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Swiss agricultural policy and the goal of multifunctionality.

What experiences can be drawn?

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I hope that I with this study can inspire a debate on what can be done to improve the Norwegian agricultural policy system towards multifunctionality.

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Abstract

After the Second World War, a productivist focus has led to agricultural policy stimulating intensification of agriculture, creating overproduction and environmental problems. As a reaction, ‘multifunctionality’ became an issue within agricultural policies in Europe, including the EU. However, two non-EU member countries; Norway and Switzerland, have a long tradition for multifunctional agricultural policies, including aims such as rural viability, rural settlement and securing farm income. Later, environmental issues, cultural landscape and biodiversity maintenance became more important. From the 1990s onward multifunctionality emerged as an approach to deal with these environmental challenges and to ensure provision of public goods to society. Norway and Switzerland have stood out as countries with a strong willingness to ensure the multifunctional role of agriculture. However, in Norway the efficiency and effectiveness of policy systems to meet multifunctional goals are in question, and in the Norwegian debate Switzerland has been referred to as performing better.

The aim of this study has been to learn more about the Swiss goal achievement in terms of multifunctionality, and what factors and drivers that have led up to this. The main aspects addressed are; cultural landscape, use of grassland resources, rural settlement, and farm income. The study is based on qualitative methods with literature and document analysis, and semi-structured interviews with key Swiss informants to get their assessment of the situation.

The results may indicate that Switzerland is performing better than Norway on certain issues, although advances are needed in terms of improving goal achievement. In Switzerland, the Swiss population has had a significant role, through their support for agriculture, and their vote in 1996, adding multifunctional agriculture as a goal in Article 104 of the constitution. Article 104 gave the Swiss Federal Office of Agriculture a direction, and they were thus able to push for agricultural reforms. These reforms have gone towards less market support, and more direct payments for public goods. Market orientation has both been a goal and a tool to reduce production stimulating policies. A strong farmers lobby grew up after the Second World War, and has been important in ensuring support for agriculture, while environmental oriented groups have pushed for an agriculture that ensures the provision of public goods. The policy system has become increasingly targeted towards the multifunctional goals in the Article 104. Still, there is a conflict between environmental goals and increased production. A targeted system in which each goal described in Article 104 has a specific payment was seen as a solution for Switzerland.

Norway can draw on the Swiss experiences, especially in terms of the directionality that the system has had since the 1990s, due to strong legitimacy of the goals in Article 104 of the constitution. The Swiss case also shows an alternative to how one can support agriculture, which hopefully could spur further debate in Norway.

Abbreviations

ECA Ecological Compensation Area

FOAG Federal Office for Agriculture

DP Direct Payments

PEP Proof of Ecological Performance

AP 14-17 Agricultural Policy 2014-2017

Tables and Figures

Table 1 - A comparison of the agricultural policy goals of Norway and Switzerland, and their link to the focus issues of this thesis (page 8)

Figure 1 - Distribution of DP by category for 2015 (page 10)

Figure 2 - Agricultural zones in Switzerland (page 11)

Table of contents

Acknowledgement.....	I
Abstract	II
1. Introduction	1
1.2 Swiss agricultural policy and the goal of multifunctionality. What experiences can be drawn?	4
2. Materials and methods	5
2.1 Case Study.....	6
2.3 Data collection.....	12
2.4 Analyzing the data.....	13
3. Results	14
3.1 How do key Swiss informants assess the achievement towards the goal of a multifunctional agriculture?	14
3.1.1 Multifunctionality.....	14
3.1.2 Farm income.....	14
3.1.3 Use of grassland resources	15
3.1.4 Preservation of cultural landscapes	16
3.1.5 Rural settlement.....	19
3.2 What is key informants' assessment on external factors and drivers leading up to today's system?	20
3.2.1 International trends.....	20
3.2.2 The opinion of the people.....	21
3.2.4 Political forces.....	22
3.3 Is the Swiss agricultural policy system ensuring multifunctionality, according to key informants?.....	24
3.3.1 DP for environment or production	24
3.3.2 Market orientation, as a tool and a goal	26
3.3.3 Balancing the goals and a targeted system.....	27

4. Discussion	28
4.1 How do key Swiss informants assess the achievement towards the goal of a multifunctional agriculture?	28
4.2 What is key informants' assessment of important factors and drivers impacting the goal of a multifunctional agriculture?	31
4.2.1 What is key informants' assessment on external factors and drivers leading up to today's system?	31
4.2.2 Is the Swiss agricultural policy system ensuring multifunctionality, according to key informants?	33
4.3 How valid and transmittable are the results to Norway	35
5. Conclusion and further research.....	37
References	40
Appendix 1: Theoretical propositions for the second research question	a
Appendix 2: Request for participation in research project.....	a
Appendix 3: Interview guide.....	c
Appendix 4: Key informants background	g
Appendix 5: Reflection chapter.....	h
Endnotes	k

1. Introduction

Over the last decades, intensification of agricultural production systems has been the trend in Europe (Cooper, Hart, & Baldock, 2009). A productivist focus in the aftermath of the Second World War, with focus on increased production to secure food supplies, has led to policy stimulating intensification of agriculture, which has further led to overproduction and environmental problems (Bjørkhaug & Richards, 2008; Lowe, 1992). Intensive systems are often depending on high inputs, with relatively large amounts of fertilizers, pesticides and imported feed, as well as leading to general land use changes (Cooper et al., 2009; IAASTD, 2009). This has had environmental, social, and economic consequences, such as loss of marginal land and biodiversity, and an excess of nutrients ending up in drinking water and natural habitats (Battaglini, Bovolenta, Gusmeroli, Salvador, & Sturaro, 2014; MacDonald et al., 2000; Vendramini, Silveira, Dubeux Jr, & Sollenberger, 2007). It has also led to loss of cultural and aesthetical landscapes and elements, and rural decline (Bjørkhaug & Richards, 2008). Despite intensification of production systems, agricultural profitability has been in decline (Bjørkhaug & Richards, 2008; van der Ploeg & Roep, 2003). This calls for a change in how we practice agriculture to ensure both efficient food production as well as social, environmental, and economic sustainability.

In addition to producing food and fibre, agriculture is an important provider of what has been termed non-tradable public goods (IAASTD, 2009; OECD, 2001). Grasslands have been increasingly valued for its potential to provide public goods if managed appropriately. Such goods can be biodiversity, regulation of nutrient cycles, mitigation of pollution, and the aesthetics values of cultural landscapes (Gibon, 2005; Steinfeld, Wassenaar, Castel, Rosales, & de Haan, 2006). Ensuring use of grasslands and proper management can be one way to deal with the above issues and ensure the provision of public goods.

In the 1980s, as a reaction to the issues that a productivist focus created, policies in Europe shifted towards what has been called post-productivism (Bjørkhaug, Almås, & Brobakk, 2012). Post-productivism has been described as a movement away from a narrow focus on production, towards an agriculture that ensures provision of public goods and minimizes negative externalities. However, the idea of this being an overall movement has been criticized (Burton & Wilson, 2012; Rønningen, Renwick, & Burton, 2012). Rather, they are

two parallel processes (Wilson & Burton, 2015), adjusting to different market opportunities, and part of different ideologies and political discourses. However, which discourse that dominate the debate and the policies vary. The global food crisis of 2008 brought back more focus on food security and production to the policy agenda, a trend referred to as neo-productivism (Almås & Campbell, 2012). The crisis presented a moral dilemma between increased food production to prevent an international food crisis, and concerns around protecting the environment, the landscape and animal welfare (Rønningen et al., 2012). However, taking care of our ecosystems might be equally necessary to ensure sustainable food supplies in the future.

A multifunctional approach responds to this dilemma, and is meant to ensure joint production of public and private goods from agriculture to society (OECD, 2001; Romstad, Vatn, Rørstad, & Søyland, 2000). This can be linked to agroecology, where one of the core ideas is to mimic natural ecosystems, and the way each element has multiple functions in these systems (Gliessman, 2007; Wezel et al., 2013). Agroecology focuses on exploiting synergies by encouraging multiple uses and functions of elements in farm systems, to ensure sustainable agriculture (Altieri, 2004; Gliessman, 2007). Many of the public goods associated with agriculture are considered as goods either because of a demand by the population or as a necessity for sustainability. Sustainability is therefore closely linked to the multifunctionality of agriculture. It is a condition where the system is used without compromising its ability to renew itself and being continuously used in the future (World Commission on Environment and Development, 1987). Gliessman (2007) argues for some requirements to analyze and verify if an agroecosystem is progressing towards sustainability. Firstly, the system must minimize negative effects on the environment, like the release of toxic or damaging substances. Secondly, it must use resources in a way that preserve their capacity, and minimize external inputs by ensuring nutrient cycling. Thirdly, it must preserve both domestic and wild biodiversity, and lastly, ensure equal distribution of agricultural practices, knowledge, and technologies. Since the market is not able to ensure this because it is not directly marketable, many countries subsidize their agriculture to ensure its multifunctionality (Cooper et al., 2009; OECD, 2001).

The policy systems efficiency in meeting the multifunctional goals are in question and the subsidy schemes can be designed in many ways (Riksrevisjonen, 2010). It is in this regard fruitful to consider two different agricultural economic positions. The theory of the

Tinbergen-rule argues that a system will be more efficient if each goal has each their instrument or direct payment (DP) (Mann, 2005). In this theory coupling of goals will only lead to inefficiency. The efficiency lost when instruments are coupled comes from the impossibility of giving the right reimbursement reflecting the achievement for two goals at the same time. Romstad et al. (2000) and Vatn et al. (2002) argues on the other hand that the Tinbergen-rule does not take transaction costs into account, which is essential when evaluating a system or payment's efficiency. More targeted payments and more instruments causes increased transaction cost (Vatn, Kvakkestad, & Rørstad, 2002). The choice of instrument must be weighed up against the transaction cost and the level of jointness between the private and the public goods. This relationship can be joint in its more complete definition, or on the range between complementarity and competition (Romstad et al., 2000). If the private and public good is completely joint, securing the private good through production dependent support also ensure the public good. When the relationship becomes more complex, and on the range of complementarity and competition, ensuring both the private and the public good becomes more difficult. The more the goals are competing the more correct it is to pay directly for the public goods (Vatn et al., 2002). Romstad et al. (2000) argues that it could be more efficient to ensure an agricultural production type that to a greater degree jointly produces private and public goods. Thus, being able to ensure both with fewer and less targeted payments. This requires a focus on production methods as well as goods, and means changing the way we see agricultural activity.

It can be argued that Norway and Switzerland have had multifunctional agricultural policies since the Second World War, including aims such as rural viability, rural settlements and securing farm income (Hediger, 2005; Rønningen, Flø, & Fjeldavli, 2004). Since the 1980s environmental issues, cultural landscape and biodiversity maintenance have become more important, and in the early 1990s, the concept 'multifunctionality' entered policy. The concept of multifunctionality is the basis for shaping the agricultural policy, in both countries (Landbruks- og matdepartementet, 2012; Le Conseil fédéral, 2017). Switzerland and Norway have many things in common. They are both mountainous countries with physical constraints for farming, a high average income, all which makes it expensive to produce agricultural goods (Gazzarin, Kohler, & Flaten, 2014). Both are non-EU members and support their agriculture significantly (OECD, 2016f). The support accounts for around 62% of farm revenue (gross farm receipt) in Norway, and 62,4% in Switzerland. Grassland covers the majority of the agricultural land in both countries, and pastures in the Alps and outfield

rangelands are important (Office fédéral de la statistique, 2013; Rekdal, 2014). Norway has had a less strict shift towards DP than Switzerland, and kept a more stable level of market support (Klepp, 2007; OECD, 2016d).

By reviewing literature and media reports Switzerland appears to have better goal achievement than Norway on certain issues. A Norwegian television program for investigative journalism, “Brennpunkt”, put Switzerland as a success story compared to Norway on the agenda in 2016 with their documentary “Farmer of the Future” (Framtidsbonden). They applauded Switzerland for maintaining cultural landscapes in marginal areas through their policies. Data supports this, showing that from 2001 to 2010 the loss of agricultural land in Switzerland was 2% compared to 4% in Norway (OECD, 2016a). This difference is mainly due to higher loss of agricultural land in Norway since 2007. In terms of preserving farming in marginal areas, Mittenzwei (2010) argues that structural change has been lower in Switzerland than in Norway. Another related issue is the use of imported feed. Both countries import feed for concentrates, but Norwegian farmers use over three times more concentrates than Swiss farmers (Tine Rådgiving, 2014; Union Suisse des Paysans, 2011). Looking at other agricultural policy goals, Switzerland is also showing interesting results. The percentage of people living in rural areas is higher in Switzerland, and the gap between agricultural incomes and comparable incomes is more pronounced in Norway (Mittenzwei, 2010; The World Bank, 2016). In terms of achievements it is therefore interesting to look closer at the Swiss system, to see what experiences that can be drawn for Norway.

