The politics of local ecological knowledge in Kiskunság, rural Hungary

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Abstract

Local ecological knowledge is a concept that is mainly used by environmental scientists, but it is relevant to anthropologists as well because it poses interesting questions about the relationship between scientific and non-scientific knowledge and the political-economic processes that are producing the knowledge. It also draws attention to the relationship between locality and global processes. Globalization challenged anthropological research with its tendencies to destabilize the places, social relations became disembedded from the locality. Despite these tendencies, I stand by the statement, that places still matter, globalization is grounded in the local. In my thesis, I use global ethnography to understand place-making projects in a rural agricultural area in Hungary. I analyze the global forces and social imaginations that are producing the place in interaction with ecological processes. I propose a conceptualization of local ecological knowledge that is based on these place-making projects. I argue that this conceptualization makes it possible to understand the farmers' material and cultural realities better and that it can contribute to addressing environmental justice issues that are affecting people in a more significant way.

Keywords

Local ecological knowledge, Place-making, Accumulation by dispossession, Nostalgia, Environmental justice

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Table of contents

Abstract	
Introduction	4
Chapter 1. Background	6
Chapter 2. Methods	
Chapter 3. Place-making	
3. 1 Accumulation by dispossession	
3.2 Subjectivities and nostalgia	
Chapter 4. Local knowledge	
Chapter 5. Conclusions	
Appendices	
Bibliography	

Introduction

The environmental crisis generated interest among sociologists and anthropologists in the study of the relationship between humans and nature. Local ecological knowledge is a concept, that emphasizes the importance of incorporating non-western and non-scientific knowledge systems, beliefs, and practices into western environmental governance and science. It is also reflecting on the environmental justice issues that are connected to the inequalities of symbolic or cultural oppression in the governance of the environment and natural resources. While acknowledging its significance as a "bridging" concept, I argue that the conceptualization of local ecological knowledge as an apolitical concept, that is embedded in an uncontested locality is not suitable amid the current tendencies of globalization and neoliberal transformation. Globalization is challenging the conceptualization of the place, it is extending places in scales and time and contesting its boundaries. The conceptualization of local ecological knowledge has to address that, especially because some of the environmental problems, like climate change, became global as well. I also propose that the conceptualization of local knowledge solely as a cultural phenomenon fails to understand the political-economical processes, that are constructing the material reality of people's perceptions. I suggest, that symbolic justice cannot function without addressing the material realities of the local knowledge holders.

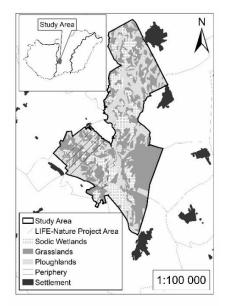
To address these questions, in my thesis, I would like to reconceptualize local ecological knowledge as a product of place-making processes. I will use global ethnography to understand the global forces and symbolic imaginations, that are producing the agricultural localities in my site. I propose that accumulation by dispossession and social imaginations, which are expressed through nostalgia, in interaction with the environment are constructing the place and the local ecological knowledge.

In the first chapter, I will provide an overlook of the ecological, social, and economical context of the research area. In the second chapter, I will discuss the methods I used in my empirical case. In the third chapter, I will discuss the material processes of the global forces (accumulation by dispossession), that are producing the place in interaction with the environment. I will also present the social imaginations in the third chapter, which are the results of the symbolic and material dispossession of subjectivities, and which are expressed through nostalgia. In the fourth chapter, I will argue that the locality of ecological knowledge is structured by the place-making projects that I discussed in the previous chapter. In the fifth chapter, I will conclude my findings.

Chapter 1. Background

In this first chapter, I will provide the reader with background information that will help to understand the complex interrelating ecological, political, and social factors, that are shaping the place and the local ecological knowledge in the research area. First, I will present the biogeographical features and environmental problems that are important in understanding the placemaking process and the local ecological knowledge. Then I will discuss those social-economical contextual elements that are fundamental in my empirical case. The background information is based on findings from a literature review, and my empirical data.

The research area consists of seven settlements in Kiskunság, rural Hungary: Dunatetétlen, Harta, Akasztó, Soltszentimre, Fülöpszállás, Szabadszállás and Solt/Járáspuszta. The area is situated in the Great Plain (Alföld) between Hungary's two biggest rivers, the Danube and Tisza rivers (Duna-Tisza köze).



1. Map: Research area

Source: Orsolya Mile, KNPD (Kovács et al. 2021)

The Duna-Tisza köze has been suffering from water management problems (drought and inland surplus water) for a long time, which is a source of conflict for modern agriculture. In my research area, some parts are affected by severe drought (mostly areas that are situated in the higher parts of the area), other parts are suffering from inland surplus water (belvíz) and floods (mostly the deeper areas). The area is situated amid diverse ecological surroundings, the severity of these environmental problems depends on other bio-geographical features as well, it varies in different soil types and habitats, and connected to this, it causes different problems in different agricultural sectors, which makes the land-users in the area unequally affected by environmental problems.

The area consists of mosaics of pastures, arable lands, vineyards, and vegetable plots, that are standing on sandy, sodic/salty, and more fertile "black" soils. Animal husbandry, arable farming, vegetable and fruit cultivation, and winemaking are dominating the agricultural sector in the area.

The causes of the water management problems in the Duna-Tisza köze are complex and disputed. It is agreed that there are elements of the problem that is originated in the human-induced transformation of the natural water management system, which started in the industrialization period during the 19th century and followed in the 20th century. Starting from this time the wetlands were drained, the bends of the rivers were straightened up and inland surplus water was eliminated to be able to gain access to more agricultural areas, especially arable lands. Many experts think that these human-induced transformations contributed to the decreasing soil water level (and as a consequence of this, draught) (Greenfo 2014).

Inland surplus water is a complex phenomenon, which causes difficulties for agriculture, it is very unpredictable, and not easily detectable. In general, it means the "harmful" abundance of water on agricultural lands, which cannot be used locally, and which is damaging for agriculture, especially arable lands (Bíró 2017). Before industrialization, and water management works, floods have been

used in the floodplains for grazing animals, catching fish, and fruit cultivation. It was called "traditional floodplain farming"¹ that connected to the "traditional peasant economy" (Andrásfalvy 2007). During the commodification of agriculture, the meaning of inland water changed, it became harmful and superfluous. Therefore, the goal now is to drain these areas through canals. In the decades that passed after the democratic transition, inland water became a more prominent problem, probably because after the collapse of the collective farms, the maintenance and cleaning of the draining canals weren't consistent. The water management collectives that were supposed to manage the canals had financial problems throughout the country, and couldn't take care of the canals. A further difficulty is that because to a certain extent both the aridity and the humility of these areas are most probably due to their natural features (soil type, the altitude of the land, etc.), its final elimination is not possible with the current knowledge and technologies, so it is important to find a way farmers get used to inland surplus water (Bíró 2017). In my empirical site the area originally contained wetlands as well, canals had been built in the past to drain the deeper situated plots and to irrigate the higher situated arable lands (Králl 2016).

There is no firm scientific consensus on how much the problems of the Duna-Tisza köze, especially drought and aridity are caused by the water management of the area, or natural causes, or climate change, but there is a consensus that they can be partly attributed to climate change (Rakonczai & Ladányi 2010). The climate change models that are predicting the change in the precipitation pattern of the region, count on the prediction, that the annual level of precipitation remains the same, but its pattern is expected to change. The summers are predicted to be much drier, while spring and fall will be more humid. There also predictions, that precipitation will fall within a shorter period than before, therefore the amount of water that can infiltrate the soil will be much

¹ Fokgazdálkodás or hagyományos ártéri gazdálkodás

less. These changes in precipitation are expected to contribute to the drought and inland surplus water in the area, which could be very problematic for agriculture (Másfél fok 2021). The proposed solution for the drought in the area comprises a huge channel that would connect the Danube and Tisza rivers or new irrigation systems, the efficiency of these very costly solutions is debated. Other solutions proposed by conservation experts are changes in land use and water management (cultivation of the type of plants that has less water consumption, and retaining the surplus water) (Greenfo 2014).

