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Analysing the greening measures of CAP reform 2014-2020, through the agriculture stakeholders' perceptions

– A Swedish Case Study

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Foreword

My two years as a program student of Masters in Agroecology has seen many firsts. This was my first time out of my country, my first exposure to a wider international community, and also my first foray into a field of study which, as of today, stands diametrically opposite to my background in natural sciences and biotechnology. There were many reasons why I chose this program, my desire to interact with people especially farmers and growers working on the ground, my passive understanding of viewing a problem from different perspectives, my vague understanding of political nature of agricultural advancements and malfunctioning of food system in India; and the desire of doing something different from my background but which still was grounded in my interest in agriculture. This study presented here, is also one of those firsts, attempting at widening my scope of understanding the complex system of agriculture and its sustainability issues further through policies.

Agroecology, has definitely broadened my intellectual horizons. The initial understanding of viewing a problem from different perspectives, which I now consider as multi-disciplinary thinking, has developed into a richer concept of 'systems thinking'. A concept that has helped me accept that a single issue can be influenced by various factors and constantly reminded me of the *interconnectedness* within a complex system, such as an agroecosystem. This has made me a firm believer of *holistic thinking*. However, to understand the nuances of holistic thinking and how to apply it while studying the complex issues related to agriculture sustainability, needs a lot more practice and years of experience. The enthusiasm to continue this learning experience is what I will be taking with me at the end of the day. Studying agroecology has developed my instinct to think critically. This has, at times, proven to be challenging; either due to my reductionist educational background, professionally, or reflecting and thinking too critically about issues pertaining to agriculture and beyond, as a beginner, personally. However, I see this as my *learning cycle*, where I experiment, experience, reflect, conceptualize and experiment again, and I see this study which started six months ago, also, as an example of this learning cycle.

Although this study does not directly focuses on agroecology, it uses the concepts and discusses practices agroecology is based on and advocates, while addressing agriculture sustainability issues. Since policies influence greatly as to how agriculture is practiced, it is important to study the reforms brought in to address the issues of agriculture, and also to see those reforms from the perspectives of the people involved in agriculture. This thesis is an attempt at studying the Common Agricultural Policy and in extension an attempt at comprehending the crucial role of policy in agriculture in Europe.

Swathi Chaganty

27th May, 2016.

Abstract

The aim of this study was to understand the perceptions held by the Swedish stakeholders on the greening measures established in the new Common Agricultural Policy (CAP) reform 2014-2020. The study used the concepts of constructivism; 'what's the problem represented to be', policy analysis tool as a framework; and finally viewed the greening measures and the related components of the reform from a broader perspective of agriculture sustainability discussed by Stuart Hill. A total of eight semi-structured interviews were conducted with stakeholders from across the board. Most of the stakeholders were at some capacity involved in the CAP reform negotiations or formulation at European Union (EU) and Member State level. During the analysis it was relevant to divide the stakeholders into 'production oriented' stakeholders: Jordbruksverket, LRF, Hushållningssällskapet, Greppa Näringen and 'environment oriented' stakeholders: SSNC, WWF Sweden and Ekologiska Lantbrukarna. One of the drivers for this reform was the 'problem' of biodiversity loss witnessed in farmland of EU whereas socio-economic challenges were a priority for Swedish Agriculture stakeholders. In order, to address the problem of biodiversity loss, the European Commission, developed the concept of broad based, mandatory greening measures to be implemented all across the EU.

The study concluded that the 'production oriented stakeholders' of Sweden believed that the greening measures would have a marginal impact on the current environment of the Swedish Agriculture. There was a sense of acceptance that enough is being done in Sweden in terms of environmental action in agriculture in comparison to other countries of EU and were therefore, indifferent and critical towards the objectives and complex implementation process of the greening measures respectively. On the other hand, the 'environment oriented stakeholders' of Sweden were very critical of the greening measures such as Ecological Focus Areas (EFA). Lack of clear objectives of certain greening measures; different geographical context of Sweden and need for context specific environmental measures; and the complicated implementation process of greening measures; were the reasons for this perception. From agricultural sustainability perspective defined by Stuart Hill, the study identified that certain elements of 'shallow sustainability' were adopted in the reform. It had an intent of moving towards further sustainability for instance, by bringing in crop diversification and EFA and attempting at 're-designing the agroecosystem'. However, it did not move towards further sustainability and stood somewhere in between 'unsustainable practices' and 'shallow sustainability' due to the greater influence of 'production oriented' values at EU level. Therefore, the importance towards 'production oriented' values held by the 'production oriented' stakeholders of Sweden - which were similar to the values held by the major EU level stakeholders during the policymaking process leading to dilution of the reform; in comparison to the 'environment oriented' values held by the 'environment oriented' stakeholders of Sweden affected how the CAP reform 2014-2020 was perceived in Sweden.

Keywords: CAP, greening measures, agriculture stakeholders' perception, biodiversity loss, sustainability.

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Abbreviations

AEM	Agri-environmental measures
ANC	Areas with Natural Constraints
BPS	Basic Payment Scheme
CAP	Common Agriculture Policy
CBD	Convention on Biological Diversity
EAP	Environmental Action Programme
EC	European Council
EFA	Ecological Focus Areas
EP	European Parliament
EU	European Union
GATT	General Agreement for Tariffs and Trade
GM	Greening Measures
MEP	Members of European Parliament
MS	Member States
P1	Pillar 1
P2	Pillar 2
RDP	Rural Development Programme
SSNC	Swedish Society for Nature Conservation
WPRB	What's the Problem Represented to Be?
WTO	World Trade Organization
WWF Sweden	World Wild Life Federation Sweden

Introduction

Agriculture in today's world is a complex and highly interconnected system. It has far reaching effects in terms of environment, economy and trade, social well-being, nutrition and health at local, regional, national and international levels. In addition, agriculture constantly affects and is affected by the policies made in relation with it. This is visible ever so clearly in the Western Hemisphere, especially in Europe, where the need for productivity, had encouraged agriculture, to focus on producing high yielding crops, use of chemical fertilizers to improve the yield, use of pesticides and insecticides to avoid crop waste and on-field food loss, and was made highly efficient with use of fossil fuel run machinery used on field and in long distance transport to fulfil the demands of international market, in today's highly globalized world. This had an impact on the environment, social and economic aspects of the region such as biodiversity loss, soil degradation (Commission, 2011c), decrease in water quality (Commission, 2011g), reduction in farming communities and increased rural-urban economic gap (Papadopoulos, 2015), indebtedness due to high cost of production (Farshad, 1993), respectively.

A massive ecological footprint of agriculture has been observed across the globe. Almost one third of the terrestrial land area is under crop production and pasture lands, 10-20% of the land is under livestock production while the world's 25 biodiversity hotspots hosts a sizeable population of farmers within its territories. The conversion of forests, wetlands and natural vegetation into agricultural lands is a commonly known initial step of intensive agriculture production (Scherr, 2008). 180 million ha of European Union (EU) landscape is under agricultural occupation of which, 103 million ha were arable land, 65 million ha of permanent grasslands and 12 million ha of permanent crops, in total amounts to 45% of the EU-27 land area, according to FAOSTAT 2005 in (Henle, 2008). The agricultural landscape within EU is varied depending on its geographic and climatic conditions and thereby has varying levels of biodiversity related to it. Landscapes such as of high nature value farmlands and mountainous regions of EU-27 occupy more than 20% and 16% of agriculture respectively and contribute to the biodiversity (Commission, 2011g).

Biodiversity since ages has been changing with the influence of human activities related to agriculture and domestication of animals. Historically natural landscapes of Europe have changed to semi natural landscapes of wood pastures and meadow lands which had to some extent brought in species richness and diversity (Poláková, 2011). These are the extensive and traditional agricultural production systems of EU (Henle, 2008). However, with expansion of modern agriculture and other forms of rural and urban development has led to decrease in these traditional and extensive agricultural systems in EU (ibid). This expansion had led to fragmentation of habitats whose continuity in landscape is very essential for wildlife. Land-use change and degradation is another cause of loss of biodiversity and 5% of bog land, 2.6% of extensive agriculture land, 2.4% of natural grasslands have decreased while there has been an increase in artificial surfaces such as water bodies (4.4%), urban and industrial areas (7.9%) and forest regeneration (12%) (Condé, 2010). The use of pesticides and insecticides has had a negative impact on beneficial insects and wildlife that promote pollination and biodiversity among the fields (Scherr, 2008); birds in farmlands have been on

a decline at an alarming rate in many Member States (MS) despite heading towards stabilization since 1996 (Commission, 2011g; Commission, 2011e); excessive use of agrochemicals have led to formation of dead zones and problems of eutrophication most famously, in the Baltic Sea in EU greatly endangering the aquatic life (Scherr, 2008). All these indicate the loss of the biodiversity at each trophic level, such as butterflies, earthworms, beneficial insects and farmland birds (Poláková, 2011).

To deal with this decline many directives, conventions and policies were established over the decades in EU. The Habitat and the Birds Directives are central to EU's efforts in biodiversity and environmental preservation. It is under the prior mentioned Directives that, *Natura 2000* and similar biodiversity conservation and environment related policy institutions and instruments have been established over the years. These efforts started in, 1979 in EU and was widely recognized with EU ratifying Convention on Biological Diversity (CBD) in 1992 (Baker, 2003). EU through its past Common Agricultural Policies has also been reviewing its policies, at some capacity, in a bid to ensure the long term environmental sustainability of agriculture. Common Agricultural Policy (CAP) reform 2014-2020, is a step in that direction (Commission, 2011c; Commission, 2010c) and its proposed greening measures which attempts to address this problem, is the key subject of this study.