1.2 Swiss agricultural policy and the goal of multifunctionality. What experiences can be drawn?

The aim of this study is to explore how key Swiss informants assess the achievement towards the goal of a multifunctional agriculture, and what factors and drivers that have impacted it. This will be explored by using Switzerland as a case, and Norway as a reference due to a similar strong focus on multifunctionality, but with different goal achievements and different agricultural policy systems. To compare countries is a complex task, and measuring the achievement and finding the key factors and drivers is a difficult matter (Jervell & Jolly, 2003). The ambition of this study is rather to contrast, and consider context and factors of relevance. I here explore the assessment of Swiss key informants. The key informants’

perceptions are also important because they are holding positions that directly or indirectly are influencing and even shaping the Swiss agricultural policy system. The study employs a qualitative methodology and case study approach, addressing the following research questions:

1. How do key Swiss informants assess the achievement towards the goal of a multifunctional agriculture?
2. What is key informants' assessment of important factors and drivers impacting the goal of a multifunctional agriculture?
 - a. What is key informants' assessment on external factors and drivers leading up to today's system?
 - b. Is the Swiss agricultural policy system ensuring multifunctionality, according to key informants?

After answering these questions the discussion will go a bit further and discuss what Norway could learn from Switzerland.

2. Materials and methods

Through qualitative case study research, I explored the agricultural policy system of Switzerland to see what can be learned from their model. The views of key informants are presented, giving an overview of the different discourses that exist within the agricultural policy environment in Switzerland. Norway was used as a reference point to limit my scope, and to discuss validity and implications for my results from Switzerland. Literature and documents have also been analyzed to contrast with findings from Switzerland.

The study is based on agroecological methodology, where interdisciplinarity is important (Francis et al., 2003). Thus, the theoretical approach draws on several disciplines, such as sociology, geography, economy, and agroecology. There is some extra weight on economy because it is essential to look at efficiency when discussing agricultural policy systems. Further, the issue of multifunctionality and public goods has especially drawn the interest of economists. However, in agroecology the theory is second to the empirical results, which should have the main focus. In an agroecologist point of view one enters a problematic

situation by going into the field, and exploring what is out there (Lieblein, Østergaard, & Francis, 2004). Theory is then used to discuss, give validity, and explore multiple-perspectives when analyzing the results.

2.1 Case Study

Four focus issues delineate my work; cultural landscapes, use of grassland resources, rural settlement, and farm income. These issues were chosen to cover most of the two countries agricultural political goals either directly or indirectly, and make the research more concrete and workable.

Cultural landscapes are here defined as the totality of farmland, buildings and cultural elements in the landscape related to rural life and agriculture (Daugstad, Rønningen, & Skar, 2006). Loss of cultural landscapes because of land abandonment and construction leads to loss of cultural elements and biodiversity (Landbruks- og matdepartementet, 2012). Further it is essential to protect agricultural land to enable the agricultural production to be based on national grassland resources, and to ensure future food security.

Intensification with increased use of concentrates, and fewer animals, have led to changes in land use, and to abandonment of marginal meadows and mountain pastures (Herzog, Oehen, Raaflaub, & Szerencsits, 2014; Rivedal et al., 2014). This issue relates to the goal of food security, because high imports of feed depends on a steady supply from the world market (Hageberg & Smedshaug, 2013). Further, high inputs in the form of concentrates into a farm system can lead to more nutrients in the system, that can end up polluting water systems and habitats (Battaglini et al., 2014; Vendramini et al., 2007). Excess of nutrients can also be a threat to biodiversity.

Agriculture is important for rural settlement and provides employment directly and through related sectors, such as tourism (Bjørkhaug & Richards, 2008). However, intensification, modernization and mechanization have diminished this role. The term “rural” is complex, especially in a small country like Switzerland, where growing agglomerations are in between the rural-urban divisions.

Ensuring farm income is important to prevent marginal areas from going out of production because of high production costs (Bergset et al., 2014). It is essential to prevent land abandonment to ensure the preservation of the cultural landscapes and biodiversity.

Preserving also marginal land is important if one wishes to base production on national grassland resources (Landbruks- og matdepartementet, 2012; Nesheim, 2004).

Furthermore, this thesis will have emphasis on marginal areas in Norway and Switzerland, since these are the most vulnerable when it comes to loss of cultural landscapes and ensuring income (Bergset et al., 2014). It will also focus on ruminant production systems since most of the agricultural area in Norway and Switzerland are only suitable for grassland production (Office fédéral de la statistique, 2013; Rekdal, 2014). The agricultural policy system of Switzerland is a big topic, but based on the focus described above the informants emphasized some parts of the policies more than others. I used their delineation and perceptions of what is essential, to limit the scope of the study. The term ‘extensive’ was used a lot by the informants. They described more extensive systems as using less inputs and having lower stocking density than intensive systems. Pasturing, biodiversity conservation, and marginal areas were also linked to this term.

The multifunctional goals of the Swiss and Norwegian systems share many similarities (Table 1). The Swiss goals are taken from Article 104 of the Swiss constitution (Le Conseil fédéral, 2017), while the Norwegian goal are taken from the white paper on agriculture that has been in effect the last 5 years (Landbruks- og matdepartementet, 2012). A new white paper on agriculture was approved by the parliament April 2017 (Landbruks- og matdepartementet, 2017). However, I will base this thesis on the previous white paper that has been the foundation for policy development up until now. There is also uncertainty whether the new white paper will have the same importance and influence, since it has been heavily criticized and met strong opposition (Lie et al., 2017; Nationen, 2017, 06.04.; NTB, 2016). The signals in the new white paper pushes strongly towards market liberalization and lessens the focus on multifunctionality. Multifunctionality as a term is not even used.

Goals Norway	Goals Switzerland	Focus issues
<p>Food security</p> <ul style="list-style-type: none"> - Increased sustainable food production - Safe and adequate diets - Ensure consumer interests - Ensure Norwegian interests internationally and build international cooperation - Develop Norway as a food nation 	<ul style="list-style-type: none"> - Secure food supply 	<p>Cultural landscape</p> <p>Farm income</p> <p>Use of grassland resources</p>
<p>Agriculture in the whole of Norway</p> <ul style="list-style-type: none"> - Ensure the use of agricultural areas - Strengthen and contribute to rural settlement and employment - Politically adjust regional possibilities and challenges 	<ul style="list-style-type: none"> - Conservation of natural resources - Contribute to decentralized inhabitation - Upkeep of rural scenery 	<p>Cultural landscape</p> <p>Rural settlement</p> <p>Farm income</p>
<p>Value adding</p> <ul style="list-style-type: none"> - Competitive value chains and robust entities - Ensure a highly competent sector - Ensure farm income 	<ul style="list-style-type: none"> - Market oriented 	<p>Farm income</p> <p>Cultural landscape</p>
<p>Sustainable agriculture</p> <ul style="list-style-type: none"> - Protect the agricultural land - Production of environmental goods - Ensure natural diversity - The climate challenge, agriculture as part of the solution - Reduce pollution from agriculture 	<ul style="list-style-type: none"> - Sustainable agriculture - Protect environment against pollution - Compliance with ecological requirements - Production close to nature and friendly to the environment - Conservation of natural resources 	<p>Cultural landscape</p> <p>Use of grassland resources</p>

Table 1: A comparison of the agricultural policy goals of Norway and Switzerland, and their link to the focus issues of this thesis (Landbruks- og matdepartementet, 2012; Le Conseil fédéral, 2017).

The last 20 years there has been significant reform in the agricultural policy of Switzerland (Klepp, 2007). The old system was based on securing farm income by ensuring high prices for agricultural goods, and protection of the national market. Since the 1990s the policy system became more market oriented, while increasingly basing the system on DP paid per hectare and animal (Klepp, 2007). These payments are coupled with cross-compliance to Proof of Ecological Performance (PEP). The PEP demands an even nutrient balance, four levels of crop rotation or more, and seven percent of each farmer's land as Ecological Compensation Area (ECA) (Mann & Lanz, 2013). In 1996 people voted for what type of agriculture they wanted, and added the multifunctional role of agriculture in Article 104 of the constitution (Grabs, 2013; Klepp, 2007). The decoupling of price and income support that started in the 1990s, and the abolishment of the quota system in 2009, were two important liberalizing steps (Klepp, 2007; Mann & Gairing, 2011). From 2009, the milk producers were required to set up contracts for their milk, and join producer and processing organizations to ensure a slow and smooth transition from the quota system. Switzerland has also entered into free-trade agreements with the EU, and removed the market support for cheese in 2007 (OECD, 2015). Despite reforms shifting support away from production dependent support towards DP, the system was criticized for not being targeted enough towards the multifunctional goals in Article 104 (Mann & Lanz, 2013). Thus, with the newest reform, the Agricultural Policy 2014-2017 (AP 14-17), each payment was now assigned to each their public good, an idea following the Tinbergen-rule. This reform also moved money from the lowlands to the mountains, and abolished the practice of payments per animal. The reform thus moved even further towards production independent payments. The main types of DPs are now; Food Security Payments, Farmland Payments, Biodiversity Payments, Landscape Quality Payments, Payments for Production System, Resource Efficiency Payments and Transitional Payments (Figure 1).

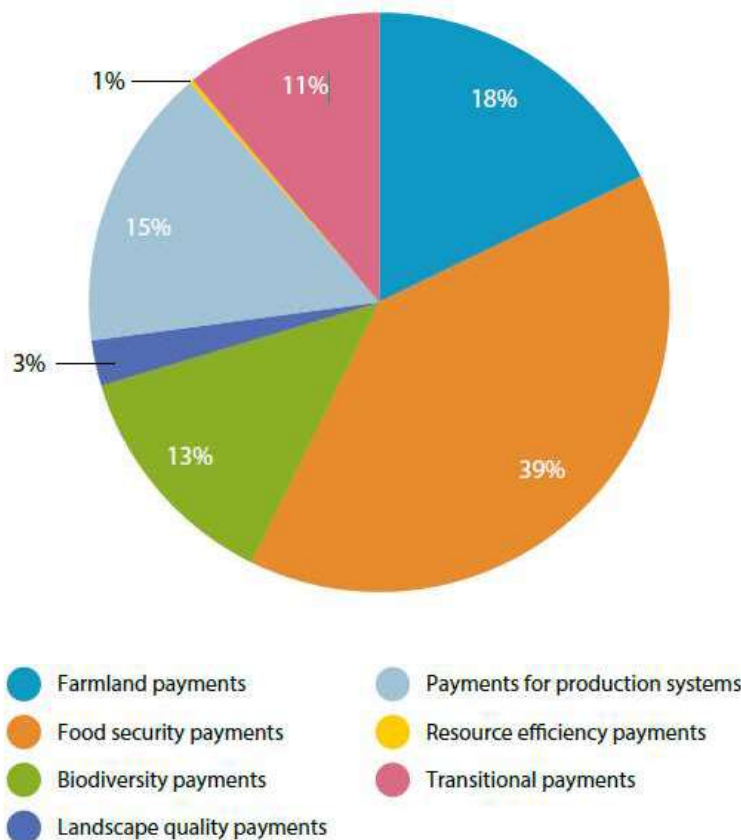


Figure 1: Distribution of DP by category for 2015 (OECD, forthcoming 2017, adapted from Werder, 2016).