The area is part of the Kiskunság National Park, which was founded in the 1970s, mostly because the area is valuable from a nature conservation perspective (mainly because of the salty/sodic lakes and different kinds of grasslands). The Kiskunság National Park Directorate (NPD) introduced new water management practices for the restoration of the wetlands, and because water deficiency affected the natural habitats as well, the NPD tried to retain the water in the area for the restoration of wetlands. The Directorate had purchased many lands from local farmers to be able to control the land use, and to follow the rules of the so-called "conservation management"². While initially, the NPD tried to exclude farmers and cultivation from the area, later revised its position, and prescribed that the area has to be managed (mostly grazed) to maintain its natural values, this idea was the product of a paradigm change that was present in conservation biology (Havel et al. 2016, Standovár & Primack 2001). In some cases, this meant that the Directorate farmed the lands itself, with its livestock, that consisted mainly of traditional grey cattle, and water buffalos. These species

² Conservation management is a term used in conservation biology to express the necessity in a protected area site to intervene in the natural processes in order to be able to maintain it. It is based on the non- equilibrium paradigm that is focuses on the historical processes and context that are fundamental in the existence of the ecosystems, as it assumes that ecological systems are open and context dependent. In practice it could mean the necessity to provide the natural and human disturbances that maintain ecosystems (like fire, hurricane, grazing etc.). In the case of grassland, it is often meaning that grazing is essential to conserve a certain type of habitat, without it the area is transforming (for example bushes start to emerge) (Standovár & Primack 2001).

weren't favored by the majority of local farmers, and although grey cattle had a significant history in the area³. The NPD on many occasions leased the lands to local farmers with strict conditions, to be able to maintain conservation management in the area (the main conflict points were the number of animals that could be grazed in one area and the date of the hay harvest to protect nesting birds in the lands). After the EU accession, the Natura 2000 network was introduced to Hungary, the research area became a part of it⁴. With the Natura 2000 network and agrienvironmental schemes a new type of conservation, which was combined with rural development was introduced to Hungary.

As the biophysical features of the area are very diverse, agriculture is diversified as well. Arable farming, which is the most viable and profitable way of cultivation, is present in the area, but there are areas where arable farming is not possible or only with significant difficulties, so farmers cultivate these areas with less intensive methods. Salty grasslands are traditionally connected to animal husbandry, as they are mostly not suited for any other agricultural activities. The majority of the farmers, who are interested in animal husbandry are in favor of sheep, while some are preferring cattle. Some of the farmers tried to combine animal husbandry with arable farming, or other cultivation sectors, to make their farms more viable. Farmers focused more on the production side of farming and confided the sales of the products to collectors or dealers. The sales opportunities for animal husbandry were mainly concentrated outside Hungary. Some farmers sold the raw milk within Hungary, but all the meat (mostly lamb) was exported outside the country, mostly through dealers (for example to Italy, Greece, or Turkey). Most of the arable farming and

³ The grey cattle, which is a "half-nomadic" type of cattle, was widespread in the Kiskunság area until the end of the 19th century, when "western types of cattle" displaced it, as they produced more milk and in general were more fit to the more modern type of animal husbandry (Nagy Czirok, 1959).

⁴ Natura 2000 is a network of protected areas, that were based on the EU legislation: Habitat and Bird Directive, all national protected areas became a part of it, but new areas were designated as well.

vegetable cultivation was concentrated on the more fertile black soils, but some of the farmers tried to make sandy soils suitable for arable farming or vegetables. Crops and vegetables were sold in Hungary to dealers, to hypermarkets, and in some cases to a collective farm. It was very rare (only in the case of vegetables) that the farmers could sell their products directly to consumers, for example in a market. The farming activities were based on raw products, there weren't any factories that could produce processed food in the area, this and the lack of direct relationship with consumers made farmers vulnerable to dealers and in general to the fluctuations of the global market. There were initiatives by a local farmer association to help local farmers with building a cold store, where smaller farmers could store their products. The association had other plans in mind, like establishing a local market or a slaughterhouse, that in their opinion could keep the taxes and the profit in the area that was generated by agriculture there, instead of profiting others outside.

The population whose livelihood was depending on agriculture was declining, a "deagrarization" process started. It is characterized by land concentration in arable farming and animal husbandry as well, there were only a handful of family farms in every settlement that successfully managed to support their families and had farming as their main occupation. Others had lands that they cultivated but had to maintain an employment status elsewhere to support themselves. There were a couple of agricultural companies (mostly the successors of collective farms) that were operating in large plots, on an industrial level. The scarcity of lands was a problem in the area, the farmers competed with each other (and the National Park Directorate) over the access to lands. The property structure of the area was very complex, there were lands in private property, but almost all farmers had lands that were rented either from a private owner or from the NPD. Some owners who were not actively using their pastures or meadows for cultivation, let farmers use it for free,

they only would want to take advantage of the subsidies after their lands. This property structure made the land-use unpredictable, rents and favor use established uncertain access to lands. A good example was the decision of the NPD when around the time of the fieldwork, changed the list of the renters during the renewing period of the contracts. Some of the farmers left without lands that they could use to graze their livestock. In general, the land scarcity and the property policy of the NPD created competition between the farmers and caused a rift in the community.

Inequalities were present among the farmers, not everybody could successfully be integrated into the market at the same level, farmers had different capacities to invest in machines, lands, new buildings like cold stores, irrigation systems, or an agricultural consultant. Farmers who had a better social network had more information and knowledge and had more access to lands and subsidies.

In general, subsidies⁵ were very important in the area partly because of the biogeographical features (infertile soils, drought, and surplus inland water) and because of the difficulties and inequalities of the integration to the global market.

As part of the "deagrarization" process, the small private plots and the accompanying animals ("háztáji gazdálkodás")⁶, which were very widespread during the socialist period, also disappeared, there were fewer and fewer domestic animals kept in the gardens (like pigs or chickens).

⁵ The main subsidies in the area were: SAPs: structural adjustment programs, AEM: agri-environmental scheme, Natura 2000 compensation.

⁶ Háztáji gazdálkodás is a mode of farming that is originated in the socialist period, and connected to the so-called "second economy". In the rural areas, even when the collective farms and state farms dominated the agriculture (first economy), population could keep a small private part of their agricultural activity, like small plots where they produced vegetables or domestic animals like pigs, and chickens at the house, for their own consumption and to gain some extra income.

"Deagrarization" was closely related to the aging of the farmers, especially small farmers, to those who were cultivating their lands part-time. Most of the younger generation was either left the area or worked in other sectors. Those who were not working in agriculture were employed in the industry, in local or nearby factories (for example in Kecskemét, in the Mercedes factory, or Dunaújváros). Others were going to work in Budapest every day (it is around 90 km far) or were working in welfare⁷. Some of them stayed in the area involuntarily because they couldn't sell their house and move elsewhere. For those young people who were staying and wanted to participate in agriculture, it was a difficult endeavor, they needed a stable background to be able to start a new business. There were starting grants for young farmers (Young Farmer Grant), that could help launch their farms, some of the farmers applied for it.

⁷ Welfare is a form of communal work that was introduced by the Orbán government to the unemployed.

Chapter 2. Methods

In this chapter, I will present the methods, that I used in my thesis research. In contrast with my previous plans, I wasn't able to do fieldwork due to the situation caused by the pandemic. To be able to finish my thesis on time, I decided to use previous material that was generated in a project, I was involved in from 2015 to 2016. This research project was part of a LIFE project⁸ that aimed at the restoration and conservation of salty/sodic lakes and grasslands in the area. The goal of the social science team⁹ was to analyze the socio-economic impacts of the conservation project and to initiate collaborative action between the NPD and the farmers, and other residents (Margóczi et al. 2018, Kovács et al. 2021). The empirical findings provided insightful information on the local community in general, not just about its relationship with the conservation agencies. I will build my thesis research on a selected part of this empirical data, some of the semi-structured interviews that were conducted in the research area.