Problem Background

Failing to meet the target of reducing the biodiversity loss by 2010, the European Commission presented a new target for 2020 (Allen, 2013). The European Council (EC) had, in order to monitor the progress of the set target for 2020, addressed the need for a baseline which could be used as a reference. This EU 2010 Biodiversity baseline, showed that species extinction is still of primary concern with “25% of marine mammals, 15% of terrestrial mammals, 22% of amphibians, 21% of reptiles, 16% dragonflies, 12% birds and 7% butterflies are threatened with extinction at EU level” (Condé, 2010). This baseline also declared that mammals and birds of European interest that were linked to the agroecosystem, 25% and 42% of them were threatened. Other indicators affecting biodiversity according to the Biodiversity Baseline report were invasive species, impacts of climate change, agriculture (ibid). The focus on stopping the biodiversity decline and attempting at restoring in some places is majorly because “biodiversity and ecosystem function are inextricably linked” (Butler, 2007) and it is highly essential to have a functioning ecosystem services in order to receive provisioning services such as food production (Benayas, 2012). Various species at every trophic level that make up the biodiversity, and the interaction between them and the surrounding abiotic world at farm level or in different habitats provides with ecosystem services (Chapin, 2000). Examples of ecosystem services varies on the basis of the organisms involved. These services could be; pollination brought about by pollinators and beneficial insects and birds (Poláková, 2011); it also includes improving soil quality (soil organic matter, soil carbon content, soil nitrogen content) with the help of diverse microbial communities (Perry, 1989); or maintaining ground water table and water retention capacity or other local hydrological processes with the help of diverse above ground plants and tree species and nutrient recycling (Altieri, 1999). Species diversity is known to reduce invasions;

either pest invasions at plant or in agriculture habitats (Chapin, 2000) or different invasive species in other relevant ecosystems which the Baseline report and other studies indicated was also a problem due to declining biodiversity (Condé, 2010).

This background from environment point of view; the economic crisis of the recent years and the pressures it laid on the Member States and the EU budget on the whole; and finally, the need to prepare for the Europe 2020; were the drivers for the new CAP reform. European Union's growth strategy for 2020, focused on smart growth, sustainable growth and inclusive growth with the targets to be achieved by 2020 (Commission, 2010b). The new CAP reform needed to imbibe the same values and have similar goals as the EU Strategy to achieve the objectives of the former (Commission, 2010c). The CAP reform post 2013 also known as CAP 2014-2020, came after the Commission declared a public debate in order to address environmental and socio-economic targets for future CAP. The public debate that ended in 2010 witnessed several view points on the future of CAP. The participants of this debate were think tanks and research institutes, farmer organizations, environmental organisations related and not related to agriculture sector (Commission, 2010a). Issues raised by different stakeholders were food security; innovation; European farmers competitiveness; the need to support farmers' contribution to public goods (such as conserving biodiversity and cultural aspects of rural landscapes); to compensate farmers based on achievements; the need to retain rural communities and encourage economies (ibid). In an attempt to answer and implement these diverse, and in part conflicting viewpoints in the context of the economic and environmental conditions of Europe, the Commission came up with various measures and policy instruments within the CAP's two pillars and presented its legislative proposal. These ranged from providing simple flat rate payment systems to initiating active farmers' scheme in Pillar 1 (P1) measures to changes in Pillar 2 (P2) measures and in the Rural Development Programme (RDP).

The proposed greening measures, as part of the direct payment scheme, invited the strongest reactions from stakeholders all across Europe (Bureau, 2012). These reactions created two camps, farmers' organizations on one hand and environmental organizations (governmental and non-governmental) on the others. During the negotiations the farmers' organisations were critical of the objectives of the greening measures and the environmental organisations were interested in such a further environmental integration of CAP. Some environmental organisations were weary of certain elements of the greening measures and feared watering down of the reform proposals. In the final version of the new CAP, the European Parliament (EP) tried to address these different perspectives, which was considered by some, as dilution of an ambitious proposal (Pe'er, 2014).

Purpose of the Study

In the present study I aim "to study the perception of the CAP reform 2014-2020 from various stakeholders' point of view in Sweden's context" I am drawing on 'what is problem represented to be' framework (WPRB) of Carol Bacchi (2009). The following research question and the sub questions were formulated to help understand the Swedish perception on the greening measures of CAP reform 2014-2020.

How are the “greening measures” of CAP reform 2014 perceived by agriculture stakeholders? A Swedish Case Study.

Sub questions that will be posed under this research question are:

1. What do key stakeholder groups in Swedish agriculture see as the key challenges in Swedish agriculture today? (i.e. what is the problem represented to be)
2. How does the framing of environmental problems made by the Swedish stakeholders fit with the framing of the problem made in the EU documents describing and motivating the greening measures under CAP? (i.e. comparing framing of the problem between stakeholder groups and between stakeholders and policy papers)
3. What do these stakeholder groups think that the greening measures under CAP can contribute with towards targeting these problems, and where are the challenges?
4. Are there any clear differences between the perspectives of different stakeholder groups?
5. Does greening of CAP have the possibility to support strong sustainability?

Contents of the Study

I begin with describing the Swedish agricultural context and policy briefly. This is presented with an intent of providing the reader with the necessary knowledge that will be referred by the later sections in this study. The section after that will present the main Concepts and Theoretical Framework used in this thesis and set the scene for the Methodology section. Following the description of the framework, the basic Literature Review in the form of a genealogy of CAP will be presented which would give the context of the Common Agriculture Policy and its 2014-2020 reform that the thesis aimed to study.

The Methodology section, contains all the details about the methods and tools used to collect and analyse the data. The Results section, is presented following this, which mainly focuses on the data obtained from the interviews with stakeholders. This section is subsequently followed by the Discussion, where the results in the light of the literature review carried out for this study. Finally, the Conclusion sums up and ends with a Reflection on the whole process of this study.

An appendix is provided at the end of the thesis where the interview guide created for the study is presented.

The Swedish Agricultural Context

Sweden is a small country with respect to agriculture. As of 2008, the Swedish agriculture involved 73,000 farms with 75% of them being commercial farms (Rabinowicz, 2008). It has diverse geographical environments across its landmass with fertile soils in the South and comparatively poor soils in North as a result of the climatic conditions. This consequently affects the growing seasons and leads to varying agricultural scenario from North to South (Rabinowicz, 2000). Sweden is divided into 5 regions; region 1(southern Skåne and western Östergötland) to region 5 (Norrland) in north (Norell, 2012). 177,600 people were employed in agriculture in 2007 which included, agriculture, horticulture, farm building maintenance, machinery and other assets. Almost one third of the farm companies in Sweden depend on diversified incomes, where incomes are obtained from farming and other related activities. EU and especially Nordic countries are the biggest markets for Swedish Agricultural products (Jordbruksverket).

Towards the second half of the 20th century the burgeoning industrialization led to mechanization, dependence on fossil fuel, use of mineral fertilizers in Swedish and European agriculture (Saifi, 2008; Björklund, 1999). This mainly revolutionized the labour market and made it more effective with the use of tractors but the fossil fuel dependency increased. This period saw the falling numbers of farmers. The fear of further migration of farmers into the urban areas and the consequent problem of unemployment led to establishment of import protection, price support and price stabilization (Saifi, 2008). This initially led to a reduction in number of farmers, and the support for the small scale farmers that was enjoyed earlier in the century was also retracted in favour of those farmers who could improve their productivity. This led to ‘restructuring’, which encouraged, specializations and consolidation, i.e. the primary features of industrial agriculture (Björklund, 1999). This had a positive impact on some farmers who managed to work with the demands, and their incomes increased. However, at the same time this led to further separation of not only the farm inputs such as nutrient management resources from the cultivation cycle because of use of external inputs such as fossil fuels rather than farm based manure; but also created distance between the rural and urban areas (Saifi, 2008).

Due to issues with increased food production, stagnant demand, and expensive export of surpluses, domestic markets were regulated with help of quota system for milk and sugar, forced set-asides in grain producing areas and import levies in 1980s (Rabinowicz, 2000). This was similar to the situation in the European Community was facing then (Rabinowicz, 2008). This was drastically changed in a reform in 1990, which focused on deregulation, abolishment of the milk quota system, termination of internal market regulations. Farmers were also compensated for the reduction in prices and for pulling lands out of food production. This was known as ‘restructuring’ (Rabinowicz, 2000). Both the reforms of 1967 and 1990 in Sweden had presented with radical changes in agricultural policy of Sweden. These changes were similar to that presented in Mansholt memorandum in 1972 for the EU. However, the latter did not take up the major structural changes as proposed in the memorandum (Rabinowicz, 2008) whereas, Sweden, managed to accept and implement the

reforms (ibid). The heterogeneity of commodities and markets in EU as compared to Sweden could have been the reason (Rabinowicz, 2000).

However, the implementation of the 1990 reform in Sweden was complicated because Sweden had begun its process for accession into the European Union and became EU member in 1995. The institutions and policies related to agriculture in the form of CAP was different than the Swedish national reform and, Rabinowicz, described that, certain negative perception of CAP was held by Sweden. A public committee (KomiCAP) set up during the accession presented in their report that – “the CAP needs to be reformed in a more market-oriented direction, which places greater emphasis on natural environment, animal welfare and rural development issues simultaneously” (Rabinowicz, 2000). Sweden, because of its scepticism about CAP, from a long term perspective looked for fundamental change in CAP, mainly abolishing of quotas (ibid) and in the recent years, reduction of Pillar 1 (P1) expenses by targeting the direct payments (Rabinowicz, 2008).