Over 1/3 of the payments are Food Security Payments. This payment is per hectare and is differentiated between the different agricultural zones, with the mountain regions receiving the highest contribution (Mann & Lanz, 2013; Figure 2; Office fédéral de l'agriculture, 2016b). This payment is the main reason why money has shifted from the valley to the mountains (Mann & Lanz, 2013). Farmland Payments are also paid per hectare and differentiated in relation to how likely the land is to be abandoned. This program includes extra payments for Alpine farming. Environmental payments have been in the system since the 1990s, but became more output oriented in 2001, looking at the number of rare species found in a field. This was strengthened in the last reform through the Biodiversity Payment. This payment is based on the ECA (now called Biodiversity Promoting Surfaces), where there are two levels of quality (Office fédéral de l'agriculture, 2016a). If additional measures are taken farmers can go from the quality I to the quality II payment. In addition, there is a more regionalized program, the Biodiversity Network Contribution. Farmers in a region get more payments if they as a group define extra measures to promote biodiversity through building ecological networks. Another regionalized payment, is the Landscape Quality Payment, that

was introduced with the AP 14-17. Each region defines their own goals for the aesthetical values of their cultural landscapes (Mann & Lanz, 2013). As the Swiss agricultural system is federal, this payment came to ensure the regional diversity of the Swiss landscape. The Payment for Production Systems is given to organic farming and grass based milk and meat production. The last one was introduced in the latest reform, and sets a maximum use of concentrates at 10% of dry matter intake (Office fédéral de l'agriculture, 2016c). The Resource Efficiency Payment promotes techniques that improves the use of resources such as manure. The Transition Payment is a social policy measure that compensates farmers who lose DP due to the reforms. In addition, there is the Land Use Act “Aménagement de Territoire” that decides where one can build and not.

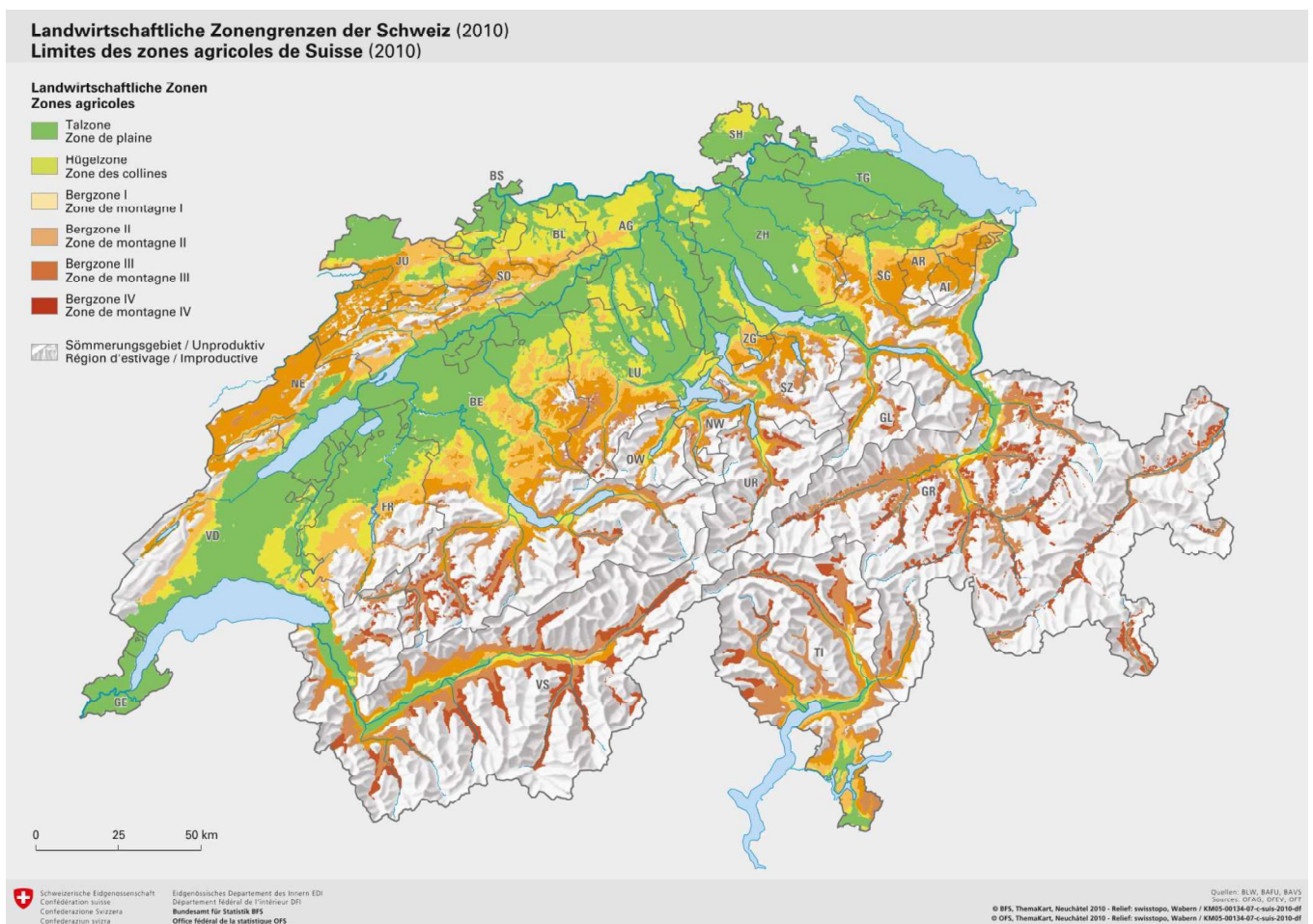


Figure 2: Agricultural zones in Switzerland. Dark green = Lowland. Light green = Hilly. Light to dark red = Mountain zone one to four. Grey = Summer pastures and unproductive area. (Office fédéral de la statistique, 2010).

2.3 Data collection

For this thesis 23 informants in Switzerland have been interviewed, to get insights into their perception of the Swiss situation. Informants were selected through purposeful and snowball sampling (Yin, 2011). The starting point was a literature study and the experience of my secondary supervisor Katrina Rønningen, who had been doing field work in Switzerland on a previous occasion. She provided me with knowledge of organizations and contacts that got the ball rolling for selecting the informants. The sampling was purposeful because informants were chosen based on their expertise and varying backgrounds. Purposeful sampling ensured a rich picture of the situation, with various discourses present. The people I contacted were eager to participate in the study, and also emphasized interviewing people from opposite sides of the debate in their recommendations. There was a mix of women and men, with seven women and thirteen men. The three farmers were all men, and most informants referred to farmers as “he” and the spouse as “the farmer’s wife”. The informants came from farms, the federal and cantonal administration, research institutes, extension services, consumer organizations and different interest groups with focus on sustainable agriculture, environmental issues, farmers, and economy (Appendix 4). Some of the informants were clearly from organizations on opposing sides of the national debate on agricultural politics.

The interviews were done in a semi-structured format with a pre-made interview guide (Appendix 3). The structuring helped to get informants different and diverse views on the same topics and issues (Dunn, 2016). However, the format was open enough to enable the informants to set the agenda of the conversation, creating opportunities for unexpected answers and new perspectives (Dunn, 2016; Yin, 2011). All this ensured multiple-perspectives and thick descriptions to answer the research questions. To guide my data collection on the second research question, I used propositions (Appendix 1). Propositions are theory, literature and empiric based statements about what one expect to find (Baxter & Jack, 2008; Yin, 2014). These helped me to be aware of the assumptions that I had entering the field, and to consciously test their validity.

The interviews took place in offices, cafes and in informants’ homes. Before the interview, an information letter was given to the informants (Appendix 2), where I asked them for permission to record the interviews. All transcripts are anonymized, and will be deleted at the end of this study. I only used indirect personal information according to the guidelines of the

Norwegian Centre for Research Data, but almost all of the informants gave consent to use personal information in the thesis. The farm interviews differed from the rest of the interviews, because most of the interviews happened while being in the stables or walking around on the farm. In addition, the interview guide had to be adapted considerably to ensure we talked about topics that were seen as relevant by the farmers. Broader questions on the general development of agriculture in the whole country were to some degree exchanged for how the specific farm was run and how they adapted to the policies. Two of the farm interviews were done with a translator that knew the farmers from before.

2.4 Analyzing the data

I started by revisiting my field notes and expanded on my initial impressions through reflective journaling on the interactions and the content (Halcomb & Davidson, 2006). By listening to the recordings, I made a thorough representation of the interviews. However, I did not do a complete transcription, since this would have been too time consuming. There was a lot of semi-off topic talk and some unprecise formulation due to language barriers. Throughout this process, I did reflective journaling and collected major themes, concepts, and issues that the participant brought forward. I saved each step of the process to have traceability. Once I was confident that the notes accurately represent the interactions that occurred in each interview, the process of content analysis begun with coding the transcriptions. I started this process by making a coding system (Coffey & Atkinson, 1996). I played with the themes gathered in the transcription phase until a logical narrative and hierarchy of codes emerged (Yin, 2011). I used this to organize my result chapter and arranged the codes as a disposition. In this process, I took choices on what to include and not. I prevented bias by ensuring that rivaling viewpoints were included, and by making constant comparison with these as I wrote the result chapter (Yin, 2014). I kept my initial focus, but with modifications based on what the informants put forward as important. To give the work traceability, I added endnotes referring to the informants. The discussion emerged from setting my results up against ideas and literature collected when preparing for the field work and writing the introduction. In doing this I compared my results to what is already known and put them up against alternative interpretations to ensure validity.

3. Results

3.1 How do key Swiss informants assess the achievement towards the goal of a multifunctional agriculture?

3.1.1 Multifunctionality

There seemed to be a general understanding among the informants that a simple production focus to agriculture was not right for Switzerland, and the ideas of multifunctionality was argued to hold a lot of acceptanceⁱ. The old system was not good enough, so the reforms were seen as necessary. It was argued that the system had gone in the right direction, with decoupling of income policy and price, and increased linkage between DP and demand for public goodsⁱⁱ. “*I would say a big success was for us to have a strong agricultural policy with a big legitimacy from the population for the politics*”ⁱⁱⁱ. However, informants from environmental NGOs argued that the steps have been too small, and that there are not enough results for the money^{iv}. One informant, a critical agricultural economist, raised questions about the ideas and goals included in the multifunctionality of Swiss agriculture. She argued that agriculture’s role in upholding rural settlement was a myth, and that the significance of agriculture in maintaining cultural landscapes was overrated. She also questioned why Switzerland should keep open so much of the landscapes within an international context of deforestation. A representative from a neo-liberal NGO claimed that the system is too expensive for society, and argued to “*Quite clearly, substantially reduce all subsidies.*” He criticized the system for being mostly about income support for farmers, with the other goals being there to legitimize this.

3.1.2 Farm income

The average farm income was generally seen as below the salary of the rest of the population, with farm income around 30% lower in the lowlands^v. Big differences between the farms was emphasized, with higher income in the lowlands than in the mountain regions. However, informants thought this would improve with the reform AP 14-17. Further, it was pointed out that milk prices were low and farmers producing for the industry were especially struggling, compared to farmers producing added value products.

There is a growing trend of farmers working part-time outside the farm. This was mostly seen as a relatively normal development. Some argued that this gave possibilities, especially for smaller farms to stay in production, and thus “[...] *avoid the death of a lot of farms* [...]”^{vi}. Informants mentioned a tendency that some stay small or extensify with a side income, while others grow and professionalize. However, informants did not describe this as a split, but as a spectrum of farm strategies.

Although the farm income is lower, farming is still seen as attractive in Switzerland. Many young people are choosing agricultural education, and there are more people who want to become farmers than have the possibility. Several agricultural scientists argued that the structural change has been relatively low, and argued that this shows the attractiveness of farming in Switzerland^{vii}. What made it attractive was everything from being your own boss, to working with animals and nature, and living in scenic landscapes. The potential to sell land, the value in the buildings, and a cheaper and better living situation, also makes the real value of farming hard to compare. *“I believe the attractiveness is good, because there are still young people going into the sector. It’s still kind of seen as paradise to be a farmer”*^{viii}. An economist working in the Federal Office for Agriculture (FOAG), mentioned that eliminating the income gap was not a goal. He further argued that farmers were willing to have a lower salary, because of these additional advantages. A critical agricultural economist claimed that the farm income issue was highly political, and that it is wrong to compare it with an average salary, since farmers are private entrepreneurs and not employees. Focus on the income gap was also argued to overshadow other goals.

3.1.3 Use of grassland resources

Informants pointed out that Switzerland has a high ratio of grass in the ruminants’ diets, and a correspondingly low concentrate use compared to neighboring countries. An informant from an organic farmer association went as far as calling this close to a success story. “[...] *we say that compared to the situation in Germany and France we still have a high level of grass in our feed ratio [...] and we think this is an advantage*”^{ix}. Many reasons were pulled forward as the reasons for this. The natural conditions of Switzerland were described as ideal for grass production, in contrast to arable farming. Further, tradition, education and highly developed grassland research was judged as important reasons for good grassland management. The tariff on cereal, put in place to protect national cereal production, also made concentrates more expensive. Further, pasturing was argued to be more economic than giving cereals.