I build my ethnographic account on 25 semi-structured interviews, that were conducted with farmers (23) and agricultural consultants (2) (for the spatial distribution of the interviews see Appendix 1.) in 2015 from September to December. The semi-structured interview is a qualitative method, which can be used in ethnographic work to get to know what people say about what they do, instead of observing what they do (Gal 2012). It is aiming to acquire data that is from a person's perspective, things that are people's lived experiences, perceptions, the meanings that are attached to those experiences, and narratives of their social world (Kvale 2005, Patton 2002, Seidman 2006,

⁸ Böddi LIFE, Pannon szikes vízi élőhelyek helyreállítása a Kiskunságban

⁹ The social scientific team consisted of Eszter Kovács, Barbara Mihók, Ágnes Kalóczkai and Veronika Fabók. I was responsible for the coordination of the methodology and fieldwork (interviews), and took part in the conceptualization of the project. Most of the interviews were conducted by two local employees of the NPD, who lived in the area (Anita Nagyné Grecs and Veronika Kasza). I was personally conducted 2 interviews during the training of the local interviewers.

Weiss 1995). The semi-structured interview allows the researcher to be prepared and flexible at the same time, which is a precondition for effective interviewing (Gal 2012). In the interview guide, we incorporated questions concerning the general information on the farmer's background, their perception about the local agriculture, the local economy and society, their knowledge about farming and the local environment, changes in the landscape, and the future they envision for the landscape. We also asked them about their relationship between the NPD and other actors in the area (the water management company, hunting associations), and the relationship between the farmers (for the interview guide see Appendix 2.). We used snowball sampling (Seidman 2006, Weiss 1995), which means that we asked each participant to suggest other participants. Our initial informants were the conservation officials of the NPD, they suggested a list of farmers that we could start interviewing. We continued interviewing until new information had emerged. We recorded the interviews when it was possible and when the interviewees agreed (18 interviews). The interviewers made notes in those cases when the interview wasn't recorded (7 interviews). We made transcripts of the recorded interviews, in the other cases, I used the summaries that were prepared by the interviewers for the analysis. I analyzed the texts using content analysis (Patton 2002) to process my empirical data with emergent coding (Emerson et al. 1995), with the help of the content analysis software NVivo¹⁰.

¹⁰ QSR International Pty Ltd. (2020) NVivo (released in March 2020), <u>https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/home</u>

Chapter 3. Place-making

In this chapter, I will depict the place-making projects of the area using two angles (global forces and social imaginations), that is focusing on two different aspects of place-making. Some authors suggest that space as an object of social inquiry lost its significance because of globalization, they propose that social relations are not embedded in space or locality anymore. While admitting that globalization poses a huge challenge to anthropology, Gille & Ó Riain (2002) argue that space and locality are still very significant, they rather offer a new conceptualization of space, called global ethnography. They argue that although globalization changed the relationship between social relations and space, notably it extended space into several scales, and boundaries of the space became blurred and contested, social relations are still grounded in place. The ethnographer's work is to investigate these new kinds of places through understanding place-making projects. This implicates, that places are socially and politically constructed, these projects are redefining the connections, scales, borders, and the character of particular places and social orders (Gille & Ó Riain 2002: 276). Their conceptualization builds to a great extent on Doreen Massey's global sense of place concept (Massey 1994). The concept of a global sense of place is emphasizing the notion that locality is historically produced, constructed while interrelating with external forces, and resulting in a distinct set of features that characterizes a particular place (Gille & Ó Riain 2002: 277). They also argue that research projects that are discussing place-making projects can be classified as either an investigation that is focusing on global forces, or social connections, or social imaginations. Inquiries that rally around global forces, like capitalism, modernity, or science, are focusing on the ways localities assimilate these forces, and on the question of what kind of answers they are generating (adaptation, resistance) in social relations. In contrast to the overly deterministic approach of global forces, which emphasizes the inability of actors to

influence their situation, the research on social connections is focusing on the agency concerning global connections. Finally, social imaginations depict the ways people are understanding and making sense of place, and the way they are participating in the process of constructing the place often with contradicting understandings of what place means (Gille & Ó Riain 2002: 280-285).

In my thesis, I will use the global ethnography approach to understand how an agricultural place is constructed in this particular rural area in Hungary. I argue that two elements constitute the production of locality in my research site, in interaction with the environmental processes. First, I will focus on the global forces and the way they permeated localities and construed them through several scales (global and EU). I will discuss how a place is produced by the processes of the neoliberal market, especially accumulation by dispossession, which structures the material reality of the places. I will also discuss the way place was produced by the imaginations of farmers living and working on the site, and how is it connected to material processes and the global forces.

3.1 Accumulation by dispossession

To prove my argument, that locality in my research area is produced by the interlinked processes of the neoliberal market and the environment, I will build my argument on the theory of accumulation by dispossession by David Harvey. David Harvey (2004) argues that the global neoliberal economy is suffering from crises from time to time, because of the contradictions of accumulation. Overaccumulation, which means the surpluses of capital and labour, necessities some kind of action. According to Harvey, one of the neoliberal market's solutions for overaccumulation is to find new markets in new territories (or with expanding into the future) where surplus capital and labour can be used. He calls this geographical expansion and spatial reorganization "spatiotemporal fix", that can solve the problems of overaccumulation. This process involves what Harvey calls accumulation by dispossession, which means the dispossession of already existing spatial configurations, modes of production, or division of labor in the new territories by capitalist expansion. The dispossession produces spaces that are open to a new capitalist accumulation and a new division of labour. The results are the commodification and privatization of land and nature, conversion of property rights, suppression of rights to the commons, transformation of other forms of production, and the commodification of labour (Harvey 2004: 74). The process produces inequalities as the capital, land, or access to resources are concentrated in the hands of a small group. When accumulation is not possible anymore, and capital is ready to leave the place, what had been created before by the capital is eventually would be left to be destroyed (Harvey 2004).

I argue that in my empirical case, the democratic and neoliberal transformation led to an accumulation by dispossession in agriculture, where the minority of the farmers had control over the lands, while the majority was excluded from agriculture ("deagrarization"). The subjectivities of peasants were also dispossessed, and some parts of the area were moving towards emptiness due to aging and outmigration. Before I turn to my argument on dispossession, I will present the historic process that led to the neoliberal transformation, to be able to understand how the place was historically constructed, what material and symbolic possessions disappeared due to the accumulation, and what kind of already existing processes could serve as a basis for the transformation.

Before the socialist transformation peasants in Hungary lived in the system of Oikos, which means that their farming was partly or entirely self-sufficient. Kovách (2010: 255) characterized peasantry¹¹ in Hungary as those "who have private property¹², their livelihood predominantly

¹¹ He meant by peasantry those who lived during the period between the serf liberation (in 1848) and the collectivization (1950-60s)

¹² Beside private property, communal property was still present, for example pastures and forests were in communal property (legelő- és erdőbirtokosság) in many places even after 1848.

depends on agricultural activity, their mode of agricultural production is not specialized, their farming is partly subsistence and partly for the market, they have surviving and resistance skills, their social mobility is weak, and they are part of a community that is organized by a peasant type of public sphere". Often ethnographies, that were written before the socialist transition depicted peasant communities in a romanticized way, as communities that had not been affected by the capitalist idea (Lampland 1995). But although self-sufficiency was an important part of peasant production, capitalist accumulation started to emerge at the beginning of the 20th century, this accumulation manifested in investing in lands for certain families (Kovách 2010). Writing about the next fundamental change in the life of the rural Hungarians, Hann (2016) argued that socialist agriculture had some similarities to the previous capitalist period, as it allowed the peasants some sort of accumulation. Accumulation happened through the second economy, which was a characteristic of the Hungarian socialist economy, which in agriculture meant the small private farming business ("háztáji") outside collective farms. Peasants could conduct a small farming business in their plots, producing vegetables or keeping animals for sale (pig slaughters), sometimes using the resources of collective farms (fertilizer, pesticides). Collective farms provided a solid, but predictable wage, that provided financial safety. Many houses had been built in that period, peasants could buy cars as a result of this accumulation. The state provided benefits like pensions, health care, child care, or opportunities to go on vacations well. Especially those who worked in big manors (agricultural servants, "cselédek") before the socialist period, collectivization meant big progress in their standard of living. Although this cooperation between collective farms and the second economy led to self-exploitation, it led the rural population to go through a "socialist embourgeoisement" (Hann 2016, Szelényi 1988).