Sweden is known to be a strong supporter of environmental issues with a well-informed civil society see (Engström, 2008) & (Fudge, 2001). One of the many reasons for the Swedish engagement in environmental issues has been argued to be, the past experiences with environmental problems resulting from human actions. Sweden e.g. experienced the effects of acid rains, resulting from air pollution from the surrounding states at a national and international level (Molin, 2000). Agriculture of the 1960s and the increased dependency on fossil fuels and the industrialization of agriculture impacted the land use and biodiversity. Implementing agro-environmental measures began in 1970s with banning of DDT pesticide and further importance was given to environmental problems in agriculture in 1980s. This was when the environmental problems related to agriculture developed during the post war era were acknowledged by wide range of social actors such as environmentalists, citizens, politicians and journalists (Saifi, 2008).

Sweden, in its modern day, follows four principles in its environmental policy: “the principle of integrated pollution control, the precautionary principle, the substitution principle and the principle of sustainable development” (Molin, 2000). Besides these principles, Sweden also has a strong actor based and interest based approach (Engström, 2008) where organizations such as SSNC, WWF Sweden, Greenpeace Sweden and Friends of Earth Sweden have been working alongside the government to address, create awareness and lobby for environment related issues, from effect of Sweden’s accession into EU in 1990s (Molin, 2000).

In 1988, a government bill in Sweden was passed dictating that all the sectors should investigate their influence on the environment and establish activities to improve the ecological sustainability of their respective sectors (Engström, 2007). In the years to come sectoral responsibility of environment had become a major tenant of the environmental politics (ibid). Such progressive administrative reforms and actions have been appreciated at international forum for setting an example of environmental policy integration at a domestic level (Molin, 2000). At an international level, Sweden played a major role in advocating the concept of sustainable development as one of the core objectives in EU and much stronger environmental policy integration, all of which were incorporated in the Amsterdam Treaty

(ibid) and was also active in Agenda 21, of Earth Summit, 1992 (Fudge, 2001). However, Sweden through its requirement for agricultural imports has led to environmental issues outside EU such as Brazil with soybean cultivation which needs to be urgently addressed (Engström, 2007). The topics of biodiversity loss, toxicity, eutrophication and climate change are the most commonly discussed issues among the Swedish policy makers with respect to agriculture and environment (Engström, 2008). Sweden has established its environmental objectives system with a generational goal which focuses on the sort of “changes in society that need to occur within one generation to bring about a clean, healthy environment”(Naturvårdsverket, 2015). The focus is on recovering ecosystems, conserving natural and cultural landscapes, protecting biodiversity, efficient material cycles and energy use, sustainable use of natural resources and good human health. Sixteen environmental objectives consisting of twenty-four milestone targets make up this environmental objectives system which are targeted to be achieved by 2020. Of the sixteen goals, one of them is ‘a varied agricultural landscape’ which focuses on the need to address issues related to biodiversity of farmlands and forests in Sweden. The aim of this objective is to encourage agricultural practices, to consider and conserve the natural and cultural elements of farm landscapes, protect local Swedish livestock and crop plants and yet be efficient and competitive in production. This particular objective understands the impact of CAP and also hopes to influence it in order to preserve biodiversity of Swedish farmlands (Naturvårdsverket, 2015).

Concepts & Theoretical Framework

The theoretical framework for this study on perceptions and attitudes of the stakeholders was developed under the purview of the policy-analysis tool of ‘what is problem represented to be’ (WPRB), by Carol Bacchi (2009) and discussed using the concepts of agriculture sustainability. The main crux of the WPRB tool is how the problem representation occurs; what are the various steps involved in the problem representation; and what does this problem representation indicate about the underlying perceptions of the policy makers (in context of CAP for this study) and other stakeholders (in context of this study) with regards to what should be considered as a problem; and finally, what sort of solutions should be made available for addressing that particular problem (Bacchi, 2009). On the basis of this, in context of this study, I will draw on the WPRB framework to analyse how stakeholder perceptions on what the key environmental and other challenges in Swedish agriculture are, and how these might be addressed or not by the changes in the CAP. In a wider sense this connects to ‘agricultural sustainability’, meaning the wider social, environmental and economic impacts of agriculture.

Agriculture Sustainability

“Humanity has the ability to make development sustainable – to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland, 1987). This has been the most often cited and followed understanding of sustainable development after its publishing in the “Our Common Future” report. The meaning of sustainability can be defined in various ways depending on the motivations to implement sustainability - as an ideology, as a set of strategies, as a tool to fulfil goals or as the ability to continue – where each of these perspectives comes with important contributions (Hansen, 1996). With increase in problems of environmental degradation of the land, the need for alternative methods of farming and the need for sustainable farming has increased. One way of defining sustainable agriculture is that it “incorporates resilience (the capacity of systems to buffer shocks and stresses) and persistence (the capacity of systems to continue over long periods) and addresses the economic, social and environmental outcomes” (Pretty, 2008). How agricultural sustainability is acted upon in any society depends to a great extent on how it is framed by key stakeholders in the sector (i.e. farmers, farmer organizations, governments, policymakers). With regard to Sweden, the EU-CAP has significant influence on how the work towards agricultural sustainability is executed. Thus studying CAP and how it is interpreted and acted upon by key Swedish stakeholders is of key importance for understanding how agricultural sustainability is acted upon in Sweden. This is the purpose of the present study.

Stuart Hill’s deep and shallow sustainability concept can help us categorize different ways of framing agricultural sustainability. This study will try to address the perceptions of agriculture stakeholders in Sweden, have on the greening measures and CAP reform 2014-2020 and what it means in terms of Hill’s established concepts of sustainability.

Hill & MacRae in 1988 drew comparisons between sustainable agriculture and conventional agriculture on the *basis of ideology*. Sustainable agriculture described on the basis of ideology gives importance to working with nature rather than dominating it, focuses on diversity rather than homogenizing the production systems. Sustainable agriculture is holistic in nature rather than reductionist, its goals are long term oriented instead of short term of conventional agriculture, looks for permanent solutions and not temporary, addresses the problems locally rather than importing solutions. It embraces the multifaceted nature of agriculture as a system and looks for solutions from different perspectives rather than applying the principle of “magic bullet”, it is community based rather than individualistic, promotes healthy competition through co-operatives rather than focusing on pure competition, it is knowledge intensive and pays heed to and learns from traditional agricultural systems rather than purely focusing on technological advancements alone (Hansen, 1996).

To reflect these values and ideas into practical actions, and to draw out differences between the agricultural practices that are unsustainable and those that help in addressing the sustainability issues of agriculture, Hill created a spectrum of sustainability. On one end of the spectrum are the unsustainable practices which are followed by practices of, what he terms as, shallow sustainability and deep sustainability (figure 1.). By creating the spectrum Hill not only differentiated the practices and actions for better agroecosystem designs but also identified lower and higher goals of sustainability. This helps us in understanding what goals should be avoided and aspired at individual, institutional and planetary levels of food systems to achieve deeper sustainability.

Each stage represented in this spectrum moves towards redesigning the entire food system. This understanding of sustainability meant moving from aims such as productivity, competitiveness and growth to nourishment and deeper sustainability. As depicted in the diagram below (figure 1) the highly industrialized agricultural practices of depending on agrochemicals, input intensive, narrow focus on the problem at hand, maximising production and creating demands are the actions of unsustainable agriculture. The low-input and resource efficient method of agriculture focuses on conserving the input levels, maintaining production while improving the maintenance to make the production system more efficient. Following this stage of efficiency focused shallow sustainability level, is the substitution shallow sustainability level where the practices and designing of the agroecosystems depends on substituting the existing practices and agricultural production methods with methods and practices that are closer to the natural ecosystems, lower input intensive, depends on biological controls and focuses on maintenance.

Unsustainable	Shallow sustainability		Deep sustainability
Conventional	Efficiency	Substitution	Redesign
<i>Examples</i>			
Factory farm	Low-input and resource-efficient agriculture	Eco-agriculture	Permaculture, natural and ecological farming
<i>Approaches</i>			
High-power	Conservation	Conservation	Low-power
Physico-chemical (soluble fertiliser, pesticides, biotechnology)	Physical/chemical/biological (slow release band)	Biological and natural materials	Bio-ecological, <i>in situ</i>
Imported input-intensive	Efficient use	Alternative inputs	Knowledge/skill-intensive
Narrow-focus, farm as factory (linear design and management)	Efficient factory	Softer factory	Broad focus, farm as ecosystem (integrated design and management)
Problems as enemies to eliminate and control directly with products and devices	Efficient control (monitor pest, integrated pest management)	Biocontrols	Prevention, selective and ecological controls (pests as indicators)
<i>Goals</i>			
Maximise production (neglects maintenance)	Maintain production while improving maintenance	Improved maintenance	Optimise production (emphasises maintenance)
Create demand, manipulate wants			Meet real needs

Figure 1 Sustainability Spectrum as defined by Stuart Hill. Source: (Hill, S., 1998)

Soil and water conservation practices, ecology based crop production systems such as crop rotation and diversification, cover cropping, nutrient recycling, practices such as integrated pest and fertilizer management, using the traditional and geographical knowledge of the locality, and understanding the impact, positive and negative, these practices might have on the socio-economic aspect of the locality are the basics of agriculture sustainability. The approach of diversifying and redesigning the agroecosystem, will help the agricultural lands to transition towards more ecology oriented production.