Switzerland has ideal conditions for grassland production and a strong tradition for grassland management, thus informants thought that an even more grass based system would be better for Switzerland^x. There was also a general concern about the high import of feed.

“Nevertheless, we have high import of feed concentrates because we are not able to produce it on our arable land”^{xi}. According to data from 1990 to 2009 the amount of concentrate used in Switzerland has stayed stable for a long time, while the import has increased as the local cereal production has decreased (Union Suisse des Paysans, 2011). Import is now providing half of the concentrates used. The last years the data show that the concentrate use has indeed increased (Office fédéral pour l'approvisionnement économique du pays, 2015). Most informants mentioned this trend, but they described it as more severe than this literature indicates. There was concern about a tendency towards more high-input ruminant production systems. Thus, the FOAG reacted to this by introducing a DP for grass based systems in the AP 14-17. However, this payment was criticized for having negligible effect on the situation because of difficulty monitoring it^{xii}.

The informants pointed out a tendency towards more high-input systems in the lowland regions than in the mountain regions. This fits with the farmer interviews that I did. The farmers in the hilly and the mountain regions, said they used under 10% concentrate feed, while the farmers in the lowland said he used more. Previous research show that the use of concentrates is in general very similar in both lowland and mountain regions (Ineichen, et al., 2014). The two farmers that gave less concentrates also had a stronger emphasis on pasturing than the lowland farmer.

3.1.4 Preservation of cultural landscapes

There was an agreement between researchers and environmental NGOs that in terms of cultural landscapes the system is going in the right direction^{xiii}.

It was generally argued that Switzerland is more successful in preventing loss of marginal land to reforestation compared to neighboring countries^{xiv}. *“Off course there is land abandonment and off course there is pressure, but compared to others it is much less accentuated”^{xv}*. However, it was argued to be a significant challenge, especially in the south of Switzerland and in the Alpine pastures^{xvi}. There is a link between the DP paid per hectare and the preservation of marginal land^{xvii}. Especially the payments targeting the mountain regions and the areas with difficult production conditions^{xviii}. It was mentioned that it is not

possible or wanted to stop all abandonment because some areas are just too difficult to cultivate^{xix}.

Loss due to constructions and development for housing and rounds was judged as a bigger problem. With construction accounting for two thirds of the loss, compared to one third of the loss due to forest regrowth^{xx}. It was also argued that this type of loss is more permanent; “[...] *while when you seal it, it is more or less destroyed. You don’t have productive soil anymore*”^{xxi}. The pressure in the lowlands is very high because of economic development and population growth, however the Land Use Act “Aménagement de Territoire” is reducing this loss. It was described as strict^{xxii}, and that the borders between where you can build and not are strong. The Land Use Act was renewed from 2015 and the area regulated for building was decreased compared to the previous plan. Still, it was argued that this plan is merely reducing the loss. It was mentioned that although the planning is on a federal level, the real responsibility lies in the cantons or even in the municipality. The need for more centralized decision making was pointed out, to have a more coherent plan for the landscape^{xxiii}.

Species diverse habitats have decreased heavily the last 30-40 years^{xxiv}, and intensification has led to change in management and excess of nutrients, affecting biodiversity. A researcher on biodiversity said that “[...] *ground nesting birds [...] are having problems surviving in the meadows with intensification*”. Still, most environmental NGOs seem to think that the system is going in the right direction, with the removal of negative incentives like payments per cattle that has led to excess of nutrients in the system. In general, “*one can see results, not for all organisms or habitat types, and not in all agricultural systems*”^{xxv}. The Vice-Director of the FOAG said that there has been a lot of results, but also a lot of loss the last decades. He believed that “*in the mountain areas we did succeed to stabilize the situation*”. It has been easier to create ECA in grasslands, while in the cropped areas of the lowlands it has been difficult, with only 1% of the crop land defined as ECA^{xxvi}.

Although the goal of 7% ECA per farm is met^{xxvii}, most informants raised concern about the quality of this land for biodiversity promotion. The land chosen is the one of least interest to the farmers^{xxviii}, and not the one most important to preserve biodiversity. Thus, it was argued that the outcome in terms of species is not there. It was also argued that to many animals in the mountains was a big problem for biodiversity^{xxix}. With the AP 14-17, FOAG tried to shift the system towards more outcome oriented measures^{xxx}. An informant from a biodiversity NGO argued that the shift towards higher quality biodiversity areas is happening. A report from FOAG show that close to 40% of the ECA is now in the quality II level (Office fédéral

de l'agriculture, 2017). Another way of improving the quality of the biodiversity areas was to develop Biodiversity Networks. The efficiency of this contribution was varying. In some cases, there might just be a biologist in an office telling the farmers what to do. While in others, there was improved awareness building and concrete results^{xxxii}. Close to 75% of the ECA is now under this program (Office fédéral de l'agriculture, 2017). The farmers interviewed in the hilly and the mountain regions are part of such networks, and the farmer in the hilly region is also getting payments for superior biodiversity quality. He thought the system is well suited for ensuring cultural landscapes and ecology, and gives the example that incentives to take care of the hare has had an effect on the species. The farmer in the lowland expressed no interest in cultural landscapes and biodiversity.

It was argued that the Swiss landscape is still diverse and beautiful^{xxxiii}, though most informants still think this is not being protected well enough. *“And the confederation and the FOAG they are deciding for which effort they will pay something. So, we have a unification of the agricultural activity in the whole of Switzerland”*. The FOAG responded to this by introducing with the AP 14-17 a DP for the quality of the landscape. This DP hopes to ensure Switzerland's diversity of landscapes, and it is regionally adapted to ensure each area's specific landscape values. The program has a lot of critics, claiming it is not working well. It was argued that there are too many measures in the program, and thus the farmers do not have to really change their practices to get the DP. It was claimed that the Farmer's Union (Union Suisse des Paysans) did not like the new payment, and that they had tried to put as much measures as possible in the program to ensure farmers could maintain their income without too much extra effort^{xxxiiii}. It has also been hard to run a regionalized program in an otherwise federal system, because people do not understand why different regions are treated differently. One critic argues that the regionalization of the payment is not successful. Although some regions make good and regionalized plans, others just adopt standardized measures to get the payments for their farmers^{xxxv}. *“There are cantons with a big will to do things well, and that takes the opportunity to reaching quite ambitious goals, and others no”*^{xxxvi}. Informants claimed that farmers disliked the payment because they are given for measures that are perceived as normal or silly, like getting DP for having a nice garden in front of your house.

A FOAG representative working with the Landscape Quality Payment said that the population had given positive feedback to elements protected by the measure. The Vice-Director of the

FOAG saw this DP as a success, and said that large areas in every canton was under the program. He thought the payment was a good effort to reduce the standardization of landscapes, and still keep a dynamic agriculture that should not become a landscape museum. Since the payment has only been in place for two years, it was argued that it was too early to evaluate it. After the initial eight-year period it will be possible to be stricter on the quality of the projects before granting approval^{xxxvi}.

3.1.5 Rural settlement

Informants generally argued that rural settlement was high, and that rural decline was not a big problem in Switzerland. Only an informant from a neo-liberal NGO, argued that the rural settlement was in decline. A lot of people like living in the countryside, because rural societies offer a good way of life. An agricultural policy researcher claimed that there were a few villages with shrinking populations, but that most were gaining inhabitants. Far distant places in the Alps, and villages in the Italian part of the country were said to struggle more with upholding rural settlement. Informants from the Farmer's Union and the FOAG said there was a trend that young people leave to the cities and the agglomerations, where there are better jobs^{xxxvii}.

However, it was argued that agriculture and the policies were not the only or even the most important factor in maintaining settlement^{xxxviii}. *“So, I guess it is well agreed that to maintain viable regions in distant places, it is only possible if the different sectors find a way together, and not by a very narrow agricultural approach”*^{xxxix}. A critical agricultural economist even went as far as to call this an agricultural policy myth, claiming that the importance of agriculture is very small. She claims a more important factor is the whole federal system, that has given mountain areas higher importance than urban areas. Other factors are infrastructure and social services, and the fact that Switzerland is a small country making commuting to cities and towns easy. Programs for rural development is also mentioned as important. Although not part of the DP system, it is managed by the FOAG, and these programs supports the collaboration between different sectors, including agriculture and tourism.

Agriculture was still argued to play a role in rural settlement, but informants disagree to what extent. The informant from the Farmer's Union said; *“But of course agriculture plays an important role in the rural settlement. If the farmers are not there, people will not be there*

because of tourism, cheese factories, and all these little companies that are processing the food'. It was also argued that without the agricultural subsidies there would be many unpopulated areas^{xi}. Further, all the money going to the mountain regions through DP, are in a way indirectly for rural settlement. In the mountain valleys farming is thought as important because it means the entire population will not disappear, and you can maintain basic infrastructure, and social services^{xli}. It was also argued that maintaining farmers in the whole country has been relatively successful.

3.2 What is key informants' assessment on external factors and drivers leading up to today's system?

3.2.1 International trends

The food insecurity following the Second World War made people think of protecting themselves and worrying about food security, from this basis the agricultural lobby grew strong in Switzerland^{xlii}. After the end of the Cold War the mentality changed however, *"[...] because the Cold War argumentation didn't work anymore, and on the other side we had ecological problems and we could monitor it, we could show it"*^{xliii}. Thus, there was a realization that one could not only focus on production and food security like before, and that the people needed other arguments to why one supported agriculture.

In the early 1990s, the discussions of the Uruguay round aimed at including agriculture in the WTO agreement. With this pressure of opening the market, came big discussions in Switzerland about the future direction of agricultural policy^{xliv}. Informants argued that Switzerland is dependent on trade agreements, because of their location in the center of Europe and because they rely on the export markets^{xlv}. Pressure to liberalize, problems due to intensification, and a generally expensive agricultural policy system, pushed for reform^{xlvi}. The highlights of this change were an increased focus on multifunctionality of agriculture, and a liberalization of the policy with a move from price support to DP. The idea was that production should be left to the market, while public goods should be ensured by DP. This decoupling also made it possible to increase the competitiveness by lowering prices. It was argued that the pressure from outside to liberalize is now weaker, and there is also little political interest to do it^{xlvii}.

3.2.2 The opinion of the people

The opinion of the population was raised as a major driver for the development of today's system. Two key factors stand out, peoples' support of Swiss farmers and a demand for ecology and animal welfare.

It was argued that in contrast to how few that works in agriculture, the Swiss people has a strong connection with the sector as a part of their identity. "*Everyone has a grandfather, or someone, who was a farmer*"^{xlvi}. Tourism, recreational activities in the mountains, and the short distance from cities, was judged as important for this connection. Thus, the Swiss population has an intimate and positive relationship to agriculture, in which the cow and the grasslands are central symbols. This relationship has been very important to maintain the level of support to the agricultural sector. The Swiss people also show their support through loyalty in buying Swiss products, and they have a lot of confidence in these products^{xlix}. People want superior quality in the sense of good taste, and a good conscience, and a large part of the Swiss population has enough income to be willing to pay for the added value^l. An informant from a consumer organization argued that people didn't buy Swiss products just to support the farmers, but also for the transparency of knowing where the food comes from^{li}.

The positive view on agriculture was argued to be a product of a myth, referred to as "the Heidi myth". It is a romanticized and traditional view on agriculture, and an image of what people dream that Switzerland is or should be^{lii}. However, there is a gap between the myth and reality, and this hinders further critique and progress^{liii}. The focus on "local" food can also be a hinder, because people do not ask enough of how the food is produced. With this focus people may support increased national production, forgetting to ask how this affect the environment and the type of agriculture they want^{liv}. Thus, the Heidi myth gives a lot of power to the Farmer's Union, who together with the supermarkets are actively maintaining it^{lv}. "[...] *nobody has the interest in destroying this idyllic image, and nobody wants to hear it anyway*". An informant from a neo-liberal NGO argued that also the policies try to maintain a certain image of agriculture, an image that the population wants, but that they only want it because they have little knowledge about modern farming. However, if people were more informed, they could execute higher political pressure on the goal achievement.