The other sector, that was affected by the capitalist transformation, was labor, Lampland (1995) argued that commodification of labor was rooted in times before the socialist period and emerged fully during the collective farms (even though there was no labour market). Before the transition, many peasants lacked land ownership or owned so small plots that they weren't enough for maintaining the livelihood of their families, they had to work on big estates as "agricultural servants" for a wage. But finally, the commodification of labour happened during the socialist period, when labor became an object, the value of labor could be calculated (the time and effort that was put into the production) (Lampland 1995: 9).

Although as I discussed in the previous paragraphs there were some preludes of the capitalist transition, as accumulation and commodification started earlier, the capitalist transition entered Hungary unprepared. The previous structures and subjectivities dissolved, and inequality soon emerged among the rural population. After the democratic transition, private property seemed the best way to integrate the Hungarian economy into the global market, privatization and foreign investment were supposed to that. In agriculture it meant decollectivisation. The symbiosis between collective farms and the second economy dissolved, with its advantages. The restitution process became a very controversial issue, not everybody was able to retrieve their lands that were inherited from their parents, which generated conflicts within the communities (Hann 2013, 2020). And because accumulation during the socialist period only allowed peasants to have consumer goods, like houses or cars, not capital, that could have been later invested, not many families managed to launch successful agribusinesses (Kovách 2010). Therefore, only the minority of farmers could transition from socialist agriculture into the capitalist market. Unemployment became very widespread in rural Hungary, along with migration. The state couldn't provide much social help, basically abandoned the rural population. Those who were more well-off provided

their children with education, this young generation left the rural areas to seek employment elsewhere. Those who weren't educated, also left, to seek jobs somewhere else (more increasingly in Western Europe). The second economy, "háztáji" also disappeared, because it didn't worth the work anymore. The decline of the second economy not only affected the economic situation of the peasants, but because it meant more control over their work, they lost a sense of security as well (Hann 2020). Lampland (1995) also argued that commodification of labour affected the subjectivities of the farmers, she suggests that it is hard work, that is more important to the integrity and identity of farmers than attachment to lands. This hard work allowed farmers during the socialist period to accumulate, although it was self-exploitative.

The next transformative moment, that meant a further step in the neoliberal transition was EU accession. Böröcz (2001: 4-50) argued that the EU accession of Eastern European countries, what he called the "eastern enlargement" was a highly unequal process. Hungary's economy still struggles to "catch up" to the West after more than 10 years in the EU (Böröcz 2012). Gille (2016) also found that while the EU accession generated processes that had led to the neoliberal transformation of agriculture in Hungary, legislation (HACCP) or the subsidies accelerated the rate of the processes that started earlier, like the inequalities in integration into the global market and the possession of lands and capital (Gille 2016). It also pushed further the "deagrarization" and the "depeasantization" of rural areas, the abandonment of agriculture and the peasant mode of production, and life (Kovách 2005). Agricultural subsidies are controversial in their effects, although they help farmers to maintain their activities in general, those who possess larger estates are benefiting in a greater amount than smaller farmers, so in the long term, they contribute to the larger inequalities between farmers. In an EU-level study, van der Ploeg et al. (2015) made a cautious connection between EU subsidies and land concentration.

In my empirical case, I argue that neoliberal transformation was the global force, that constructed the place in interaction with environmental processes, and that the transformation happened by the accumulation of dispossession. I also propose that the process was material and symbolic dispossession at the same time. Material dispossession manifested in the inequalities of the rural population and land concentration, and the dissolution of communities.

The farmers' ability to integrate into the global market was very differentiated, it depended on the capital that they owned, therefore there were differences between the amount of land they own, the machines, buildings (like cold stores), and irrigation systems. Differences in integration to the global market in the area led to land concentration among the farmers and the exclusion of the majority of the population from agriculture. The network of connections of the farmers determined the access to lands, both the purchases or the rents. Those who had a better relationship with the NPD for example had more access to rents. Cultural capital as well could be fundamental in applying for subsidies. While subsidies were fundamental in helping to maintain the farms in the area, they were creating inequalities as well. Larger farms received more subsidies after the larger areas, and they could be more effective in the application process (in the case of AEM schemes and Natura 2000 compensation), as it required administrative knowledge. Smaller farmers didn't apply for agri-environmental subsidies, only for the SAPS, because they were afraid of the administrative burdens and the penalties, that could occur when they were making mistakes. Cultural capital (knowledge about how subsidies work, how to handle administration) is fundamental in the application process as well, those who are more informed have more chance to succeed in a subsidy application (for example in AEM schemes). Many farmers had the perception that only those can succeed with subsidies, who are educated.

"We tried the "young farmer grant" with my son, but haven't won even once. They said they have never seen such a good application, but they refused it because of lack of funding. We tried it for animals. XY has succeeded, he has a school, university degree. My son hasn't got one." (farmer interview)

"XY when she was still working in the Ministry (of Agriculture/Environment) said that we will earn half of the money, the subsidies, with administration, paperwork have to match it. This is acceptable, just what she did not say, that it will take half of the time as well, because she didn't know back in 2002. But this is true, it takes a lot of time if I want to be very accurate with the paperwork, it can take half of the time. Half of the working hours." (farmer interview)

Smaller farmers hadn't applied for Natura 2000 compensation either, because of the administrative burden, and because they would have been obliged to attend Natura 2000 trainings, which was not very attractive for older people (they didn't want to learn about new farming methods). Those who were more successful either had administrative knowledge (or their children had and they were helping them in administration) or hired professionals (agricultural consultants) who took care of the whole process (from application to reporting).

The competition for lands between farmers and the NPD was going in the direction of the disappearance of smaller farmers as well. On one hand, NPD was also competing with local farmers for the lands, the other hand, the costs of conservation was affecting local farmers unequally as well, the restrictions were more concentrated on pastures and meadows (as they are more valuable as habitats), and in general smaller farmers, as larger farms had less problem with the restrictions.

Many farmers were concerned about the availability of subsidies in the future. Because of their dependency on subsidies, they expressed that if the subsidies will be canceled, there won't be a scarcity of lands, they were predicting that pastures will be abandoned (especially by those who are not cultivating the plots, just using the subsidies).

"They are saying that the subsidies will end in 2020, what will happen after that we don't know. If there won't be subsidies there will be enough pastures, they will rent them out, to have a little money. "(farmer interview)

Dispossession was interlinked with the environment as well, the integration of farmers into the marker depended on bio-geographical features of the different land plots as well, production in the different soils is integrating differently into the market. The sodic/salty lands are not suitable for arable farming, only animal husbandry, it is not worth using it as arable land. The sandy lands are more suitable for vineyards, but it is possible to use them as arable lands or vegetables. The fertile "black soils" could be used for any cultivation and are the most profitable. As animal husbandry experiences the most difficulties in animal husbandry to keep it integrated into the market, the subsidies are very important in its maintenance in the area.

In this subchapter, I presented the global processes that interacted with the environment and through accumulation by dispossession constructed the place, resulting in land concentration. The growing control of NPD over lands contributed to the inequality caused by the accumulation of dispossession.

3.2 Subjectivities and nostalgia

In this chapter, I will discuss the social imaginations that contributed to the production of the place, and that were the consequences of symbolic dispossessions of the neoliberal transformation. The dispossession of subjectivities (hard work and self-sufficiency) resulted in the social imaginations that were expressed through nostalgia as a medium. In their imaginations place was populated with animals and humans, and hard work was available.

Besides the material dispossession and inequalities, farmers suffered from symbolic dispossession as well, which is affecting their subjectivities and identities. As I discussed earlier Lampland (1995) suggested that "hard work" served as the moral code of peasants, and instead of land property this was the most important element in their identity. Besides its objective value (that served accumulation) "hard work" became the most important social value in peasant communities and the most substantial element in the identity and integrity of people. Szombati (2018) also argued in his ethnography, that the notion of the hard-working peasant is still a very important identity-forming dimension that dominates the imagination of rural populations in Hungary. Although most families lost their ability with the integration to the market for self-sufficiency it is still an important element in the identiry albidies are promoting rationalities, that are contributing to the transformation of farmers' subjectivities. Instead of rewarding the hard work on the lands, subsidies promote the most optimal use of money, and promote subjectivity, farmers as agricultural entrepreneurs.