From regulatory and monitoring perspective Hill's concepts advocate collaborative learning and action research based knowledge and skill generation and places high importance to monitoring and evaluation of the existing situations. For short term, it supports incentives only for the *period of transition* alone while appropriate techniques, tools, policy instruments, associated with the change are provided. The final level of sustainability according to Hill can be achieved when the entire agroecosystem has been redesigned with its practices tending more towards natural and ecological farming, follows closed nutrient cycling and skills are knowledge intensive based, where prevention is the principle rather than cure. This change towards the deep sustainability of agriculture, according to Hill, has the ability to address the planetary level issues such as biodiversity and ecosystem services loss (Hill, 1998).

These approaches, roles and ideas addressed above will be used to understand where the current CAP reform of 2014-2020 falls in the spectrum of sustainability created by Hill.

The sustainable agricultural practices described by Hill are very similar to the practices, values and goals advocated by various scholars of agroecology, such as re-designing the agro-ecosystems to imitate natural ecosystems as much as possible, diversified cropping systems (Gliessman, 2007a), soil and water conservation practices (Tilman, 2002); importance of traditional knowledge and knowledge intensive approaches (Gliessman, 2007b); systems thinking (Francis, 2003) and so on and so forth. One of the ways agroecology, can be defined as, it being an “integrative study of ecology of the entire food system, encompassing ecological, economic and social dimensions” (ibid). Hill’s sustainability concept as described above, chooses this very holistic approach. However, the latter was used primarily to help illustrate clearly how CAP is attempting to move in direction of stronger and deeper sustainability and what elements help in that transition with the help of its *spectrum* like representation. This broader concept of Hill’s agricultural sustainability was also used since the concept of sustainability is what the policy also hopes to address through various approaches whereas, agroecology as a concept has not been adopted in CAP and its reform making process yet.

Constructivism

Agriculture is a human activity and over centuries its existence and application has had a major impact on the way humans interact in a society. As depicted by Vandermeer, today’s agroecosystems is not just about planting seeds and harvesting crops, but instead is a lot more complicated and interconnected with other actors and social circumstances; from international trade and politics, economics to social, geographic and ecological conditions of growers and consumers; and is constantly changing depending on the actors in this interconnected network of agroecosystem (Vandermeer, 2011). This study tries to understand the circumstances of agriculture and its policies today through the concept of constructivism (ibid). Constructivism, from an ontological point of view, means that the social world is created by the actors inhabiting in it. “It implies that social phenomena and categories are not only produced through social interaction but they are in constant state of revision”. The presence of people in a social situation changes and affects the way the social circumstance would work, therefore, leading to revision of that social circumstance. The social interaction, either in the form of writing, talking, arguing influences the discourses that run through the social world (Bryman, 2012). Our social world is steered by discourse.

Discourses are ways of constructing the world through talk and text (Pereira, 2013). Discourses, according to Fairclough, 2003, have possibility to change the directions of the world by creating and projecting possibilities for action through language (ibid). The influence of discourse over practice can clearly be seen in policy making. Therefore discourse analysis is a useful tool for analysing policy (Bacchi, 2009). Discourse analysis, can be carried out in different ways, first, by focusing more on language, concepts, definitions and text which is called as ‘literary deconstruction’ according to Michalowski’s 2003, classification; second, by focusing on context and process of creating the discourse and

knowledge and how the power structures influenced the creation of knowledge and the discourse, called 'social deconstruction' see (Bacchi, 2000). Bacchi (2009) and Fairclough (2003) add to this analysis of how discourse influences social practice, i.e. how policies shape the possibility to act on certain issues, e.g. how agricultural policy directs agricultural practice (Jacobson, 2013).

Policy and policy as discourse: background for "What is problem represented to be?"

Policies can be associated with set of programs or actions that institutions create to address a 'problem'. Policy makers in governmental institutions are seen as problem solvers, fixing the said 'problem' (Bacchi, 2009). According to Carol Bacchi, "this presumed problem, can be but does not necessarily need to be, explicitly elaborated" (ibid) which indicates that there is room for interpreting the issue according to the actors involved in solving it. It suggests that, policy "understands the 'problem' to be a *particular* sort of 'problem'" (Bacchi, 2009) and by doing so defines what the policy 'problem' is and creates its 'solution' through the proposals it presents within the policy. In the present case, the CAP can be said to address issues of agricultural sustainability, but what agricultural sustainability means might not be clearly defined in CAP and might thus mean different things to different people, who in turn then would propose different solutions for the 'problem'. The creation of solution in itself indicates the implicit problem representation. This indicates the need to focus on how 'problems' get represented (ibid).

This, understanding of Bacchi, is obtained from *policy-as-discourse* approach, where policy-as-discourse analysts, try to understand why necessary progressive changes are not being made with the help of policies. They believe that this is because 'problems' "get represented in ways that subvert progressive intent" (Bacchi, 2000). According to Goodwin, 1996, policy-as-discourse approach, "*frames* policy not as a response to existing conditions and problems, but more as a discourse in which both problems and solutions are created" indicating the actual issue lies with 'problematization', see (Bacchi, 2000).

With this background in place about policy as discourse and the importance of problematization in policies, Carol Bacchi, designed a practical tool, a methodological approach to analyse policies. The major focus of this policy analysis tool is 'problematization'. This policy analysis tool tries to understand how this problematization came about, what will be its consequent effects on the people for whom it is targeted (and not targeted) (Pereira, 2013; Bacchi, 2009). These questions will provide answers as to how the social actors, and not just the policy makers and the governments involved but other professionals and institutions, in case of agriculture, farmers organizations, environmental organizations, research and education institutions affect and are affected by the said 'problem representation'. It is important to remember that discourses are not value neutral, and the values and ideas of these very social actors will play a huge role in the problematization. Therefore, we can see that WPRB is influenced by concepts of constructivism (Pereira, 2013; Bryman, 2012).

What's the problem represented to be framework

i. What is the problem represented to be in a specific policy?

As stated by Carol Bacchi, “the opening question is a clarification exercise”. This will help us see the “implicit problem representation” made by the policy. By looking at the interventions or the solutions made within the policy how the problem is being viewed and perceived as. It is this way the policy analysis framework *what is the problem represented to be* (WPRB) aims to work.

ii. What presuppositions and assumptions underlie this representation of the problem?

This question tries to identify the assumptions on the basis of which the problem representation took place. This question does not look at ‘what knowledge or action is lacking’ to solve the ‘problem’ but focuses more on what is ‘taken for granted’ in terms of background knowledge during problem representation. This question does not stop at the biases formed in the policy makers minds or their arguments but digs deep into the “forms of knowledge” they ascribe to, which drives us to look at their ‘world views’.

Discourse of a policy is not only framed by its language but also by the influence of the assumptions; values; presuppositions which are called *conceptual logics*; key concepts and its definition such as health & welfare, biodiversity loss, climate change; binaries such as “nature/culture, public/private, mind/body, male/female, economic/social”. According to Carol Bacchi, “concepts are abstract label that are relatively open ended” (Bacchi, 2009). This open to interpretation nature of concepts are the cause of disputes over its true meaning which also provides room for giving specific meaning to the concepts during problem representation. Such is the case of “public money for public goods” concept in Common Agriculture Policy’s post 2013 reform where different stakeholders related to agriculture define this phrase differently, which will be touched upon in the further sections of the study.

iii. How has this representation of the ‘problem’ come about?

There are two ways in which a particular problem representation comes about. They are firstly, developments and decisions taken on the basis of results obtained from non-discursive practices such as surveys and censuses which helps in the formation of identified problem representation. Secondly the possibility of alternative or competing problem representation existing over a period of time and space. This forces us to look back into the history and closely follow the events, decisions and practices that were taken up *then* and upset the assumption that *today’s* institutions, decisions, practices and events are a product of the prior’s ‘natural’ evolution over a period of time and space. Conducting this kind of genealogical study of a problem representation helps us take note of how the current problem representation came about? This also helps us in identifying the key influences and influencers who were crucial for a particular problem representation to take form.

iv. What is left unproblematic in this problem representation? Where are the silences? Can the ‘problem’ be thought about differently?

As the questions raise the points, this stage of the framework is to look for the gaps that are not addressed through the current “problem representation”. The data collected from the second question will help in finding answers related to this particular question. The

framework by Bacchi in this argument does not ascribe to giving simply a different way to think about the problem but to identify the limitations of the current problem representation. The genealogical study of the third question also helps in identifying the silences or the compromises made due to certain influences that helped shape the policy for years.

v. What effects are produced by this representation?

The effects of a certain problem representation can be more towards one group of people than the other. Therefore there is a need to identify and critically analyse them in accordance with the problem representation. There are three kinds of effects discursive, subjectification and lived effects. Discursive effects are usually observed as a consequence of problem representation heavily influenced by a certain type of *discourse and conceptual logics* as defined in the earlier question. This kind of problem representation places limitations which consequently has an effect on certain groups of people while benefits another group of people. Subjectification effects deals with how certain policies places us as the people within its boundaries and makes us and our social relationships subject to the discourse of that policy. We as subjects are constantly effected by the discourse in the way that “who we are - how we feel about ourselves and others - is at least to an extent an effect of the subject position made available in these public policies” (Bacchi, 2009). The last of the effects discussed by the WPRB framework is lived effects. This focuses on how problem representation within a policy can have an effect on the material aspects of the people who are targeted or not targeted by the policy intervention. For instance “quarantining of welfare payments of those families called dysfunctional” (ibid) or in the case of previous EU’s previous reforms in CAP which focused on historic payments for farmers and ended up creating inequality in income distribution (Anania, 2015).

vi. How/ where has this representation of the ‘problem’ been produced, disseminated and defended? How could it be questioned, disrupted and replaced?