It was still argued that there is a trend that people are more critical, and they are sensitive to scandals in agriculture, animal welfare and pollution^{lvi}. When the population was voting for Article 104 in the constitution, it did not get majority before environmental concerns were

weighted enough. The goals are still important for the Swiss population, and the goal of ecology is claimed to rank even higher than in the 1990s^{lvii}. The farmer in the hilly region mentioned that people want ecology and more extensive farming systems, and was thus planning to convert to organic farming. Further, the farmer in the lowland said he mainly grazed his cows because he believed the consumer wanted this. It was generally argued that people want milk from cows on pasture, and would be skeptical to imported soy from Brazil^{lviii}.

Article 104 of the constitution has a stabilizing effect on the directionality of the system. There are debates on every small aspect of the agricultural policy, but in the end, the constitution gives a frame and direction for the FOAG to work from^{lix}.

“It is defining the area where we should move, or the area where we are still allowed to work, and this is quite good. For example, this was the reason we could put forward this new program of Landscape Quality, because, we could say that until now, we haven’t made a good enough effort for this Article 104, so we need to do more. This was a strong argument”^{lix}.

The reform AP 14-17 was an attempt to come closer to the ideal in Article 104 and think of what instruments was needed to push the goal in its direction, and it was a good reason to argue for more specific payment for public goods^{lxi}.

3.2.4 Political forces

It was argued that the farmers lobby is an important force in the agricultural political world. It was even described as the strongest lobby in Switzerland^{lxii}. The lobby is made up of the agricultural sector and the conservative side of politics^{lxiii}. “[...] we have a parliament of around 200 people, and around 35 of them are farmers or near farmers. So, this is more than 10%, while in the population farmers are around 1-2%”^{lxiv}. The farmers lobby was perceived as pushing for more general payments with less conditions attached, and as being skeptical to the market oriented direction^{lxv}. They argue instead for increased food security through increased production. The farmers lobby heavily influence the debate, and live well on the Heidi myth ensuring them support from the population^{lxvi}. This group has been very important in ensuring the amount of money going to agriculture^{lxvii}. Informants from environmental NGOs worry that the farmers lobby is interested in stopping the reforms and going back to the

old system^{lxviii}. Since the sum of money going to agriculture is fixed, the lobby is not interested in all these new payments that demand more efforts from the farmers^{lxix}. The lobby supports a multifunctional system because they know that society wants this, but they try to make it as easy as possible for the farmers^{lxx}.

The Farmer's Union has launched an initiative for a referendum, which argue for a higher emphasis on food security and production in Article 104. This initiative was claimed to be "... *a wolf in sheep clothing*"^{lxxi} in which they argue to increase food security, but also want to reduce the focus on environment, the protection of water spaces and biodiversity. This focus on food security was judged as a tactical move, because it is hard to lobby against something that is in the constitution already^{lxxii}. If the Farmer's Union get majority in the referendum, they will be able to push for more price support and more protective policies.

The environmentally oriented lobby consist of groups or informants that want the system to pay for evident public goods. This group wants the agricultural political system to be even more targeted, and to cut the payments and measures that are slowing down the process or pushing for production. "*The new system was an improvement, but there is still a lot to do. It can be much more targeted. For example, moving money from food security to more goal oriented payments*"^{lxxiii}. It was claimed that increased production to ensure food security was somewhat of an illusion, because of the high imports of feed to the animal sector. Many thought that to become more targeted one needs to leave production to the market, and only have DP for public goods. Border protection increases the price for agricultural goods and thus stimulating production. On the other hand, it was also argued that since Switzerland is not competitive, border protection is still important to protect production and to keep multifunctionality alive^{lxxiv}. Another contrast within the environmentally oriented informants was the effect of small scale agriculture. While some argued that it was positive, others thought it pushed for intensification because farms could not grow. The environmentally oriented lobby were important in the shaping of reform AP 14-17^{lxxv}.

The FOAG gets its mandate in the constitution, and tries to make the policies go in that direction. It was argued that they are good at compromising, but also knows when to push for more targeted payments.

“We really try. I see that working in the government, we stay in contact with interest groups, we have a lot of workshops and meeting and so on, trying to find out how we can have a reasonable, efficient, and good agricultural system”^{lxxvi}.

The Vice-Director of the FOAG said that they strive for a balance between production and public goods. If the policies go too much to the extensive side, the FOAG should adapt the policies to ensure more production. Still it was argued that the administration has rather pushed for low-input systems^{lxxvii}. The administration wanted to make a counter initiative to the one of the Farmer’s Union, but the Federal Council did not approve it. If the Farmer’s Union initiative doesn’t get majority it will give the FOAG an opportunity to say that the people may support the direction that they are working towards^{lxxviii}.

The FOAG has been important in shaping the system. “[...], the goals are still set by the FOAG, by technocrats and experts”^{lxxix}. The proposals for the reforms are also made by the administration, and with the AP 14-17 reform they proposed a more targeted DP system inspired by the Tinbergen-rule^{lxxx}.

The reform, AP 14-17, as presented by the FOAG changed in the parliament. There was a big debate between the farmer’s lobby, the more environmentally oriented lobby and the cantons, which changed the original reform^{lxxxi}. The farmer’s lobby weakened the targets, and the mountain cantons and the environmental lobby made sure more money went from the lowlands to the mountains. The farmers wanted to protect the payment per cow, but the rest of the parliament wanted a change from the old system. Thus, a compromise was made, and the farmers managed to keep the amount of money, but lost the contribution per animal^{lxxxii}. The farmer’s lobby has been important in maintaining the level of support for agriculture, but it is the rest of the parliament that has pushed for demands following the payments, ending up in a more targeted system.

3.3 Is the Swiss agricultural policy system ensuring multifunctionality, according to key informants?

3.3.1 DP for environment or production

The payment for Food Security was a heavily discussed payment. It was criticized for just being an unconditional payment, only supporting farmer’s income^{lxxxiii}. “[...] you have to call

it food security because it is a public good, you can't call it support for farm income because that is not allowed in the WTO [...]^{lxxxiv}. This payment was further criticized for being a production incentive^{lxxxv}. An informant argued that even though the farmers now get the payments per hectare and less through the price of the product, the mentality of the farmers has not changed. *"[...] the farmers decide there is a lot of money on the farm so they produce a lot [...]"*^{lxxxvi}. The payment ensured higher investment on the farm, and the income support given by this payment was used to buy inputs to the farm. *"[...] these are indirect incentives to intensify production, to use land more intensive, to buy more concentrates etc. [...]"*^{lxxxvii}. One goes as far as to criticize all DP for being mostly income support, and the different goals as being just excuses to give this support^{lxxxviii}.

It was argued that it would be more targeted to shift more or all of the money to clear public goods, like environmental services^{lxxxix}. *"The Food Security Payments does not do terribly much for food security, and yet it is by far the most expensive payment we have"*^{xc}. Even though evident payments for public goods demand more from the farmer, it was argued to also support income. Production will not necessarily go down excessively, and it must be taken into account that there still is overproduction of milk in Switzerland^{xc1}. It was argued that the policies were going in in this direction; *"That is why since 2014, we now have a system where we have Biodiversity Payments, Landscape Quality Payments, Food Security Payments and all that. We are still on the way, we can still improve"*^{xcii}.

It was also argued that the Food Security Payment is still indirectly supporting food security through maintaining the entire system and the value chain. It was believed to be the basis for many farmers to survive, and gives incentives to maintain marginal land in production^{xciii}. *"And mainly in the mountain regions, without this system most farms would not anymore be there"*^{xciv}. Moving away from payments that are more "general" income support might mean that you cannot keep the family structure^{xcv}. It was argued that if one wants to protect the family farm it might mean to support production too. The Vice-Director of the FOAG also emphasized that ensuring a satisfactory level of production is part of the objectives as well.

Another aspect in the discussion on production stimulating payments, is how the payments are given. The first shift away from production stimulated payments was when the price support was removed and shifted to per hectare and per animal^{xcvi}. The next step was done in the AP 14-17, with the shift from payments per animal to payments per hectare. The main reason for this shift was to not stimulate production, or more specifically to remove the incentive to have more animals per hectare^{xcvii}. Animal density was argued to be high in Switzerland, especially

in the lower hillsides. It was also argued that there are too many animals in the Alps and that this was a big problem for biodiversity^{xcviii}. The payment per animal did not make sense for ecological reasons, because it led to overproduction, excess of nutrients, and import of feed. It made it economically profitable to increase the stock even though it increased feed costs^{xcix}. Still, the animal welfare payment and the grass based payment is paid per animal. This was criticized for stimulating a persisting high stock density.

3.3.2 Market orientation, as a tool and a goal

There is a general idea that opening the market will give an incentive for farmers to go more towards DP and focus on public good provision^c. Liberalization was argued to lower prices, which means that production will be less stimulated. High prices on the other hand, stimulates production and the use of inputs^{ci}. The decoupling of price and income policies, and the move towards payments for public services, has been essential to reduce the attractiveness to intensify agricultural production^{cii}. The price support, that has previously been argued as important for rural settlement and the income of mountain farmers, was now discredited for mostly having benefitted the big and intensive producers^{ciii}. It was also argued that DP is a more efficient tool to ensure income than market support, because the money goes directly to the farmer^{civ}. A combination of DP for public goods with a further liberalization of the production sector was argued by many as the most environmentally friendly way. Following the ideas from the reform in the 1990s.

The opposite was also argued “[...] *but in the end each farmer compensates the decay of price with more production. It creates an acceleration of the negative spiral*”^{cv}.

Some thought that opening is inevitable, and that it is not as such negative or positive. It is rather a challenge that needs to be handled, and if it is handled well it can be positive for many aspects, like ensuring public goods^{cvi}. Still things will change and some products will be under pressure, especially products that need a lot of work and that does not have added value.

A market oriented agricultural sector is also a political goal in itself^{cvii}, thus the competitiveness of Swiss products is important. The informants put forward two sides to being competitive in the Swiss context. One is the focus on value added products. Since production costs are high in Switzerland, added valued products were judged as the only way

to be competitive. Switzerland cannot compete on mass production and should therefore focus on developing premium products^{cxviii}. “[...] *this really high yielding cows based on concentrates, here we are not competitive, no way, we are not competitive*”^{cxix}. It was the combination of beautiful landscapes together with quality products, that could be sold to tourists. Added value of the Swiss cheese is good taste and grass based milk^{cx}. It was argued that Switzerland does produce high quality products, but that the marketing of these to the European markets should improve^{cxvi}. Although Switzerland has some competitiveness in high quality products, so does other countries like France. Values like animal welfare and low use of concentrate was put forward as marketable advantages. Competitiveness is also about reducing the price of products to be able to sell them if the borders are opened^{cxvii}. The decoupling of price and income policies was the first step^{cxviii}. It was also argued that Switzerland cannot be competitive unless they enter the European market, because this would lower production costs.

3.3.3 Balancing the goals and a targeted system

It was argued that the system is quite well balanced between the goals, considering how difficult this is^{cxviii}. The Vice-Director of the FOAG thought that the system had managed to maintain a productive agriculture and still go in the direction of more sustainability. However, the many contradictions and trade-offs in the system still has to be dealt with. “*If you want to have food security on one hand and biodiversity on the other hand you have to find some optimum level [...]*”^{cxv}. It was argued that the targeted system developed in Switzerland helped to resolve some of these trade-offs, and to find a balance between the goals.

With the reform, AP 14-17, the system became much more targeted towards the goals, with money shifting from food security to more targeted payments^{cxvi}. In addition, the reform tried to improve the programs to make them more result oriented^{cxvii}. “[...] *the system is more calibrated towards real performance in terms of multifunctionality and sustainability*”^{cxviii}. This forced the farmers to adapt their production to keep the same amount of money. Informants claimed that between one third to half of the payments are well argued and targeted. Even some of the income support in the form of Food Security Payments are good^{cxix}, because it ensures that farmers in more challenging areas also survive.

The Food Security Payment and the market support were still seen as not targeted, and as inefficient or as causing negative effects to goal achievement. Some even argued that reducing the amount of money going to agriculture was necessary to have a proper targeted

system^{cxix}. So, it was argued that the system could be more targeted^{cxxi}. The informants that made these arguments, saw intensification and increased production as something negative. An issue that arose with more targeted payments was the complexity of the system^{cxixii}. This means that farmers need more counseling and help to comply with the requirements of the payments^{cxixiii}. All the farmers interviewed mentioned that there were more controls and that the system was getting more complicated. It was argued that there is a threshold where more targeting will just be a burden and not support the goals better^{cxixiv}, and there was concern for transaction costs.