Hard work and self-sufficiency were something that was alienated from most of the population, who cannot farm. Of course, some farmers successfully became agricultural entrepreneurs, but even some of those farmers, who had farms that were successfully operating, thought that farms subsidies should support those who work hard, not those who have the largest lands. And they were very against if someone had access to the subsidies, but wasn't farming, and haven't owned animals.

"You don't have to plow, or to sow, to use pesticides, to harvest, the money is just flowing. And those were accepted as well (into the AEM schemes) who doesn't own even a chicken." (farmer interview)

Some farmers were very proud of their self-sufficiency, that they could maintain their farms without loans and they bought things from their own money. Framing without loans and subsidies was also considered safer, they contemplated, that the less is better than risking everything.

"They are full of loans and subsidies (another farmer). Don't tell me...if we would go and see what did they build there, that they had built on their own, it is a joke. There isn't even a little loan at this farm (his farm). "(farmer interview)

"Hard work" was not valuable anymore, farmers thought that young people didn't want to work in agriculture, they found jobs elsewhere. They also thought that unemployed people have no intention to work in agriculture as wage laborers, or elsewhere, they prefer welfare work because it did not need that much effort. Farmers also complained about having difficulties finding workers locally in animal husbandry. Some of them preferred to hire people from outside of Hungary (from Romania) or in some cases homeless people because they found them more reliable. Farmers thought that for people nowadays (young people) agriculture is too hard, especially animal husbandry, where there are no weekends or holidays.

"Here the young generation hasn't been brought up like this (like hard-working). The young generation is distracted. In the old times, they were grown up with the family and they were working together. They've grown up with the work. Nowadays young people don't know work. So, they don't want to (work)." (farmer interview)

Hard work was connected to places as well, places were living in the imaginaries of farmers as lands (pastures, meadows, arable lands, or vineyards) that have to be cultivated, and that were in an ideal state during the past.

Löwenthal (1985: 4-19) argued that nostalgia is an escape from the present, where the struggles of modernity produced a yearning for the past. In times of constant change, the need for continuity makes past times an idealized, stable, calm field, that is desired. Writing about post-socialist nostalgia, Boyer (2010: 17-28) discusses that modernity hit hard Eastern Europe in the 1990s, it introduced the neoliberal market and the socio-political imagination and institutions of Western-Europe, which shocked the citizens of the post-socialist countries. These societies experienced a sense of loss of security, stability, and autonomy amid the chaos of transition. He proposes that post-socialist nostalgia doesn't mean the desire to return to the socialist times, it is more like a coping mechanism for the shock of the fundamental changes in the people's lives, a way to speak about the present through a "past-oriented medium". He suggests that post-socialist nostalgia doesn't mean grief over the past, it is more like an expression of the notion and knowledge, that the processes which are forming the present are rooted in social and political forces outside Eastern- Europe. Also, it means that nostalgia could be perceived as a claim for "future selfdetermination". He also argues that it is a tool to define someone's position in the world, it is a vehicle through which social groups can distinguish themselves from others. The progressive, "modernizing" citizens of Eastern Europe can delineate themselves from those "backward" or retrograde fellow citizens, who are "clinging to the past" and cannot embrace the new possibilities of the capitalist and democratic state. Through an ethnography that is depicting the post-socialist nostalgia of a Bulgarian village, Creed (2010: 29- 45) argues that nostalgia is a product of modernity, and it would be a mistake to perceive it as backwardness or underdeveloped instead of a political project. While describing the devastating decay of the village after the democratic transition, and the disappointment of its residents, he poses the question, is it appropriate to call the emotional trauma of the residents that is originated in the changes, nostalgia? Or is it a natural reaction of a psychological trauma, that was caused by the shock of the emergence of a new world, that preached about personal responsibility, and big opportunities, which was in stark contrast with the inability of most residents to adapt to the new circumstances? He also suggests that nostalgia is present from the time when there is no possibility for going back in time (when there is no point in trying to restore the past), and when there are some prospects for improvement (for example in the Bulgarian case joining the EU) (Creed 2010).

When lands were cultivated properly, they weren't unkempt and disorderly. Domestic animals¹³ (sheep, cattle, pigs, and poultry) were part of the place and were fundamental in keeping the pastures tidy and in order, both in the village and on the farms. Arable lands are places that are proper when they are cultivated, in the spring and summer there are plants in the lands.

"I like it best when I go out (to my land), and thank God there aren't any messy farmers, it looks so good when in the spring it is cultivated, the plants are coming out, and I like it the best, that it is always changing. It is always a different plant that is beautiful. I like when the wheat is starting to go yellow when it is undulating. Sunflowers when they are shining in the landscape. Rape (the plant: Brassica napus). But the best is, when the works in the fall are over and everything is being plowed, the first snow has fallen and everything is so beautiful, white and you cannot see the mistakes, that I failed here and there. You cannot see if someone hasn't cultivated it, that there are

¹³ But only those animals that can make profit, not those animals that are promoted by the NPD.

weeds in the plot. This is the best. In the winter. Especially if you leave the year with the feeling, that it was successful." (farmer interview)

"Even the shores of the ditches were cleaned. If they couldn't clean it, they set it on fire, to clean it and that new grass would be able to grow. There weren't areas left to be covered with weeds. It was clean, everybody has their plots, and kept it in order." (farmer interview)

"I worked for the collective farm...we were plowing, we were sowing seeds, everything. Now only one-tenth is cultivated of that area. There are a lot of oil trees (a foreign tree species, that is widespread in Hungary: Elaeagnus angustifolia)¹⁴. They don't care about it. The owners have lent it to someone, we don't know who and they don't care. "(farmer interview)

*"There wasn't ragweed (*an allergen weed: Ambrosia artemisiifolia*) because the meadows were cut down, the pastures were grazed to provide food for livestock (jószág)." (farmer interview)*

These imaginaries of the place are attached to the past of these lands, the "farm" (tanya) period, and the "socialist era".

The farmhouse period started in the 19th century and ended with collectivization in the 1950s and 60s. The farms were situated outside the villages, in the lands, usually, a family was living and working on the farms. In this period a diversity of animals was grazing around the farms, like cattle, pigs, horses, and poultry (Hável et al. 2016). The collectivization started in the 1950s, which eventually ended the family farms by the 1960s. Since the area is very diverse in many cases there was no point to establish ordinary collective farms, the peasants had to handle the animals to the collective farms, and it took care of them. In some cases, the individual farming remained, only

¹⁴ He is referring to the phenomenon, that without cultivation grasslands and other habitats transform into bushy sites.

the sales were organized by the collective farms. In the socialist period sheep gradually became the main domestic animal (Bíró et al. 2015, Hável et al. 2016).

The second social imagination that is constructing the place, besides the changing subjectivities, which is also expressed through nostalgia, is the "empty place". While dispossession mainly affected the present inequalities, it had implications for the future as well. Some of the places, agricultural lands were in danger of becoming empty, as fewer and fewer people were living in the area, especially in the smaller villages. Emptiness is a phenomenon caused by the neoliberal transformation of post-socialist rural landscapes, where deindustrialization, the neoliberal transformation of agriculture, and the shrinking of the welfare state forced people to leave these areas, leave aging people and empty places behind (Dzenovska 2019). Part of this process is that younger generations wanted to give up farming. Many of the farmers had concerns about the willingness of their children or grandchildren to maintain the family farms, some of them already knew that their children will not continue, this caused them a great amount of grief and distress.

