. Photo by a volunteer, 2021. Used with permission.



**Figure 6.** Bringing the trees to the fields. We do as much work as possible by hands, to avoid soil compaction and emissions derived from driving machineries. Photo by a volunteer, 2021. Used with permission.





**Figure 7.** Planting in the rain makes everything so muddy that it is hard to even move our fingers. Photo by a volunteer, 2021. Used with permission.



**Figure 8.** A deserved break after a long working day. Photo by a volunteer, 2021. Used with permission.





**Figure 9.** Community life is also about having fun together! Photo by a community member, 2021. Used with permission.





**Figures 10-11.** Nature around the *Hof* provides us with breath-taking gifts. Photo by a community member, 2021. Used with permission.





**Figure 12.** The bio-intensive vegetable garden beds. Photo by a volunteer, 2021. Used with permission.



**Figure 13.** Despite all the efforts, it feels so good to work together for a common goal! Photo by a volunteer, 2021. Used with permission.