The aim of this last stage of the analysis is to critically assess the groups of people involved in the discourse. This draws from the prior stages of the framework where past practices, institutions, people and events influence the direction in which the discourse is conducted and consequently the problem representation is made. Media is a crucial actor in many of the policy problem representation and their work in relation to the propagation of a particular problem representation should also be considered in this final stage.

This framework heavily leans on the importance of ‘reflexivity’ and it is absolutely essential that, discourses - complex, multifaceted, subjective and inconsistent depending on the actors involved, us as researchers included, should be considered as resources for re-problematization of the problem at hand.

Genealogy of CAP

This section mainly aims at presenting the evolution of CAP and its core objectives from the day it was established. CAP's creation, like many of today's policy instruments and institutions in European Union (EU), was a result of the desire for European Integration, both political and economic. Its existence and function, since its inception, has been constantly evolving as a result of its own objectives and changes in related sectors over the years, leading to cross-sectoral pressures (Feindt, 2010). In the text below, examples of these cross sectoral pressures will be found which have helped shaped today's CAP; trade, economy and environment being few of them. In a bid to explain briefly the genealogy of CAP (figure 2) and its objectives in the context of this study, the chronological order of Environmental Policy Integration (EPI) and Rural Development Policy is also explained.

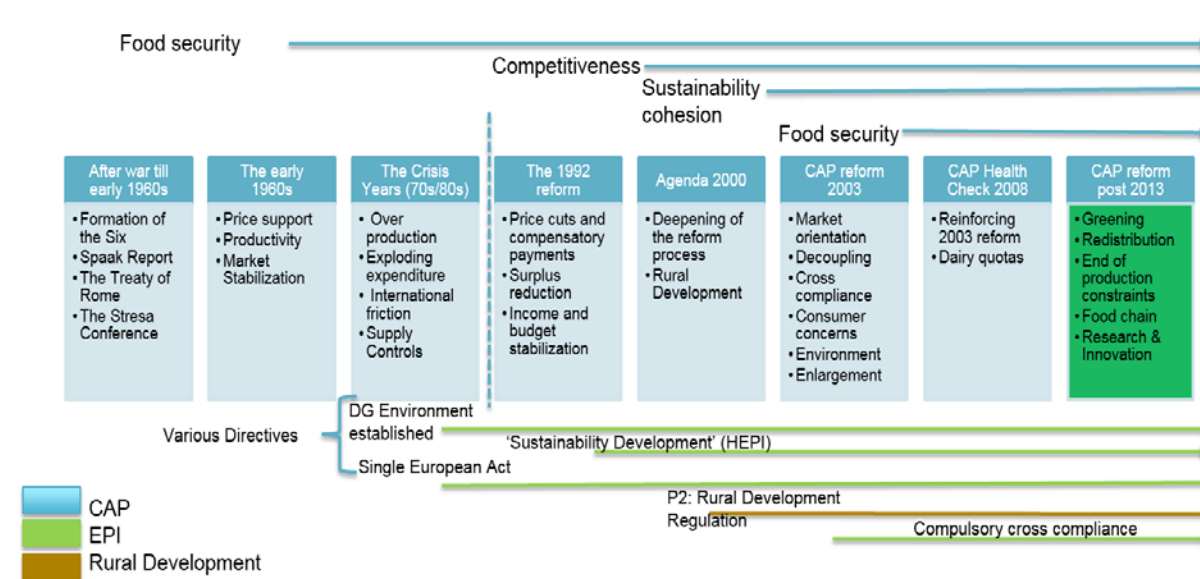


Figure 2 Adopted from the 'Historical development of the CAP'. Source: European Commission. ec.europa.eu

The end of war in 1945, saw a great desire for political and economic union among the Western European countries. This was supported by North America through economic aid to the West European countries. This was the beginning of the European integration, where the formation of the Organization for European Economic Cooperation (EEC) gave way to the European Recovery Programme in 1948. It aimed at bringing about cooperation among the countries through reduced trade controls. This saw the removal of custom duties and levying of import taxes in the Netherlands, Belgium and Luxembourg (Benelux partners), thereby allowing the free flow of goods and services, capital and people. Later with the Treaty of Brussels, 1948, France and Britain joined the group and soon the Council of Europe was created. The French were interested in making a European Parliamentary system and of integration of European Agriculture, into a supranational system which Britain strongly opposed. The similar supranational authority was proposed by France (Fearne, 1997).

The success of the European Coal and Steel Community, a cooperation with similar supranational authority set up by the West European Countries involving Germany and Italy

but excluding Britain, consequently saw the first grouping of ‘the Six (i.e. the Netherlands, Belgium and Luxembourg (Benelux partners), France, Germany and Italy list countries...)’. This forward movement in European Integration eventually saw the development of an integrated European market, in which agriculture was intended to play a major role. In 1956 the proposals for a Common Market, including for agriculture, was drawn up under the leadership of Spaak called the Spaak Report. The objectives of this report echoed in 1957, the Treaty of Rome, where the following objectives of the agriculture policy were: “(a) the stabilization of the markets; (b) security of supply; (c) the maintenance of an adequate income level for normally productive enterprises; and (d) a gradual adjustment of the structure of the industry” (Fearne, 1997).

In the articles of the Treaty at Val Duchesse, 1957, broad measures for achieving the objectives of the Treaty of Rome were mentioned along with the need for the establishment of a Common Agriculture Policy (CAP). At the Stresa Conference, 1958, a clear picture of the CAP was established. It was after this conference when the first of the Community’s reports were published that the problem of income disparity between agriculture and that of other sectors was identified- agriculture incomes were seen too low in comparison to other economic sectors. Despite the warning about the disadvantages of price support, decisions were underway to support the family farms and provide with incomes in a bid to smoothen the national policies and have a strong economic and political foundation for the European Community (Fearne, 1997).

The period of 1959 to 1962 saw the emergence of CAP, through all the conflict and compromises made among the Member States, to protect the individual states’ interests on the way and negotiating at General Agreement for Tariffs and Trade (GATT), the CAP was finally in place. The systems of support prices, import taxes and export refunds (Fearne, 1997) were finally established.

Subsidies during the initial years from CAP had enormously helped the farmers to invest in their equipment, farm buildings, and fertilizers and develop their businesses further. This had a positive impact on the food production which rose during those initial years. However, it also had an enormous impact on the European Community’s expenditure. Furthermore, due to increase in food production there was food surplus towards the early 1970s. Apart from the overproduction there were other issues haunting the EEC such as dumping of goods leading to world market distortion, consumer prices were higher whereas the farmer incomes were lower than any other service sector economy. This policy of price support was supplemented with structural policy¹. Therefore, in order to control the production, reducing the area of agricultural land was proposed in 1968-1972. The original aim was to reduce around 5 million farm population and 12.5 million hectares of farm land between 1970 & 1980, by consolidation, termed as Mansholt memorandum. This was strongly opposed (Fearne, 1997). After rounds of discussion in the end, the final three objectives, in 1972 were: modernization of farms, encouraging cessation of farming and re-allocation and providing socio-economic

¹ A structural policy including large price cuts would not have been appreciated by the agriculture ministers of the Member States, whereas, small price cuts would have led the farmers to produce more.

guidance for people engaged in agriculture. Therefore, with each of the proposals and the final reform, the original radical structural changes were diluted considerably (ibid) in a bid to satisfy the majority. This was to have tremendous impact on the market structure, prices and incomes for years to come.

In 1972, Ireland, Denmark and the UK joined; the issues with production surpluses continued to impact the Community's budget. The result of the objectives of the structural change was reduction in labour and increase in capital investments, increase in farm sizes, more large scale farmers and better market situation helped in obtaining higher agricultural productivity. Although these surpluses could indicate the technical advancements in the field of agriculture, they were also a sign of the inefficient use of natural resources (Wilkinson, 1980). These surpluses continued to affect the CAP expenditure on storage and buying the excess. Higher production was met with stagnant demand from the market which in turn had an effect on the price of the raw food materials. Therefore, more expenditure was observed in food processing and quality packaging and transport (ibid).

On the other hand, a year later in 1973 the Directorate General (DG) of Environment was established which brought in the very first Environmental Action Programme (EAP). This marked the beginning of the Environment Policy Integration (EPI) into CAP. According to Knill, 2003 see (Feindt, 2010), the primary goal of the environmental programme was to act as necessary tool, to help in harmonization of the economic objectives within the European Community. EPI follows a two pronged approach, central and decentral. Central approach, involves creation of specialized environmental administration which works towards integrating environmental issues in other policy sectors. Decentral approach, focuses on changing perspectives on (Nilsson, 2005) sustainable development. It can be done in two ways, vertical environmental policy integration (VEPI) and horizontal environmental policy integration (HEPI). In VEPI, government institutions make environmental objectives central to their portfolio, whereas in HEPI, deals with central body involved in creation of cross-sectoral strategies for EPI, examples of both would be seen below in CAP. In the succeeding years, four important legislations were developed within the span of ten years; the Birds Directive in 1979, the Groundwater Directive in 1980, Sewage Sludge Directive in 1986 and finally Nitrates Directive in 1991 (Feindt, 2010).