"Well, I would like to see 20 years later, that this all (the farm) is existing. At least in this condition, but I'm afraid that the whole system works as they (his children) still can exist in it, but for the grandchildren, it won't be comfortable to live in. I see it like this. But I hope I won't be right. Perhaps my grandchildren will be interested in something else." (farmer interview)

"I would like to (continue farming), but who is above us, not in the attic where the cat is purring, (will tell), how my age will let it, and how God allows me to do it. Because maybe today (I can do it), but the day after tomorrow I will say, it is over. The family won't take care of it. Maybe M., he has some affinity. I was thinking about it a lot, that maybe I made them work too early and made them hate it. Not that they don't care about it at all, A. has some pigs, but M. not at all. He is content with his job, he works a lot, day and night, but he says he doesn't want to.... He sold all his lands. He said he is not (doing it). He didn't have machines. He hated the tractor. He said he would rather eat bread and salty boiled potatoes (cheap food), but he doesn't drive a tractor." (farmer interview)

The population was aging, especially in those villages where there was no other opportunity other than agriculture, there were more and more empty houses. The younger generation was moving out, or if they stayed, they quit agriculture, the majority of the farmers were "grey-headed".

"The young generation has already left, they cannot settle down... there are 5-6 farmers, smaller farmers, who are farming, but they are my generation. The older generation. The only younger is my son, with his 33 years, he is the only one who is farming. And he is also saying about animal husbandry: Dad until you are doing it, I will help you, but after that, he would like to quit. He likes the lands, very much, bless him, because it not what he was studying, he has a degree in sales, but he does very well the arable farming." (farmer interview)

What was true to both periods in the past, that there were much more people who worked in agriculture and there were much more domestic animals both in the village and in the pastures.

"The village had cattle and horse herd. Not that many cows, that you can see one or two here and there wandering on the street, they walked in herds. ...Here in the village, there were 2-4 cows, pigs at every house. Now it might be that in one street or the half village there aren't 4 cows." (farmer interview)

"Animal gazing doesn't ruin the pastures, there was much more animal before. In 1967 and 68 the cattle were roaming through the whole Kelemen-szék (this is a salty lake within the area). There weren't that many pesticides in that period. In the salty lakes, there was always animal husbandry. This salty area fed 350-400 cattle and the same number of sheep." (farmer interview)

"There are still many people who are breeding sheep, but during the collective farming times it was much more, like 1000 animals." (farmer interview)

"Over there (in the farms) many were farming, many were involved in animal husbandry, not with many animals, but there were cattle, milking cows, couple of sheep, horse and other things. There were many farms, they were using the hillier plots as arable lands, the others were salty, they used for grazing. I can remember when I was younger, the farms existed and worked. Maybe it would be good if it would exist now." (farmer interview)

"The thing is that here in Akasztó, there were like 8000 livestock. Cattle and horses. This is a great number, there were sheep as well. There was a great amount. "(farmer interview)

The past (especially the farm period) was also populated with more wild animals, that could be used for free by the peasants. They could be collected (the eggs of wild birds) or caught (fish, game species). Now farmers rarely can see most of the mentioned wild animals. They also mentioned that in these periods they could freely use the advances of nature, now most of the bird and fish species that they were talking about are protected, and cannot be used for consumption.

"In the 50s there were many grazing cattle, there was no reed in the area. There were so many peewit eggs (a protected bird species: Vanellus vanellus), that they could decide which ones they want to collect. The deer were running in 200-250 groups." (farmer interview)

"There were so many fish anywhere you went, you could go into any wet area, you brought a tool with you ("tapogató"), you pushed the tool under in 1-2 places, and you could bring a fish that was enough for a meal, or as much you needed. You could catch as much you wanted. Now? You could pull through the net the whole canal; you wouldn't catch that much. Maybe as much that is enough for the family, but there isn't not much in there. They disappeared from there and from the number 5 as well (another canal)." (farmer interview)

"Here around Akasztó, everybody was eating fish, as much as they wanted. You didn't have to buy it. You went out and brought home 5-10 kilograms, you could eat until you get bored. There were many "csíks" (Misgurnus fossilis, a certain type of fish that is living in the mud and was a very important part of peasant meals). Those were in the muddy areas, not in the salty lands, that liked those areas, there were so many midget catfish (Ameiurus nebulosus), that is unspeakable. They were the size of my forearm. They were creaking when we dropped them into the ash and salt...they sizzled and haven't even fried, we took out from each other's hand and ate it...Everything was starting from catching ground squirrel (Spermophilus citellus) ... Some had to go up (to the tree) to collect nests, there were many birds back then. Magpie (Pica pica) nests, we had to bring down the eggs in a hat." (farmer interview)

"There were so many (hare: Lepus europaeus and partridge: Perdix perdix), that it fed the people, because those who were living in the farms, hadn't buy anything in the market. They either produced their food, or substituted meat with game species, or with poultry.... We can see that the ruffs (Calidris pugnax) are declining, those times there were groups of 150-200 individuals when they were flying...From the wild ducks, it was 10-20 times more than now, it is declining as well. ...They went hunting for a hare with a farm wagon, they were hanging the hares to the side of the wagon. It was that much." (farmer interview)

Nostalgia also reflects on the discrepancies that were caused by the time-space compression of modernity. In his book (The Condition of postmodernity) Harvey (1989) argues through analyzing the historical materialist process of the capitalist expansion, that capitalism changed the way time and space are experienced in the world. The logic of capitalist order, a constant need for

accumulation, and the flow of capital lead to the quest for new markets, an unevenness of development, new niches, flexibility, and at the same time an infrastructure, that is located in a certain place. Harvey argues that this inner contradiction leads to time and space compression because the infrastructure (roads, train, telecommunication) lets capital flow into places much faster than before. This results in the homogenization and universalization of time and the perceived /or real fragmentation and compression of space. It generates a crisis in the experience of time and space because the certainty of absolute space and time has been lost. Harvey argues that the ideologies and the political project of modernity (and post-modernity) were born out of this crisis, which is producing aesthetic, cultural development projects that are detached from reality (Harvey 1989).

The past consisted of a livelier community life in both periods, which meant working together, and socializing on other occasions (like dances). In the present, communities were more disintegrated, especially the community labor, agricultural labor was restricted to families or companies, not the whole community (or village). Farmers were concentrating on their lands and farms, instead of the whole community/landscape, their sense of place had shrunk. Farmers were not helping out each other in farming, especially in the last ten years (from 2005 to 2015), only among friends, because no one had time anymore and the tractors and other machines were too expensive to lend them to others. Agricultural works that were practiced together were monetized and often sold by larger farms to smaller farmers (like the use of machines or the storage of agricultural products).¹⁵ The competition between farmers (especially for lands, but for subsidies as well) was very harmful to the communities, conflicts and envy were present. In the past, the pastures were more open, there were no fences between the lands, people could cross each other's lands while herding the animals

¹⁵ Although there was one farmer who thought that the collective farms ruined the will to work together.

or used the pastures together for example when they were grazing the village herd. The enclosure of the lands was more and more widespread, it is was not possible anymore to cross each other's pastures.

"There aren't collective initiatives, if there were a need, the people would organize, but everybody takes care of their wealth." (farmer interview)

"I don't think it works like 10 years ago (helping each other). Why this is happening, I don't know. Maybe because everybody buys their machines with loans, and they can worth 10 million forints, you don't like to borrow them, because any small damage can cause like 600 thousand forints....and I think we are not depending on each other that much. Everybody tries to help themselves, not to depend on anyone. Or maybe it is not about dependence, just to not waste each other's valuable time." (farmer interview)

"The enclosures had started, everybody builds fences around their lands, this a big problem, because we have to take detours, it is difficult to reach our lands." (farmer interview)

Time also had shrunk in the present, in the past, there was more time for everything. The past consisted of a slower, calmer life. Now everybody was in a hurry, using cars, in the past, people had time to go on foot or by bicycle.

"Everybody is running." (farmer interview)

Only a minority of the local population worked in agriculture or had any relationship with agriculture. People, who were living in the village, were alienated from the surrounding lands, they were not interested in sodic lakes, grasslands, or animals.

"Maybe 5-10 years later, ...our grandchildren will go into a museum and see, this is a cow, whoa my grandfather had one like this and sheep as well. "(farmer interview) In general, the past was depicted as a slower, calm, lively, more organized place, inhabited by people and animals (wild and domestic), where people worked hard, there was a sense of community and there was no emptiness. It was also a less enclosed place, animals could wander in open spaces, and in general, people had access to the gifts of nature, that could be collected freely.