4. Discussion

4.1 How do key Swiss informants assess the achievement towards the goal of a multifunctional agriculture?

The informants seem to generally agree that the system is going in the right direction, towards the multifunctional goals in Article 104. Results show that Switzerland has strengthened its focus on multifunctionality both in discourse and policy, while Norway has weakened its focus the last years (Rønningen et al., 2012). Thus, informants were overall optimistic concerning the future of a multifunctional agriculture, but they also took a critical viewpoint on the level of goal achievement until now.

Informants' perception of farm income laying below average, is supported by statistics. The median farm income lies around 33% lower for the lowland, and 52% lower for the mountain region, compared to salaries of the secondary and tertiary sectors in the different regions (De Paola, 2015). Still, the average agricultural income gap is smaller in Switzerland than in Norway (Mittenzwei, 2010). Yet, informants generally agreed that agriculture remains attractive in Switzerland, pointing at the relatively lower structural changes in Switzerland compared to other countries. Norway has had higher structural changes, indicating that farming might be less attractive in Norway. However, this indicator's validity needs further exploration. Informants argued that the agricultural sector in Switzerland was attractive because of good living conditions, farmers' self-employment, and the satisfaction of working with animal and nature.

Swiss farmers have a higher usage of grassland resources, and a lower usage of concentrate feed, than farmers in neighboring countries. This also holds compared with Norway (see p. 8).

However, informants described Switzerland as a grassland country, and argued for further improvements. Norway can also be described as a grassland country, although not with the same optimal conditions as in Switzerland. Yet, the “logic” of grass based systems seems to remain in the discourse in Norway and lacking in the results (Landbruks- og matdepartementet, 2012; Tine Rådgiving, 2014). The difference in use of roughage versus concentrates was argued to partially be due to better natural conditions for roughage production in Switzerland. Informants further explained this difference by strong grassland traditions and knowledge. However, the tariffs on feed grains were also mentioned to have an effect. Tariffs increases the price of concentrates, making it less attractive to use. In contrast, Norway subsidizes concentrates in various ways, thus making it cheaper (Heiberg, Bjønness, & Vengnes, 2016; OECD, 2015).

Informants argued that strong per hectare payments had a positive effect on avoiding land abandonment in marginal areas, and argued that Switzerland is performing better than neighboring countries on this issue. Close to all payments in Switzerland is now given on a hectare basis, while Norway still pay contributions per animal (OECD, 2016c). Furthermore, Switzerland differentiates the Food Security Payment based on regions, and the Farmland Payment based on the likelihood that the land will be abandoned. One of Norway’s most important hectare payment, the Area and Cultural Landscape Payment (Areal- og Kulturlandskapstilskudd), is divided in two parts, the area payment is differentiated according to geographical zones, while the cultural landscape payment is equal for all regions (Landbruksdirektoratet 2016; Tenge et al.,2016). Tenge et al. (2016) carried out an evaluation of the Area and Cultural landscape payments in Norway, and compared it to EU and Switzerland. They suggested various payments that exist in EU and/or Switzerland to be considered in Norway, including support for marginal or less favored areas. This would go beyond the current payments linked to the geographical differentiation in Norway. Loss of land due to urbanization is seen as a bigger issue in Switzerland than land abandonment. A study from Dramstad et al. (2012) indicate that this picture is different in Norway, where loss to abandonment and forest regrowth seem to be the biggest issue. Still, loss to urbanization in Norway is argued to be more problematic, because it affects the high-quality land (Skog & Steinnes, 2016).

Preservation of biodiversity was the worst performing issue, according to the informants. Although the direction of the policies was judged as good, the results in terms of species were not showing progress. Previous research supports this, and shows a persisting downwards

tendency for red listed species (Office fédéral de l'environnement & Office fédéral de l'agriculture, 2016). However, another study show positive results for specific species in certain habitats (Jeanneret et al., 2010), something informants also mentioned. Measuring biodiversity is complex, and this study thus tried to get an impression of the situation through interviewing key informants. However, drawing conclusions is not possible, making it hard to compare with Norway. Still, other scholars indicate a comparable situation, with intensification and loss of agricultural land still threatening biodiversity (Engan, Bratli, Fjellstad, & Dramstad, 2008).

Landscape qualities were still present, but the policies were criticized for not having addressed this enough before the reform AP 14-17. The results after the reform was argued to have varying degree of success, and the measure was struggling to ensure regional specific measures in an otherwise federal system. It was emphasized that it was too early to evaluate the program, but a report by the administration argues that one can assume there will be an effect due to high participation and the precise targeting of the measures (Office fédéral de l'environnement & Office fédéral de l'agriculture, 2016).

Rural settlement was argued to be high, but agriculture was judged as having a decreasing role in upholding it. Data show that the number of people living in rural areas has gone up since the 1990s in Switzerland, thus supporting the assessment of the informants (The World Bank, 2016). In contrast, Norway has experienced a reduction. In Norway agriculture's role in upholding rural settlement can also be argued to be in decline, based on the decreasing numbers of people working in agriculture (Knutsen, 2007). However, agriculture's role in rural settlement is more complex, and can also be argued to play a role through associated sectors, like tourism, and through ensuring attractive cultural landscapes (Daugstad et al., 2006). The informants also emphasized this complexity.

In terms of sustainability, Swiss farmers have low in-put systems compared to Norway in regard to concentrates, and thus closer to Gliessman's (2007) requirement for minimizing external inputs. However, this must be seen in light of other inputs, such as chemical fertilizers. Biodiversity conservation on the other hand, cannot directly be argued to be better. Nevertheless, since loss of biodiversity is linked to loss of land and excess of nutrients in the system, one can hypothesize that Switzerland has seen a lower level of deterioration of biodiversity. Still, this needs further examination.

4.2 What is key informants' assessment of important factors and drivers impacting the goal of a multifunctional agriculture?

4.2.1 What is key informants' assessment on external factors and drivers leading up to today's system?

International trends have affected the development of Swiss policy. The emergence of multifunctionality, and the awareness of environmental issues in the Swiss population, developed as part of a rise in post-productivism in international policy (Bjørkhaug & Richards, 2008). Around the same time, international drivers pushed for liberalization (OECD, 2015), which to a large degree was accepted in Switzerland as a necessary move to remove production stimulation and ensure competitiveness. These two trends led the system towards liberalization and DP for public good provision.

One of the most important drivers mentioned by the informants, was the population's view of agriculture. The results show that this view has been relatively positive, combined with a strong focus on animal welfare and the environment. The informants argued that there was generally a high acceptance and understanding for the idea of multifunctionality in Switzerland. This was something the informants themselves illustrated through the interviews. Grossenbacher (2015) similarly show that both environmental concerns and animal welfare in agriculture are very highly regarded in the Swiss population, however showing a small reduction. Similarly, in Norway the population's support of agriculture is high, and public subsidies for agriculture is widely recognized (Blumentrath, Stokstad, Dramstad, & Eiter, 2014; Ipsos, 2016). Previous research show that a representative selection of the Norwegian population gave agriculture importance as a provider of public goods (Rønningen et al., 2004). However, there is need for a newer survey on this matter.

The population's view has been important in Switzerland through the vote on Article 104, which has given a clear mandate for the FOAG to push agriculture towards multifunctionality. Klepp (2007) similarly argues that the legitimacy given by this vote made the reform process easier. The role of the FOAG was described as important in shaping the system, and they were given credit for ensuring more targeted payments in the reform AP 14-17. In contrast, the Norwegian population has not been included through voting, because Norway does not

have direct democracy like in Switzerland. They have thus not been directly involved in setting the goals and the direction of the agricultural policies.

Another key factor shaping the policy system is lobbying, with the farmers' lobby as the most important one. They have been efficient in ensuring peoples' positive view on agriculture, and used this in the parliament to secure high support for the sector. This, together with the demand for public goods through Article 104, and the work of the environmental lobby, has greatly impacted the shape of the system.

The initiative of the Farmer's Union argues for a stronger focus on food security in Article 104. Informants worry that this is an attempt to go back to a narrower system, focusing more on production, and less on environmental issues. Rønningen (1994) found matching tendencies in 1994 where the Farmer's Union was accused for not wanting policy change, and for making weak environmental goals. The results also show that although the policy direction has changed, the mentality of farmers have remained production oriented. This illustrates that even though the discourse of post-productivism has been dominant in the policy arena, productivist mentalities remained on the farm level. Informants argued that the lack of pressure for liberalization has made the Farmer's Union grasp the possibility of pushing for border control and a stronger focus on production. If the initiative of the farmers gets majority, the FOAG will have to change the policies in the direction of the vote. This could lead to an emergence of neo-productivism in Swiss policy, which will pressure the goals of multifunctionality and public good provision (Almås & Campbell, 2012). Norway has already had a turn towards neo-productivism, which was legitimized by the food security argument, claiming that increased production is necessary due to a growing Norwegian population (Rønningen et al., 2012; Vinge, 2015). When the government changed to a conservative-right-winged coalition in Norway in 2013, there was also a discourse shift towards trade, capital-intensity of agriculture and deregulation of agricultural policy (Vinge, 2015). There is thus now a tension around how food security should be ensured, by a liberal direction or a more protective approach.

The food security argument is shallow according to critical informants, because it is not questioning how increased production should be achieved. Increased production could lead to more import of feed, which might be a threat to food security itself (Hageberg & Smedshaug, 2013). Further, food shortage globally is also about poverty and unequal distribution of food and production means (Rønningen et al., 2012), and equal distribution of production means is

important for sustainability (Gliessman, 2007). Furthermore, taking care of countries' ecosystems may be of equal importance to ensure sustainable food supplies in the future. High import of feed into a country or a system leads to more nutrients in the system, which can end up polluting water resources and lead to eutrophication (Battaglini et al., 2014; Vendramini et al., 2007). Informants raised concern for the capacity of the population to see this complexity.

All these claims about the Farmer's Union were made by informants not associated with them. Since the informant from the Farmer's Union was the first I interviewed, I could not challenge her with these claims. However, she did not give me a productivist impression of the organization.

4.2.2 Is the Swiss agricultural policy system ensuring multifunctionality, according to key informants?

The policy system has become more targeted towards the multifunctional goals in Article 104. Especially in the last reform, where informants argued that the system has become more focused on public good provision. Article 104 gives agriculture multiple roles, but it does not say how each goal should be weighted. The main concern is the trade-offs between production and environmental issues, two sets of goals that become increasingly difficult to combine as agriculture intensifies. Informants criticized the system for insufficient targeting because of the prominent level of less targeted support incentivizing production and not public goods. Interestingly, even though Switzerland seems to ensure multifunctionality better than Norway, the policy system is still heavily discussed, and the efficiency criticized.

Ensuring a multifunctional agriculture, means finding a balance between multiple goals. There was concern among the informants for the conflicts and trade-offs between these different goals, especially what is described as a competitive relationship between increased production and environmental issues in Switzerland. Romstad's et al. (2000) idea of complementary and competing relationships between goods is related to this. Extensively managed grasslands are credited for conserving biodiversity (Gibon, 2005). However, as production increased and becomes more intensive, the relationship between biodiversity and the production become more competing. Some informants saw the targeted system with DP for each public good as a way to deal with these trade-offs. This is in line with the Tinbergen-rule (Mann, 2005). It is also partially supported by Romstad et al. (2000), who is arguing that

the more conflicting the goals are, the more appropriate it is to pay directly for the public goods. Still targeting was problematized by informants, as leading to a complicated system and higher transaction costs. Romstad et al. (2000) further argues that the more targeted the payment, and the more payments one gives, the more transaction cost.

A major criticism from the informants was that the system still indirectly incentivized production excessively. The Food Security Payment was judged as too high; thus, farmers were not pushed enough towards payments for public goods. Quite the opposite, instead of incentivizing provision of public goods, the income support given through this payment, was criticized for indirectly stimulating intensification. Intensification increases the competitive relationship between private goods and some public goods, especially for those sensitive to in-puts (Romstad et al., 2000). It was thus argued by informants that payments should be increasingly linked to demands for management, and that income support would still be maintained through more targeted payments. Market support was also argued to not target public goods, but stimulating production. There was a general idea that more market orientation together with DP for public goods would be a possibility for farmers to focus more on provisioning of public good. Previous research suggests that this is a common argument, but that it does not hold if farmers' income fall below survival rates (Romstad et al., 2000). It also neglects the jointness and complementarities between production and public good provisioning. Still, Switzerland can be argued to have moved further away from production stimulation than Norway, due to the removal of payments linked to price and the number of animals (Mann & Lanz, 2013; Mittenzwei, 2010).