In the years between 1980 & 1990, on the side of agriculture, despite the reduction in the prices and the incomes, farmers were not ready to abandon farming. On the other hand, it was also the government's concern to ensure a level of agricultural production continued out in within the borders of their countries and also that the minimum standard of living is maintained in agriculture sector like all the other economic sectors (Wilkinson, 1980). Therefore, to deal with the challenges of overproduction, quota system for milk, sugar and cereals were established. For instance with sugar, three different quotas were levied; the first level of quota (A) received the set price, the second level of the quota (B) had a levy on the producers whereas the final level of quota (A+B) allowed the producers to export the produce but without export refund (ibid).

Despite this intervention of quota system further ‘stabilizers’ were to be applied in 1986. Stabilizers acted as supply controls for across the sectors. If the production exceeded the Maximum Guarantee Quantities that proportion of the support price was deducted from the following year. This period also saw the first “set aside” and attempt at “greening the CAP” in the form of diversification, extensification and voluntary set aside, in an attempt to adjust the production levels. Compensation for the income loss faced by the farmers was provided (Fearne, 1997).

These “set asides” could be considered as a result of *agro-environment experiments* that were being carried out since 1985. It was in 1985, through the “Green Paper” a reflection paper, that President Jacques Delors and Commissioner of Agriculture Frans Andriessen, addressed the need to take actions to protect the environment of the agricultural lands in EU (Commission, 1985; Commission). In 1987, the Single European Act of the Amsterdam Treaty announced that the environment protection would be “component of the Community’s other policies”. Principles of preventive action and ‘polluter pays’ concepts became the foundation of this act. Following this, the programmes for diversification and extensification as mentioned in the previous paragraph was launched in 1989 (Feindt, 2010).

In the following years, MacSherry reform of 1992 focused on reducing the price intervention levels and changing the support from “product based price support to producer based income support”, one of the biggest and most radical structural change (Fearne, 1997). According to this reform, income based support was provided on the basis of the hectares of arable land used by the farmers² with. There was no specific emphasis on type of crops and the value of the income support would differ according to the productivity of the land (Commission, 1991). However, coupled support for a few products were still in place.

On the environmental side of it, Commission hoped that the shift from product to producer payment system and lower prices would reduce the use of inputs especially the agro-chemicals. This reform saw the beginning of the involvement of environmental measures in the CAP with “agri-environment schemes” becoming available compulsorily across all the Member States (Allen, 2013) although its application and implementation was voluntary within the Member States. This period from 1985-1992, where the agri-environment schemes were experimented and finally rolled out for the Member States to adopt along with the major shift to producer based support was seen as the CAP’s attempt at vertical environmental policy integration (VEPI) where it aims at placing the environmental objectives central to the government body’s profile (Feindt, 2010).

1992, also saw the Maastricht Treaty, which established the 5th EAP where the principle of ‘Sustainable Development’ was adopted and integrated in agriculture sector. Successively, in 1997 and 1998 at Amsterdam and Cardiff, the principles of sustainable development were established in European Community’s other sectors and was encouraged to develop various sectoral strategies. These development of sectoral and cross sectoral strategies was a symbol of horizontal environmental policy integration (HEPI) (ibid).

² a limit on the amount of arable land was considered for the income support.

However it was in Agenda 2000, proposed additional objectives for the CAP such as focusing on food safety and quality, integration of environmental concerns into the agricultural policy, developing the vitality of rural areas, simplification and strengthening decentralization, while continuing to focus on market orientation and competitiveness, and stabilization of agriculture incomes (Commission, 1999). This was made in an attempt to continue to work on the stabilizing the market for the produce and making way for further enlargement process (Commission, 1998b). This agenda, also saw the birth of the second pillar of the CAP under the name of “Rural Development Regulation” (Allen, 2013) which was responsible for the socio-economic objectives of developing the “vitality of rural areas” as well as environmental actions such as the adoption of “agri-environment schemes” .

Agenda 2000, proposed larger price cuts for dairy products which was followed by small increase in quota in milk production to compensate for the price cuts and continued direct income support assistance (Commission, 1998b). The proposals made and accepted at Agenda 2000, were the predecessor of the proposals to be established for CAP reform 2003. It was informed that the initial 15% set aside land was reduced to 5%, and the MacSherry reform’s expectation of reduced agro-chemical inputs were not fulfilled. In a bid to integrate environmental concerns into the policy various policy instruments were at the MS’s disposal to implement the “agri-environment schemes” which could be tailored to the context of the MS. Cross compliance on voluntary basis was available, where the farmers would be paid direct payments if good environmental, animal welfare and consumer standards were maintained (Feindt, 2010).

With this backdrop, in the next few years, the objectives and the message of the Agenda 2000 was built upon. The WTO negotiations, Doha, which focused on liberalization and examining the agri-environment programmes in relation to the WTO rules also added to the pressure for a reform of CAP (ibid). The CAP 2003 reform, was brought to the table and saw the implementation of the single payment system (SPS) per year through decoupling, cross compliance and modulation, the last two instruments being voluntary measures until then and implemented only in few MS. Decoupling of the payments began with the shift to producer based income support. Although, the 1992 reform’s shift was of great help to reduce the over production, it led to unequal distribution of the income support, whereby, the larger farmers ended up getting more support despite the limitation on the amount of arable land allowed for income support (Commission, 1998a).

The single payment system (SPS) was an attempt to solve the problem. SPS could be applied in three ways: historic, flat rate and hybrid. Historical single farm payments were applied on the basis of the historic payments for the arable lands between 2000 & 2002, whereas, flat rate could be applied by taking into consideration an entire region in the country and dividing it with the amount of utilized agricultural land. Another hybrid system of the two was also available which was adopted by Sweden (Gay, 2005). With *compulsory cross compliance* the Member States were expected to fulfil two strands of the cross compliance; Good Agricultural and Environmental Conditions (GAEC) and Other 18 EU Directives related to plants, animals, habitats, to receive the SPS (Commission, 2004). The principle behind the compulsory application of GAEC measures was the reform’s new stand on ‘public goods’

model of EPI, which stated that “environmental quality and landscapes are coupled to environmentally friendly agriculture” (Feindt, 2010). SPS could still be received even when no production on the arable land, provided the cross compliance was followed (Commission, 2004). The 2003 reform could be considered the beginning of simplification of the CAP with the establishment of SPS. The period post 2003 reform, saw policy simplification measures in a bid to reduce the technical difficulties in terms of administrative actions, improve cost-effectiveness, and reduce the complexity in the support systems of the agriculture and rural development policy (Commission, 2005). The Rural Development Policy reform, under P2, in 2005 for the period of 2007-2013 was another step in the direction of further simplification of P2 measures of CAP (Commission, 2008b).

Similar simplification and review was carried out in 2008 with Health Check which looked for further streamlining of the policy measures in both the pillars. Abolishment of set-aside was observed, streamlining of cross-compliance by removing non-essential measures, availability of using unspent money on national envelopes for rural development, increasing the percentage of compulsory modulation by shifting the money between the pillars (Commission, 2008a).

The CAP reform post 2013, came after the Commission declared a public debate in order to address environmental and socio-economic targets for future CAP. The EU had failed to meet the target of reducing the biodiversity loss by 2010. Despite the efforts to reduce the biodiversity loss, taken up by the EU legislation only, 11% of the key ecosystems were found in a favourable state (Allen, 2013). The *rationale* behind the legislative proposal and the final reform was drawn on the basis of three scenarios created over the issues discussed in the public debate that ended in 2010 as mentioned earlier. These three scenarios included; option 1, focus on the economy and competitiveness of the European agriculture produce and market. Solving the problem of unequal income distribution of the direct payments was the target which would allow for stronger continuation for CAP; option 2: an attempt at achieving a balance in addressing all the objectives of the stakeholders involved and ensure that the measures fall in line with the EU Strategy 2020’s objectives of smart, sustainable and inclusive growth; and finally the last option was, emphasis on environmental and climatic issues concerning EU and provide with measures to solve it whilst deviating from the direct income support (Commission, 2010c). The legislative proposal for the CAP 2014-2020, was based on option 2, also known as integration scenario (Commission, 2011g). Secondly, the Commission’s *rationale* behind the greening of the CAP was that application of green payments would help in obtaining a blanket cover implementation of environmental measures all across the EU, as was desired by the European Parliament’s Lyon and consequent Des report (Matthews, 2013b).

The objectives of the new reform were:

- Ensuring **viable food production**, and working on the price and income volatility that affects most aspects of agriculture sector; improve the competitiveness and value of the produce and able to compete on the world market while still following the high environmental and quality standards expected by the European citizens.
- Aiming for **sustainable management of natural resources and climate action**, by adopting sustainable production methods that would help in providing “environmental public goods”; encourage “green growth” by adopting innovative ideas not only in raw material production but also in food processing, retail and transport; and finally work towards identifying and implementing climate change mitigating and adaptation actions, to ensure safe and secure agricultural productivity.
- Achieving **balanced territorial development**, by improving the rural economy by providing with options for better economic development through diversification of employment opportunities; and helping small scale farmers develop markets and further develop the identity of the rural communities (Commission, 2010c).

With these objectives in mind the final reform was rolled out as CAP 2014-2020 reform, which had its one year transition period in 2014 and became fully operational from 2015 onwards. The details of the current reform and its reception in rest of Europe is described in the following section.

CAP 2014-2020

The new reform, modified the functions of the two pillars of the CAP (Commission, 2010a) and attempted to increase the environmental performance of the two pillars (figure 3).