In this subchapter, I described the place-making process in the area, that consisted of social imaginations of the landscapes and the environment where hard work and self-sufficiency, calm life, solidarity, and community expressed through nostalgia, in contrast with lost subjectivities, disintegrated communities, hectic life, and enclosed landscape that is constructing the place in the present.

Chapter 4. Local knowledge

In this chapter, I will discuss the relationship between ecological knowledge and place through the empirical findings of my research site. I will argue that locality, as a product of a place-making project is determining local ecological knowledge as well.

Local ecological and indigenous/traditional knowledge is widely discussed in environmental and conservation science, in connection to indigenous movements, and with the emergence of community-based conservation and co-management of natural resources (Davis & Wagner 2003). These approaches were answers to problems that were generated by mainstream conservation, like distributional and procedural justice, that were discussed in the environmental justice literature. Environmental justice is the way members of societies are exposed differently to environmental hazards according to their class, socio-economic status, gender, ethnicity, race, or indigenousness. To address these problems, voices on the necessity of dealing with social justice issues concerning the environment issues emerged, in the form of the environmental justice movement ("the environmentalism of the poor"). It partly overlapped with the emerging indigenous movements whose claims to their lands and access to natural resources resonated with claims of the environmental justice movement (Malin-Ryder 2018, Martinez-Alier 2000, 2014, Mohai 2009). The justice issues that concerned issues like indigenous/local people's dislocation from protected areas or the denied access to natural resources were embraced by the concept of distributional justice. Distributional justice means claiming equal access to resources and the fair sharing of benefits of natural resources. These justice concerns were also related to procedural justice issues, where questions of equal participation in decision-making processes and questions of what could be considered as a just procedure were included. Critics argued that distributional and procedural

justice approaches don't address and challenge the structural and underlying mechanisms of injustice and in some instances, they might even strengthen the injustice in certain situations. Distributional justice without considering recognition justice for example may pressure indigenous groups to be oppressed by dominant cultural norms or "dominant ways of knowing" when for example taking part in redistributive schemes (like payment for ecosystem services) or market solutions in biodiversity conservation. Recognitional justice refers to the respect of identities and cultural differences, including knowledge (Fraser 2001, Martin et al. 2013; Schlosberg 2004).

The discussion in conservation science is focusing on the necessity of the inclusion of indigenous knowledge into conservation biology projects. In general, these approaches (including the agendas of the Intergovernmental Platform on Biodiversity and Ecosystems Services-IPBES, which is a very influential organization operating within the realm of nature conservation) emphasize the necessity to "bridge" western knowledge and indigenous knowledge, because the latter "carry insights for stewardship" and new inputs for environmental assessment (Tengö et al. 2017, Hill et al. 2020). These approaches are mostly focusing on the benefits of indigenous knowledge for ecology and western science. They are generally ignoring the broader social-political context where indigenous knowledge has been generated and the global structures that it is embedded in.

This true for the definitions of traditional and local ecological knowledge as well. By definition, traditional ecological knowledge, "is a cumulative body of knowledge, practice, and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship between the living being and their environment" (Berkes 2008:7). Local ecological knowledge in contrast is recent knowledge (30-40 years) that is acquired by people while spending time in nature (Berkes 2008: 9). Although these approaches are valuable and emphasize the importance of non-western and non-scientific knowledge systems, they ignore the

way these knowledge systems were produced. Conceptualizing locality as apolitical and uncontested, and local knowledge as anchored in the "local", without addressing the space destabilizing aspects of globalization is misleading. Ignoring the material aspects of the processes that are producing the knowledge, will fail to address many environmental justice concerns despite any good intention (for example involving indigenous knowledge without focusing on access to natural resources ignore distributional justice).

I will argue in this chapter, that local knowledge is produced by global forces and social imaginations in interaction with the environment, through place-making projects.

The knowledge that is produced by the global forces, like accumulation by dispossession, consists of the farmer's ability to successfully integrate into the global market, which means the ability to decide which animal/another agricultural product is more viable, or how to bargain the prices. It also incorporates the administrative knowledge on different subsidies, like the agri-environmental schemes. These are fundamental in becoming a successful agricultural entrepreneur, those farmers who are lacking this knowledge suffer disadvantages in the market (although selling the products is difficult for most of the farmers).

Agri-environmental knowledge consisted of the knowledge on the relationship between animal husbandry and the bio-geographical features of the site, the knowledge about which methods were the most adequate in a certain area, for example, which grass was the most liked by animals, or how certain areas should be managed. In general, farmers thought that the parts that were under water, wasn't eligible for sheep, only for cattle. Salty grass was much better than other grasses, it was more nutritious, had more energy and the meat from those animals was more tasteful. The marshy grasslands were not eligible for sheep, they didn't like to go into the water, and if the soil was wet, it could make the sheep sick (the mud could be stuck in its nails, which could be infected

very easily). Farmers didn't like to let animals into the wet salty grasslands, because the soil and the habitat were very vulnerable and could be destroyed easily.

"...I don't go into the salty grasslands, because if it (the sheep) crosses it many times, it will destroy the grass, and doesn't grow back very quickly. "(farmer interview)

"...if we let the animals to plots, where there is water, and salty, although the sheep has small legs, if many small legs cross it many times can make a lot of damage" (farmer interview)

"The grass is very short, but it can feed full the sheep...the salty grass, in my opinion, is equivalent with the alfalfa (it is a very nutritious food for the animals)" (farmer interview)

The biggest question was which domestic animal species were suitable for the grazing of the different grasslands. The "ecological" and "economical" factors were difficult to separate from each other, as a farmer formed it: it is very difficult to decide if this question was only determined by the type of grassland or there were other factors, like the demands of the market. These local perceptions support the notion that local knowledge was produced by global forces, but also by the imagination of the place: a land that is in order, well-managed, and the ideal of good farming, and hard work.

Farmers and the national park directorate had different imaginations concerning the animals: sheep were favored by most of the farmers, cattle (and buffalo) were supported by the National Park Directorate. Farmers had a negative impression about the way NPD was grazing its animals, they criticized the knowledge that NPD had or lacked about farming. They judged the NPD because they treated the animals badly, they weren't dedicated to animal husbandry, they were farming wastefully and they were keeping animals that were not profitable, that they couldn't sell in the market. In their perspective, it was a waste of resources, animals, and it was "bad farming".

As I discussed at the beginning of my thesis, the water management problems of the area were very complex and disputed, it was contested what constitutes the problem (how much water is desirable and where), what were the origins of the problems (how much is it natural or humaninduced, including climate change) and what were the solutions (water retention, irrigation, or land-use change). Therefore, the main conflict between NPD and farmers emerged around water management. Local knowledge rallied around the temporal behavior of water in the area, it had a seasonal trend, in spring/autumn it was flooding the grasslands forcing the farmers to avoid those areas. Water deficiency was present in the summer when the grasslands were extremely dry, which also caused problems for some farmers. Farmers weren't in favor of the water retention in the area as they perceived it to transform the grasslands into another habitat. They perceived that in these habitats, reed (Phragmites australis) had emerged, which is not favorable for grazing, because it wasn't likened by the animals and because it superseded the other grass species that were important for grazing. Aridity and water surplus also had spatial differences, due to the different biogeographical areas (soils and altitudes). Although sectors were unequally affected by surplus water, and grazing would still be possible in those areas (with cattle), that were covered by water, farmers preferred the draining of this surplus water. Aridity affected more differently the sectors, arable farming and vegetables were more severely affected, so irrigation in these two cases was more important.

"It is certain, that the water level had to be lower because the reed is spreading, there wasn't that much reed, I'm certain." (farmer interview)

The discussion around water management issues emphasized the fact, that the observations of farmers always referred to their small plots and not the whole landscape. Several farmers talked about climate change and desertification, in general about the area, only a few of them were

referencing their land plots. Also, some of the farmers observed changes in the precipitation patterns (less precipitation), but only a couple of them connected it to climate change. Farmers as I mentioned in the 4th chapter noticed changes in the abundance of wild animal species but weren't sure about the causes. The knowledge that was expressed through nostalgia attached to a more spacious, open place.