To become more competitive is also a goal for Switzerland. It involves lowering consumer prices, ensuring added value and communicating this to special market segments in Europe. Switzerland was argued to have high quality products, with cheese put forward as especially important. In Norway value added products have had a dramatic increase, both in consumer interest and sales the last 15 years (Vingen, 2015). These products are associated with values like; food based on local resources, environmental benefits, and tradition. The focus on value added products can be a way of using the market to support a multifunctional agriculture, because the added value can be the same as the public goods such an agriculture provides. In terms of lowering consumer prices, Switzerland has had a higher reduction in the gap between producer price and border price than Norway, and is in this regard closer to being competitive on the European market (OECD, 2016d, 2016e). However, the motivation behind increased

competitiveness in Switzerland did not seem to be to replace the support system, but that production should be increasingly managed by the market and public goods by the state.

Securing public good provision entails ensuring farming activity, but not any type of activity, because intensification can be a threat to the provision of public goods. It was argued by informants that agricultural activity is secured to a great degree in terms of structural change. However, they argued that only one third to half of the payments are targeted to the goals, and this was not seen as good enough. Compared to Norway, previous research shows that Switzerland has a much higher share of environmental DP of the total DP given (OECD, 2016b).

4.3 How valid and transmittable are the results to Norway

A general impression I had was that Switzerland performed better than Norway on certain criteria. This impression may have influenced the interviews, where I focused on trying to make the informants explain success, rather than failures. Still the informants were very knowledgeable on their fields, and had to a large degree capacity for critical thinking. I was also aware of this assumption in the process.

Switzerland is a much smaller country than Norway, and informants argued that the public transport systems is highly developed, making a large part of the rural villages within easy reach of more central areas. Thus, preventing land abandonment in marginal areas, and decline in rural settlement, seems to be a more challenging issue in Norway.

In the introduction, concern was raised about the goal achievement of agricultural policy schemes. Literature and media reports indicated that Switzerland is performing better than Norway in some domains. The results support this on some issues, however, the overall picture is more nuanced. The performance in terms of biodiversity conservation was especially criticized. Riksrevisjonens (2010) assessment of the Norwegian goal achievement, concluded that the overall objectives were not met. This failure has led to a move away from multifunctionality in discourse and practice (Rønningen et al., 2012), which is evident in the new White paper on agriculture (Landbruks- og matdepartementet, 2017). However, Rønningen et al. (2012) identify that the problem is in fact a lack of sufficient targeting to achieve the goals, and a lack of monitoring performance. Based on the findings in this study, I argue that Norway can draw experiences from Switzerland's focus on targeting the support towards goal achievement. Norway can learn, not in terms of copying the system, but in terms

of discussions on how to make the payments more goal oriented, with continuous evaluation of the performance, to reform if necessary.

To ensure goal achievement it is essential to have clear goals for agriculture. Switzerland has done this through the vote in 1996. Including the population was a powerful tool because it gave a clear legitimacy for the direction of the agricultural policy. This made it easier for the FOAG to move forward with a clear direction, with reforms every four years. Klepp (2007) argues similarly that the reforms have had a definite direction since the shift in strategy in the 1990s. In Norway, annual negotiations between the farmers' organizations and the government gradually changed policy instruments, but the overall agricultural policy system remains similar (Mittenzwei, 2010). I would thus argue that Norway could draw experiences from Switzerland's directionality and clear goals with high legitimacy in the population.

Even with defined goals, there are many approaches to achieve them. When developing a goal oriented system, one needs to consider the relationship between production and other goals, like biodiversity preservation. One possibility is to base the payments on the Tinbergen-rule, like in Switzerland (Mann, 2005). However, Swiss informants raised concern about the complexity of the system and the need to balance transaction cost and targeting. Transaction costs and the efficiency of the system is also a concern in Norway (Romstad et al., 2000). In contrast to the Tinbergen-rule, Romstad et al. (2000) argues that to stimulate an agricultural activity that increases the jointness or complementarity between private and public goods, could be rewarding in terms of transaction costs. Such a system would need less measures and less targeting. In this regard agroecological practices that ensures multiple functions of systems and elements might be a way to achieve this (Gliessman, 2007; Wezel et al., 2013). This alternative perspective to the Swiss direction of following the Tinbergen-rule could also be relevant for Norway, and highlights that one should not copy directly the Swiss model. Rather it can be a source for inspiration and spur debate in Norway.

Switzerland was argued to have managed to liberalize parts of the system without major structural changes and farm erosion, by shifting the support to DP. It could be interesting for Norway, to see if it might be possible to continue protecting agriculture despite market support decreasing. However, the specific context of Switzerland must be considered. The market support for Swiss cheese was removed, but Swiss cheese is seen as a quality product with competitive values. Further, the system still supports these producers through payments

for milk transformed to cheese (OECD, 2015). Also, the removal of the milk quota system was managed so that it was replaced with another type of organization. Furthermore, Switzerland still has a substantial level of market support (OECD, 2016d).

Production is also a goal in Norway as well as ensuring farmers in the whole country, thus some income support and production stimulation could be relevant. Romstad et al. (2000) argues that when a private good is not competitive, policy is necessary to ensure its delivery. Further, landscape and biodiversity cannot be disentangled from production completely because a stop in agricultural activity would certainly be a threat to both. Thus, some level of both production and/or income support together with payments for public goods can be beneficial as well (Romstad et al., 2000). Norway's agricultural system might benefit from a debate on the balance between payments that incentivize production and the goods directly joint to it, and the goods that have a complementary or conflicting relationship to it.

5. Conclusion and further research

There was general agreement among the informants that the political system in Switzerland is working positively towards the multifunctional goals in Article 104 of the constitution, and that multifunctionality has been strengthened both in discourse and policy since the 1990s.

In this study of Swiss multifunctional agricultural policies, the following aspects of multifunctionality have been focused; cultural landscape, rural settlement, farm income, and use of grassland resources. Despite farm income being below average, agriculture was still claimed to be an attractive sector, due to factors such as an attractive lifestyle, being self-employed, working with animals and nature, and living in scenic landscapes. The utilization of grassland resources in the ruminants' diets was judged as performing well, though it was argued that Switzerland could be even more grass based. Policy was argued to have influenced a decrease in land abandonment, which was perceived as lower than in neighboring countries. Urbanization was however described as a more severe problem. Regarding preservation of biodiversity, and aesthetical values in the cultural landscapes, informants argued this was not successful. However, there was optimism that this would improve with the latest policy reform. Rural settlement is in fact increasing in Switzerland, but agriculture was not seen as the most crucial factor for this. Even relatively marginal and

peripheral mountain regions become more central in Switzerland, due to a good collective transport system in this small and compact country.

An international push for liberalization and increased focus on environmental issues affected Swiss policy in the 1990s, according to Swiss informants. The focus on environmental issues has been important in the population, and this was central in the vote on Article 104 in 1996, which gave the administration a clear mandate for pushing agriculture towards multifunctionality. The informants pointed out that the population's high regard for agriculture together with a strong farmer's lobby has ensured a high financial support for agriculture. This, in addition to the demand for public goods through Article 104, and the work of the environmental lobby, has shaped today's system.

The Swiss policy system was seen to have become more targeted towards the multifunctional goals in Article 104, especially due to the last reform AP 14-17, where each goal got each their instrument and payment. However, ensuring a multifunctional agriculture, means finding a balance between the multiple goals. There was concern among the informants about the conflict and trade-offs between these different goals, especially the trade-offs between increased production and environmental issues. The targeted system with direct payments (DP) for public goods was argued to be a good way to deal with these trade-offs. Still, a major criticism of the Swiss policy system was the production incentives from the Food Security Payment and the market support. The informants believed that a further move towards the European market, together with DP for public goods, would be a possibility for farmers to focus more on public good provisioning and move further towards multifunctionality.

Becoming more competitive was also described as a goal for the Swiss system, and involves lowering consumer prices, ensuring added value, and communicating this to special market segments in Europe. However, the motivation behind increased competitiveness was not to remove the policy system, but was rather seen as a tool and a necessity.

Although my results deal with the Swiss agricultural policy situation, the findings can be related to Norway. Norway could learn from Switzerland's directionality towards goals with high legitimacy in the population. Further, Norway could learn from the Swiss experiences; not in terms of copying the system, but in terms of discussions on how the payments can become more goal-oriented. Switzerland was argued to have managed to liberalize parts of the system, without causing major structural change, by moving the support to DP. It is interesting for the Norwegian case to see that it might be possible to continue protecting

agriculture, although market support decreases. This could challenge established perceptions and spur debate.

This study has had a wide perspective on the Swiss agricultural policy system and the goal achievement in terms of multifunctionality. A more detailed comparison, focusing on each of the issues; cultural landscape, rural settlement, farm income, and use of grassland resources, is needed both in terms of goal achievement, and the specific drivers and factors that have led to differences between Norway and Switzerland. Furthermore, agriculture's role in upholding rural settlement needs to be examined more closely, especially the complex role might play through associated sectors and by providing scenic cultural landscapes.

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Appendix 1: Theoretical propositions for the second research question

The Swiss system has moved towards the goal of a multifunctional agriculture...

- ... because the subsidy system is less contrasting and more all pushing towards the same goals.
- ... because of cultural reasons such as demand for high quality in the society and general demand for Swiss goods.
- ... because there is more money going towards concrete agricultural goals (targeted payments) instead of general agricultural support.
- ... because the article on agriculture in the constitution has given stability to the goals and directionality to the system.

Appendix 2: Request for participation in research project

"Comparing Swiss and Norwegian agricultural politics. What can Norway learn? "

Background and Purpose

I am a Norwegian master student at the Norwegian University of Life Sciences writing my thesis on Norwegian and Swiss agricultural politics. Norway and Switzerland share many of the same multifunctional objectives for their agricultural policies. I am looking into what Norway can learn from Swiss experiences when it comes to achieving agricultural political goals. I am looking at the goals of preserving cultural landscapes, using grassland resources, upholding farm income and ensuring rural settlement. My research is done in collaborations with Norwegian Centre for Rural Research.

The informants are selected because of their knowledge and insights into the topic. They have been found through key contacts, internet searches and literature, and thereafter through the snow ball effect.

What does participation in the project imply?

It implies a one hour long interview, in a semi-structured style. Only public information about the informants from official web pages or published work has been collected in advance. The questions will concern their knowledge and insight about goal achievement in the Swiss agricultural system. If given consent I will use an audio recorder and take supporting notes.

What will happen to the information about you?

All personal data will be treated confidentially. I will be the only one having access to personal data. Audio, notes and transcript of records will be kept separate from names and other personal data. The participant will not be recognizable in the publication unless they have specifically agreed to it.

The project is scheduled for completion by 15th of May 2017. At that point, the name list will be thrown away and if allowed by the university the recordings will be deleted. If not deleted they will be anonym without any matching name list.

Voluntary participation

It is voluntary to participate in the project, and you can at any time choose to withdraw your consent without stating any reason. If you decide to withdraw, all your personal data will be made anonymous.

If you have any questions concerning the project, please contact:

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Co-master advisor:

Katrina Rønningen

Science leader for Environment and Resources / senior researcher / Dr. polit Geography

Norwegian Centre for Rural Research

Consent for participation in the study

I agree that the researcher of this study can use direct quotations from this interview

I wish to see and approve the direct quotations before they are published

I agree that personal information may be published (name, workplace, etc.)

I agree to have the interview audio-recorded

I have received information about the project and am willing to participate:

(Signed by participant, date)

Appendix 3: Interview guide

(0) Introduction

Like it said in the e-mail I am a master student from Norway, comparing Swiss and Norwegian agricultural policies. I am here in Switzerland to look into the Swiss agricultural political goal achievement on the topics of preserving cultural landscapes, using grassland resources, upholding farm income and maintaining rural settlement. These are important objectives for Norwegian agricultural policies. Literature, media reports (and preliminary findings) show me that Switzerland perform good on these issues, but I would like to look deeper into this. Further I want to learn more about why this has been achieved to draw lessons for Norway.

→ *Give them the information letter*

Do you have any questions before we start the interview?

(10 min)

→ *Start recording*

First I would like to ask some questions regarding your work.