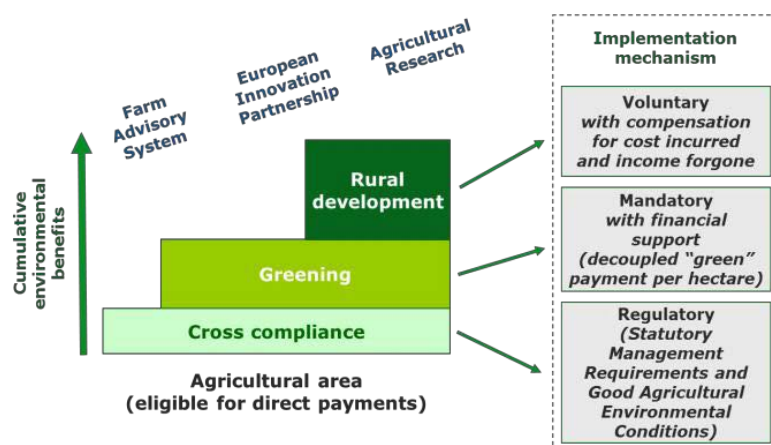


Figure 3 The new greening structure of CAP. Source: DG Agriculture and Rural Development

Pillar 1

Pillar 1 (P1) continued its function with market oriented measures while supporting its farmers with direct income payments. It is important to understand how the funds are allocated under this pillar. The funds from EU to the MS hereby are referred to as national ceiling or national envelope. The funds are divided into two groups. Mandatory payments and Voluntary payments. The mandatory payments includes the Basic Payment Scheme (BPS), the green payments, both of which have are allocated only after degressivity³ is set. (Henke, 2015). The earlier followed Single Payment System (SPS) model of payment system is going under changes in order to achieve equally distributed payments.

70% of the national ceiling is allocated to the BPS and the remaining 30% is allocated for greening payments. The payment for the farmers is decided with the help of Internal Convergence. This is an attempt at reducing any differences in payments between farmers which used SPS model of payment before 2014. The MS can decide if they wish achieve this full convergence by 2015, 2019 or maintain partial convergence (Commission, 2013). By dividing the national ceiling or regional ceiling by the number of payment entitlements, the uniform per-hectare value for the farmer can be obtained. The payment entitlements equals the number of eligible hectares the farmer declares in a given year. The per hectare value will be same for all the farmers at national or regional level, but since the national ceiling or the funds allocated from EU differs every year, the per hectare value will change every years (ibid). The national envelop or national ceiling meant direct payment funding available from EU to each country under CAP budget (Henke, 2015).

The 70% of BPS and 30% of GP are allotted only after another set of payments have been allotted from the national ceiling. These payments include Young Farmers Scheme, Small farmer Scheme, coupled payments for special agricultural products, and mandatory degressivity, voluntary redistributive payments (figure 4) (Commission, 2013). Young Farmers Scheme which Sweden supports allocated 2% of its national envelope for this scheme. Maintaining a reserve from the national ceiling for crisis like situation, has been adopted by Sweden has and allocated 3% of the national envelope for Reserve purposes. Small farmers can join the Small farmer scheme and they will be exempted from complying with greening measures under the CAP reform. However, Sweden has chosen not to adopt this scheme (Henke, 2015).

There are other voluntary payments that can be accepted and adopted under the P1 of CAP, these are; redistributive payments, coupled support and support for areas with natural constraints (ANC). Redistributive payments aims at redistributing the funding between the large and small scale farmers. These redistributive payments are allowed only for the first 30 ha on a farm, where the payment cannot exceed more than 65% of the national (or regional) average per hectare payments. The national (or regional) average per hectare payments are decided under SPS measure as explained above (ibid). Shifting payments between the Pillars

³ Degressivity is a method to reduce the payment support for bigger farms under “the premise that they can be efficient also with lower levels of support” (Henke, 2015).

for better implementation of the measures called as modulation which is also voluntary measure. Sweden has the possibility to move almost 15% of its P2 measures to P1. However, it has chosen not to carry out this modulation (Henke, 2015). Another voluntary measure that could be adopted under this pillar is the support for Areas with Natural Constraints where an additional 5% could be allotted for this measure. To make the P1 move more towards market orientation and further the decoupling of the payments from produce, only 8-13% limited coupled support is allowed under this reform with 2% additional support for protein crop production (Commission, 2013). Coupled support however, are still available for few agricultural products or for supporting certain agricultural practices and have been considered to act as safety net for the farmers (Henke, 2015).

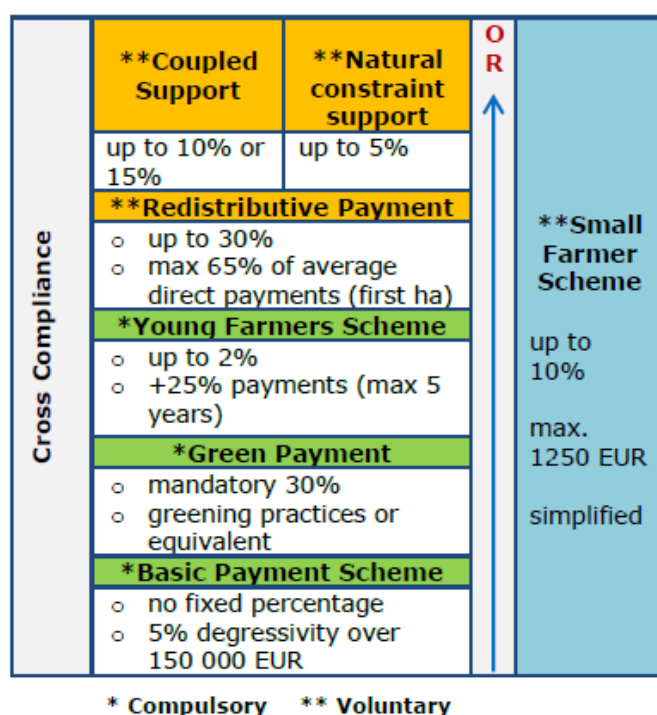


Figure 4 A general payment distribution structure according to CAP 2014-2020. Source: DG Agriculture and Rural Development

The greening payments were receivable only on application of the greening measures (figure 4) and 30% of the total national envelope is dedicated to it. However, failure in complying with the greening measures or requirements will lead to penalties. This is another step in vertical integration of the environmental policy, where the environmental objectives and actions are central to the government body's policy initiatives (Feindt, 2010).

The reform proposed the following three greening measures to be applied across the EU depending on the area of cultivable arable land (table 1.), with minor exceptions to help countries tailor the measures according to the countries' context. Provision of such mandatory greening measures indicated the proximity of environmental objectives to the main market oriented objectives of the CAP, thereby signifying the steps the Commission is taking for further vertical environmental policy integration (Feindt, 2010). In this section the general description of the measures from EU level as well as the measures and exceptions adopted by Sweden are presented. The information on exceptions adopted by Sweden was obtained during the data collection through semi structured interviews as well as from Jordbruksverket website.

Table 2 Land eligibility for the application of greening measures. Source: Adapted from DG Agriculture UK paper.

Area of arable land in 2015	Follow crop diversification rules	Follow EFA
Less than 10 ha	No	No
10 ha to 15 ha	Yes	No
More than 15 ha	Yes	Yes

- i. *Crop diversification*: The growing season for northern Sweden is 1st June to 31st July and 1st May to 30th June in southern Sweden. This measure has to be taken up by the farmers who own more than 10 ha or 30 ha of arable land respectively. For farms with 10-30ha of land, two crops should be grown and the main crop should not occupy more than 75% of the arable land. For farms that have more than 30 ha of land the main crop should not cover more than 75% of the land. The two largest crops should not occupy more than 95% of the land. Temporary grasslands & fallow land can also be considered as a main crop where it should occupy more than 75% of the arable land. The remaining arable land, if more than 30ha, should consist of two crops of which the main crop of the two should not occupy more than 75% of the land area (Affairs, 2014).
There are also *exemptions* provided for this particular greening measure. Firstly, crop diversification is exempted if more than 75% of the arable land is fallow or under temporary grasslands or a mix of both and the remaining land area is less than 30 ha. Secondly, if 75% of the arable land is under temporary or permanent grasslands or permanent crops and the remaining land area is less than 30 ha (Jordbruksverket, 2016a).
- ii. *Maintenance of permanent grasslands*: The permanent grasslands should not fall below 5% in total in a country. If it does, then some parts of the ploughed or grasslands turned agriculture land would have to be re-instated. Permanent grasslands can be defined as the grasslands that have forage, herbaceous crops

grown for 5 years or re-sown with grass within those 5 years, or have applied for SPS/BPS as grass or herbaceous forage for 6 consecutive years. Trees can reside amongst its landscape with a limit of only 100 trees in per hectare. Permanent crops such as fruit trees, nursery crops and short rotation coppice grown for 5 years and which give repeated harvests do not need to follow the greening measures and can apply for greening payments. There are two ways in which this particular greening measure could be implemented. Farm level and national level Sweden has chosen to follow the national level of maintaining permanent grasslands (Affairs, 2014).

- iii. *Development of Ecological Focus Areas:* Ecological Focus Areas (EFA) are mandatory for farms which have more than 15 ha of land. 5% of the arable land has to be included under EFA. Features included in EFA are buffer strips, nitrogen fixing crops, hedges, fallow land, catch crops and cover crops, salix, stone walls etc. However, each Member State is allowed to choose the types of element within the EFA to suit their country's geographic conditions. Following are the features selected by Sweden: fallow land, nitrogen fixing crops, catch crop/under sowing ley crop with the main crop, salix/short rotating coppice/bioenergy crops and buffer strips/field margins. More than one EFA feature can be applied on a farm. "Once the EFA features and areas have been measured (length in metres or area in square-metres), farmers can then work out the total EFA equivalent area these features and areas will add up to" (Affairs, 2014). Each of these EFA features are associated with respective weighting factors to help calculate the total EFA equivalent area (table 2.).