The NPD attempted to restore the "original" state of the area, this consisted of different measures like retaining the water, but burying some canals. This caused some confusion among the farmers, as they thought that the main goal of the NPD was to reintroduce water to the area, not to drain water. The NPD hadn't communicated effectively its management plans with the farmers.

In general, local knowledge was produced by global forces (like the demand of the market and accumulation by dispossession), social imaginations (good farming, hard work) in interaction with ecological processes through a place (private lands). The place-making practices of the NPD, which focused on "conservation management", water retention, and biodiversity, contested the farmers' place-making projects (both in a material sense when they competed for the lands and restored the habitats and in social imaginations).

Chapter 5. Conclusions

In my thesis, I used global ethnography to understand the place-making projects of my research site and to understand local knowledge. I argued that place-making consisted of global forces and social imaginations, that interacted with the environment, and produced the localities. I proposed that accumulation by dispossession constructed the place by resulting in land concentration, inequalities among farmers, and the disintegration of communities. Social imaginations also produced the place, symbolic dispossession deprived farmers of subjectivities that were important for them (hard work and self-sufficiency), this was expressed through nostalgia as a medium. Emptiness, which was a result of the accumulation of dispossession, and discrepancies caused by time-space compression, also contributed to the imaginations that were permeated through the lens of the past. Finally, I argued that local ecological knowledge was produced by these place-making projects.

This produces place in the farmer's material reality meant the private property, their plots. Accumulation by dispossession, which is both material and symbolic, led to an enclosure (physical and symbolic) of lands and nature, and an enclosure of individuals, as the community dissolved. The locality is also produced by the time-space compression, farmers' relationship with time and place changed, places had shrunk while time fastened, farmers felt disconnected from the landscape, the animals, and from other humans. The open, connected landscape or place was only present in the past, as a part of nostalgia. The landscape was becoming empty the same way as the human settlements, it was especially true of grasslands and animal husbandry.

The conflict and competition between NPD and the farmers over lands, and the control of lands, produced a competition in constructing the place and contestation in imaginations. NPD with its

expanding land policy was trying to restructure the place from agricultural land into an area that is more like a cultural heritage site, than agricultural land¹⁶. The conflict manifested between the social imaginations of the place as well, between a place that was withdrawn from cultivation and a place where accumulation, hard work, and good farming were possible. Although the protected areas were not excluded from production, they contributed to the inequalities between the farmers. Conservation restrictions caused difficulties to smaller farmers, they were more vulnerable to any additional burden, and they were not applying for compensation or subsidies that much. Subsidies were contributing to the inequalities and the dispossession in the long term and the emptiness of the area. Hann (2013) states when writing about the environmental subsidies, that farmers are willing to maintain the cultural landscape that is originated in the urban imaginaries, just to be able to stay in agriculture and the rural areas. Kovács and Kalóczkai (2021) found in their study, when analyzed the farmers' behavior in a year when subsidies weren't available in Hungary, that they haven't followed the sustainable practices in that year when they haven't received the subsidies, only those that they have already done without the subsidies. If animal husbandry practiced by the farmers disappeared without the subsidies, NPD would have to maintain the conservation management with its livestock. This is a questionable perspective, as it is not sustainable neither socially nor ecologically in the long run.¹⁷ It also highlights the fact, that the NPD's land policy and its contestation of the place could contribute to environmental justice issues that already affected some farmers.

¹⁶ I don't question the necessity of these decisions from the standpoint of the scientific rationality. I don't question that these measures are necessary to maintain the ecosystems in the area. I just want to point out the social consequences, while acknowledging that it is a very difficult situation.

¹⁷ With this project the NPD tried to collaborate with the farmers, but it is uncertain if the initiatives will be continuing after the project is finished.

I argue that local ecological knowledge is a product of the interrelation of these global processes and the changes in the environment. Local knowledge also consists of the imaginaries expressed through nostalgia. I argue that local knowledge which is conceptualized as a product of a placemaking project helps to understand farmers' reality and is more suitable to fulfill both distributional and recognitional justice, as it incorporates both material and symbolic inequalities, which are interrelated.

Finally, I argue that involving local ecological knowledge in conservation decisions is important, but the conceptualization of local knowledge needs to accept the political implications that are attached to it, to be able to recognize the farmers' material and symbolic reality and to grasp their understanding of the ecological processes.

Appendices

Appendix 1.: Spatial distribution of the interviewees

Szabadszállás	3 farmers and 1 agricultural consultant
Fülöpszállás	8 farmers
Soltszentimre	5 farmers and 1 agricultural consultant
Harta	3 farmers
Akasztó	1 farmer
Farmhouses near Solt	3 farmers

Appendix 2.: Interview guide

Böddi-szék LIFE farmer interview guide

(October 2015.)

Introduction

<u>Where do you live? Please tell us about your farm!</u> How long have you been farming? What size is your land property? How much of it is the rent? Where is your land is situated? What kind of farming do you do (arable landing, animal husbandry, both, etc.)? How do you farm (conventional, bio, pesticides, fertilizers)? What kind of subsidies are you applied for (SAPS, AEM, Natura 2000)? How and where do you sell your products?

Questions on the local social-economic context

- Please tell us what people are doing for a living here. What kind of jobs is available there? In general, where do people work here?
- How agriculture is working here? What do most people do? What are the sales opportunities, where do they sell their products? Are there any sales and processing opportunities locally?
- What do you think, what kind of changes would be necessary for livelihood, farming, and economy locally?
- **Do you know any collective or community initiatives** that are aiming to help local livelihood or economy?

Questions about local relationships and land-use conflicts

- How is your relationship with the local hunting associations?
- How is your relationship with the local water management associations?
- How is the relationship between farmers? Do you know about any collective action?

Questions about landscape, perceptions on changes in the landscape and ecosystem services

- What do you think is characterizes the landscape/ area here? What kind of features does it have? How do you see this landscape? What is the most important to you in the landscape?
- What kind of farming is best suited for this landscape/ area?
- What do you think, is your farming affecting the landscape? If yes, how?
- What do you think this landscape is giving to those who live here? What does it give to you? Why do you like to live here? What does the landscape mean to you?
- How was this landscape in the past? Have you perceived changes in recent times? How do you think it is affecting people's lives and farming? If yes, how?

Sodic/salty lakes

- **Can you say something about the sodic lakes?** What do you think characterizes sodic lakes? Can you tell us an example of a sodic lake here?
- What do the sodic lakes, marshes, grasslands mean to those who live here how did they use these sodic lakes in the past? What kind of traditions are connected to these lakes? Is there/ Was there any events that were connected to sodic lakes?
- **Do you think that that the sodic lakes changed?** If yes, what was the cause of these changes? How do you think the changes are affecting people's lives and farming?

Question on farming the grasslands

- What do you think about how the grasslands should be used around the sodic lakes (pastures and meadows)?
- Do you think these grasslands around the sodic lakes should be farmed differently than in other places? Is it more difficult or easier to farm in these grasslands? What do

you think you have to be aware of when farming these grasslands? How do these grasslands are farmed now?

Questions about conservation and the NPD

- What do you think about the work of the NPD? Do you agree with what they do? What do you think they do well? What do you disagree with? How well do you think the NPD is farming the grasslands?
- How the national park is affecting the lives who are living here? How the national park is affecting farming?
- How is your relationship with the NPD? With whom do you keep in touch? How often do you get in touch with the NPD?
- What kind of advice would you give to the NPD? What do you think they should change? Do you think that the NPD could have or should have a role in the local society/ community's lives? Can you see any possibilities for collaboration with the NPD? If yes, how could NPD help?

Questions about the future and the desired changes

- How do you think this landscape/area will look like in 20 years?
- What kind of landscape do you want to leave to your grandchildren? What kind of changes would you like to see?
- What do you think about how farming will change in 20 years here?
- What do you think should participate in the changes? Do you see a role in this for the NPD? If yes, what kind of role do you see?

Final question

• Who would you recommend for further interviews?

Thank you!

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