(1) Background questions

1. What is your experience or role in the agricultural sector?
 - a. current job?
 - b. education?

(10 min)

(3) *How is Switzerland performing in relation to farm income, cultural landscape preservation and use of grassland resource compared to Norway.*

1. How does a farm income compare to an average salary in Switzerland?
 - a. To compare farmer's income with the average salary, should it include both income from and outside the farm?
 - I. If yes, why?
 - II, If no, why not?
 - b. Is an increasing part of farmers' income coming from outside the farm?
 - I. Yes/no, how do you think this affects the future of farming?
 - c. What are the main instruments that would ensure an economically sustainable farm income?

- d. How is the farm income between the lowlands and the mountain regions?
 - I. What are the main instruments that would ensure an equal income between farmers?
2. How is Switzerland performing in relation to preserving cultural landscapes?
 - a. Have political measures been effective to preserve biodiversity?
 - b. How about loss of agricultural land to urbanization and abandonment, is this considered a problem?
 - a. If yes, has political measures been effective to prevent loss of agricultural land to urbanization and abandonment?
 - b. If no, what are the reasons that it is not seen as a problem?
 - have political measures been effective to prevent loss of agricultural land to urbanization and abandonment?
3. How is Switzerland performing in relation to use of grassland resources compared to concentrate feed to ruminants?
 - a. Is the situation different in the lowlands compared to the mountain areas?
 - b. What is the reason for the current levels of concentrates fed?
 - I. What is the price difference between using concentrates and grass?
 - What makes it so?
 - II. Are there other reasons for the current levels of concentrates fed?
 - If yes, how has this been achieved?
 - If no, then why is the level such as it is?
4. To what degree has rural settlement been upheld?
 - a. What is the role of agriculture in upholding rural settlement?
 - b. Why is the level such as it is today?
 - b. What has been done to ensure it?

(4) What are important factors in the Swiss high goal achievement when it comes to preserving cultural landscapes, using of grassland resources, upholding farm income and ensuring rural settlement (Or a multifunctional agriculture)?

1. What do you see as the greatest successes in the Swiss system, in terms of rural settlement, preserving the cultural landscape, use of grassland resources and upholding farm income (or a multifunctional agriculture)?
2. What do you see as the greatest challenges to achieve the above goals (or a multifunctional agriculture)?

(In relation to Norway, Switzerland perform better when it comes to keeping agricultural land from going out of production (2% vs. 4% of the land going out of production), has better farm income in relation to the rest of society, is using grassland resources instead of concentrate feed for ruminants to a greater degree (3 times less concentrates), and has a higher % of people settled in the rural areas).

The achievements that has been made (based on what they mentioned), within these four issues (or a multifunctional agriculture), ...

3. ... what is the main reasons for this achievement? (let pause)
4. How targeted would you say the subsidies are?
 - a. How has this affected the goal achievement?
5. To what level would you say the subsidy system is pulling in the same direction?
 - a. How has this affected goal achievement?
6. How has the division of lowland and highland priorities affected agriculture?
 - a. How has it affected the goal achievement?

b. With the deregulation and removal of milk quotas – what have the effects been or expected effects?

I. What has been done to prevent that this deregulation does not lead to negative consequences?

7. What role has the cantons played in Swiss agricultural politics?

a. How has this role affected the goal achievement?

8. How is the Swiss population's view on agriculture?

9. What role does the constitution on agriculture have?

a. How has this played a role in the goal achievement?

10. What role does the constitution on agriculture have?

a. How has it affected the goal achievement?

Can you say something about what trends you are seeing related to the topics we have discussed?

(5) Ending

Do you have any questions to me?

Is there anything you would like to add, that I have not touched upon?

Thank you! And I hope we can keep in contact over e-mail.

Appendix 4: Key informants background

Government:

- The Federal Office for Agriculture (FOAG)

- Federal Office for the Environment (FOEN)
- Canton of Zurich, Building Directorate, Office of Landscape and Nature, Agriculture department

Special interest groups:

- Swiss Foundation for Landscape Conservation (SL-FP)
- Vision Agriculture
- Avenir Suisse
- The Agricultural Alliance (Alliance Agraire)
- BioSuisse
- The Consumer Federation of Romande (La federation Romande des consommateurs)
- Swiss Ornithological Institute, Project Division "Promoting birds"
- Representative from the Swiss Farmer's Union (USP)

Reserachers:

- Swiss Biodiversity Forum
- ETH Zurich, Agricultural Economics and Policy Group
- Federal Department of Economic Affairs, Agroscope, Institute for Sustainability Sciences ISS
- ZHAW, School of Life Sciences and Facility Management

Extension services:

- AGRIDEA, Environment and Landscape

Farmers:

- Cow milk farmer in the mountain region of the canton St. Gallen.
- Cow milk farmer in the plain region of the canton Thurgau.
- Cow milk farmer in a hilly region of the canton Jura.

Appendix 5: Reflection chapter

The process

Already in the first year of the master I started to think about topics for my thesis. I hoped to find this as soon as possible to be able to prepare in good time. Through, a special syllabus with requirements to write a thesis proposal, I pushed myself to make a good plan already the first spring of the master. Since this was done by summer, I could plan the field work for

August/September before the third semester began. As this is a 30 ECTS thesis I had classed in the fall, but got started with my transcription nonetheless. Getting started this early made it possible for me to handle 23 interviews. The last semester of the Master I dived into it, and worked with it from my office spot at the Norwegian Center for Rural Research, which has been a valuable academic resource. The atmosphere and the facilities at the research center has been a great support.

Things I will bring with me

At the end of this year I will take over a small goat farm in a narrow valley by the Sognefjord. In this village agriculture and its multifunctionality has been very visible and had impact on the rural development. The cultural landscape in the region is protected and cherished by locals and visitors from all over the world. I hope to be able to ensure these values both through farming and hopefully through other relevant jobs in the region. My insights on how to deal with trade-offs and conflicts between the different goals of multifunctionality will be of great help.

The process of doing research has given me many new tools that will be useful further in life. The knowledge on how to handle data and process it in an ethical way is relevant for many jobs. Also, the experience from interviewing key informants in Switzerland has given me confidence in my abilities.

I now look at Norwegian agricultural policy in a new light. I have realized that many of my ideas around agriculture has never been challenged to this degree. I now see there are alternative ways to support agriculture and its multifunctionality. An example is the strong market support in Norway. Although I have not come to any personal conclusion on what is right for Norway, the Swiss example shows that it is possible to decrease it without a dramatic structural change and loss of multifunctionality. Liberalization can be positive, if one compensates and protects the values and goals in other ways.

What would I do differently

Having 23 interviews is a strength, but I realize that I could have been a bit more time conserving. Many of the informants I contact were eager to meet me, so I wanted to interview as many as possible during my 2 week stay in Switzerland. Still, I could have chosen to do fewer interviews to make the workload more within a normal 30 ECTS master. Learning how to manage your time and energy is also part of being a good researcher. I could further have

exchanged some of the more similar informants with views I did not cover. Informants with a background in agronomy was missing, as well as politicians.

I did not record the farm interviews because the setting did not invite it, as we were mostly walking around the farms. Still, in hindsight I would have used the recorder, because it would have made it possible for me to use more of the information given by the farmers. Even though it might be awkward at first, informants generally seem to forget about the recorder rather quickly.

If I had more time (if I had done a 60 ECTS) it would have been interesting to discuss the ideas behind food security. How different values and ideas has been behind this term depending on who has used it and in what time in history (Vinge, 2015). In its more productivist form, it would be interesting to contrast it to food sovereignty. Further, it would have been interesting to have even more time to contrast my findings to the Norwegian situation.

Endnotes

- ⁱ FOEN, FOAG, FOAG
- ⁱⁱ USP
- ⁱⁱⁱ FOAG, vice
- ^{iv} Vision Agriculture, SL-FP, BioSuisse
- ^v USP, Agroscope, FOAG
- ^{vi} FOAG, vice
- ^{vii} Agroscope, ZHAW, ETH
- ^{viii} FOEN
- ^{ix} FOAG
- ^x Agroscope, BioSuisse, FOEN, Swiss Ornithological Institute
- ^{xi} FOAG
- ^{xii} Agroscope, AGRIDEA
- ^{xiii} ETH, Swiss Ornithological Institute
- ^{xiv} ETH, Canton of Zurich, Swiss Ornithological Institute, BioSuisse, USP, FOAG, Agroscope, SL-FP
- ^{xv} ETH
- ^{xvi} SL-FP, FOAG vice, Swiss Biodiversity forum, The Consumer Federation of Romande; Agroscope
- ^{xvii} Agroscope, Canton of Zurich, Swiss Ornithological Institute, BioSuisse, USP, FOAG, AGRIDEA, Agroscope, FOAG
- ^{xviii} FOAG (two informants)
- ^{xix} USP, FOAG, ETH
- ^{xx} USP, Agroscope
- ^{xxi} Swiss Biodiversity Forum
- ^{xxii} Canton of Zurich
- ^{xxiii} FOEN, Avenir Suisse
- ^{xxiv} Swiss Biodiversity Forum
- ^{xxv} Swiss Biodiversity Forum
- ^{xxvi} Swiss Ornithological Institute
- ^{xxvii} ETH
- ^{xxviii} SL-FP
- ^{xxix} ZHAW
- ^{xxx} FOAG
- ^{xxxi} AGRIDEA
- ^{xxxii} FOAG
- ^{xxxiii} SL-FP
- ^{xxxiv} AGRIDEA
- ^{xxxv} AGRIDEA
- ^{xxxvi} FOAG,
- ^{xxxvii} USP, FOAG
- ^{xxxviii} SL-FP, FOAG
- ^{xxxix} FOAG
- ^{xl} SL-FP
- ^{xli} FOAG, Agroscope
- ^{xlii} Avenir Suisse
- ^{xliii} FOAG
- ^{xliv} FOAG, FOEN
- ^{xlv} FOAG vice, ZHAW, SL-FP
- ^{xlvi} ZHAW
- ^{xlvii} FOEN, FOAG; Avenir Suisse
- ^{xlviii} USP
- ^{xlix} USP, FOAG vice
- ^l FOAG,
- ^{li} The Consumer Federation of Romande
- ^{lii} SL-FP
- ^{liii} SL-FP, FOAG
- ^{liv} Swiss Ornithological Institute
- ^{lv} Swiss Biodiversity Forum, FOEN
- ^{lvi} Agroscope

lvii Swiss Ornithological Institute
lviii FOAG vice, USP
lix FOAG (two informants)
lx FOAG
lxi AGRIDEA; Agrocope
lxii Avenir Suisse
lxiii FOAG vice
lxiv Canton of Zurich
lxv FOAG vice
lxvi SL_FP
lxvii ETH
lxviii Swiss Ornithological Institute, SL-FP
lxix FOAG vice, SL-FP, ZHAW
lxx FOAG
lxxi SL-FP
lxxii FOEN
lxxiii SL-FP
lxxiv Agrocope
lxxv Organizations like the SL-PF, Vision Agriculture and the Allianz Agraire
lxxvi FOAG
lxxvii USP
lxxviii ETH
lxxix ETH
lxxx Agrocope
lxxxi FOAG vice
lxxxii Agrocope
lxxxiii SL-FP
lxxxiv FOEN
lxxxv ETH
lxxxvi BioSuisse
lxxxvii Agrocope
lxxxviii Avenir Suisse
lxxxix ETH, Ornithological Institute, Agrocope
xc Agrocope
xci Agrocope
xcii Agrocope
xciii Agrocope
xciv Vision Agriculture
xcv ETH
xcvi SL-FP
xcvii SL-FP
xcviii ZHAW
xcix FOAG
c FOAG vice, ZHAW
ci Vision Agriculture
cii FOEN
ciii FOEN
civ Agrocope
cv SL-FP
cvi BioSuisse, Agrocope
cvii FOAG vice
cviii SL-FP
cix ZHAW
cx FOAG vice, BioSuisse
cxii Agrocope
cxiii USP
cxiii FOEN
cxiv FOAG vice, SL-FP, ETH, Swiss Biodiversity Forum
cxv FOAG
cxvi SL-FP, USP

cxvii FOAG
cxviii Ornithological Institute
cxix SL-FP
cxx Vision Agriculture
cxxi Swiss Biodiversity Forum, Agroscope, Ornithological institute, BioSuisse, FOAG
cxxii SL-FP
cxxiii SL-FP
cxxiv ETH



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