Buffer strips can be 1-20 meter in width and cannot be planted along the water course. No production or cultivation practices are allowed in that area except for grazing and cutting. Fallow could also be applied to these uncultivated field edges. In that case arable land fallow rules set by Jordbruksverket have to be followed. Mechanical and chemical control of weeds are allowed. These strips can be grown between two fields on a farm (Jordbruksverket, 2016b).

Fallow land is defined as "land that has no crop production or grazing on it" (Affairs, 2014). To establish fallow as EFA, the farm should be out of production until 15th July. This is under the circumstance that, the farmers growing crops, or growing forage crops without cattle, ewes and goats farmers, and who do not apply for compensatory aid⁴. The farmers need to follow the arable land fallow rules set by Jordbruksverket. The fallow could be left with or without a cover crop or catch crop. Catch crops such as forage legumes, perennial grass crops and mixtures of them could be used. Forage legumes (white and red clover) should not be more than 10% and other legumes should not be more than 30% of the mix.

⁴ This is another type of aide available to the farmers and is not considered under the greening payments or EFA.

Other crops which act as wild-bird seed mixes and nectar source can be used for this purpose are Reed canary grass, Lotus corniculatus, Sweet clover, Buckwheat, Flax, Bluebells, Mustard, Chicory, Lucerne, Rye, Vetch, Barely, Mustard, Oats and Phacelia.

Under sowing with main crops where ley grass could be under sown with main cereal crops. The ley grass is sown after establishment of the main crop either in spring/summer. The land can be cultivated in November however, the under sown crop can also continue through the winter as a cover crop. A list of grasses and ley varieties is provided by Jordbruksverket.

Nitrogen fixing crops such as peas, beans, sweet lupins, vetches, chick peas, Lucerne and clover can be grown. These could be grown as a mixture or as pure stands. All the crops need to be grown until 31st July except peas (including konservärter). For growing salix, mineral fertilizers will be allowed only for the first year of the crop grown (Jordbruksverket, 2016b).

There are also some *exemptions* for EFA which the farmers consider before engaging with EFA. Firstly, if more than 75% of the land is fallow, used for permanent grasslands, permanent crops or used for cultivating leguminous crops and the remaining land area is less than 30 ha. Secondly, more than 75% of the land is a permanent or pasture or a combination of both and the remaining land area is less than 30 ha (ibid).

Table 3 EFA and their associated conversion factors. Source: Jordbruksverket.

Ecological focus area	Weighting factor
Fallow Land	1
Salix	0.3
Nitrogen fixing crops, peas, konservärter, beans, sweet lupins, vetches, chickpeas, alfalfa and clover	0.7
Uncultivated field edges on arable land, also known as buffer strips	1 meter of length is worth 9
Vallinsådd or undersowing with main crop	0.3

However, further details of the EFA from Sweden's perspective are presented in the results section accompanied with the perceptions on its implementation.

- iv. Lastly, certified organic farmers are to receive the “green payments” automatically as they already comply with sustainable and greening measures. Organic agriculture is also to receive payments from Pillar 2 (P2) voluntary Agri-Environment Measures (AEM).

As mentioned earlier Natura 2000 is site specific conservation programme which might have different environment conservation requirements and falls under Birds Directive, Habitat Directive (Commission, 2011c). However, to receive the greening payments, the farmers from the Natura 2000 sites have to follow the management measures and practices as stated in the legislation of Natura 2000 network and associated Directives. The greening payments will not be applied if these management practices are not followed despite having a designated Natura 2000 site (Baldock, 2011).

Good Agriculture Environment Conditions (GAEC) and Statutory Management Requirements (SMRs) are the compulsory cross compliance conditions that farmers have to implement, without any top-up payments (Commission, 2011d). SMRs help creating baseline requirements for the EU Directives mentioned above. GAEC standards basically focus on retention of landscape features, avoiding encroachment of unwanted vegetation and protection of permanent pastures which are mandatory measures. If the farmer wishes, he or she could implement the other optional measures of crop rotation, retaining terraces, minimum stocking rates (Poláková, 2011). Most of the greening measures such as cover crop, conditions for maintaining the permanent grasslands, are already followed under cross compliance measures and P2 measures of Agri-Environment Schemes (AES). Therefore, in order to avoid complications over measures that can be paid under greening measures and are unpaid under GAEC, simplification and further streamlining of GAEC was carried out where 15 GAEC measures were reduced to 8, SMRs were to 18 to 13. The Water Framework Directives and Sustainable Use of Pesticide Directives measures will also be included as SMRs only when all the MS have implemented them under the respective directives. A ban has been placed on hedge and tree cutting during the breeding seasons and measures for avoiding invasive pests and species has been added to the list. GAEC standards focusing on protection of soil and carbon stocks have also been added, especially with an aim on maintaining soil organic matter (SOM), protecting wetlands and carbon rich soils (Allen, 2013).

Greening equivalence, is another option available for the farmers in EU who are already practicing environment friendly practices such as nutrient management practices, energy efficiency practices and those who are under national certification systems for the same. This allows the farmers to continue with their current practices and need not follow the greening measures and will not be penalised for the same. However, around 20 countries from EU have not taken up these measures (Bureau, 2015).

Pillar 2

The second pillar focuses on funding various local activities that help maintain the rural community, environment, rural employment and life style. The reform in Pillar 2 has seen the focus on six priorities which can be achieved through methods chosen by the MS. These six priorities are:

- a) *“Fostering knowledge transfer and innovation in agriculture, forestry and rural areas*
- b) *Enhancing farm viability and competitiveness of all types of agriculture in all regions and promoting innovative farm technologies and sustainable management of forests.*
- c) *Promoting food chain organisation, including processing and marketing of agricultural products, animal welfare and risk management in agriculture.*
- d) *Restoring, preserving and enhancing ecosystems related to agriculture and forestry*
- e) *Promoting resource efficiency and supporting the shift towards a low carbon and climate resilient economy in agriculture, food and forestry sectors*
- f) *Promoting social inclusion, poverty reduction and economic development in rural areas”* (Commission, 2011f).

The activities and environment measures are flexible, context specific and are defined by six priorities mentioned above. P2 measures and activities are supported by the funding from CAP (EU) and the Member State’s national envelop. This allows room for innovation and more targeted measures. However, the environmental and climate change objectives should be the focus of these methods (Allen, 2013). They should also have clear objectives of the process and the methods that will be used to achieve the targets. Defining the environmental targets, is essential, so that there is transparency and accountability and possibility of clear monitoring the system (ibid).

There are many other measures and tools targeting different aspects of agriculture sector within both these pillars. However, the description has been focused mainly on the immediate factors affecting the establishment and implementation of the greening measures. One such implementation difficulty, that the Commission hoped to solve was that of ‘double funding’. Double funding is defined as “a fundamental principle underpinning the rules for public expenditure in the EU that no costs for the same activity be funded twice from the EU budget” (Hart, 2012). Avoiding the problem of double funding led to a need to rework certain pillar 2 measures as well as cross compliance GAEC measures (Baldock, 2011).

Reaction

The reform from the day of its proposal to the final ratification went through a mixed bag of *reactions* mostly critical from all sides of the European Agriculture sector for different purposes. As mentioned earlier in the study, the farming organizations were worried about the EFA acting as abolished “set-asides” of 2008. Secondly the percentage of arable land set for EFA during the initial proposal was at 7%, which was unacceptable to the farmers’ organizations. This, according to them was, ‘waste’ of a perfectly productive land (Matthews, 2013b) and were supported by many economists who believed that arable lands should be utilized for production for food security reasons (Swinnen, 2015). On the other hand, some studies have concluded that proper management of the EFAs would have a positive effect on

the biodiversity. EFAs are, although meant to be on arable lands, based on less productive lands and therefore one study found that the economic burden of EFA implementation by the farmers should not be economically problematic (Oppermann, 2014). A simulation study carried out by Commission noted that the cost of crop diversification and EFA varies greatly depending on the type of farm (Commission, 2011b). However, Oppermann, 2014, considered that the economic burden is only short term. A study conducted in Germany also acknowledged the positive impact of crop diversification, however agreed the need for more ambitious diversification measures for a significant ecological effect (Oppermann, 2014). Maintaining 5% of the permanent grasslands at national level has not been received well (Pe'er, 2014).

As described above, over the last two decades, attempts had been made to slowly veer off from product based price policy to coupled producer based income policy, decoupling and movement to specific historic land payments and now providing possibilities for further decoupled direct farm area payments and try to work its way to achieve better market oriented policy. However, through all this time, the EU budget had become central to CAP (Tangemann, 2012). In the budget for 2012 almost 71.6% of the CAP budget is spent on the direct payments. With this move towards further decoupling, the “future” of direct payments is being questioned (ibid) by the environmental organizations as well as some economists, who believed in “public funds for public goods” statement and that funding should be allotted for targeted environmental measures (Bureau, 2012). These reactions at EU level prompted the idea for this study where interviews were conducted to gain a Swedish perspective on the greening measures and the CAP reform 2014-2020 in comparison to the EU stakeholders and policymakers.

Methodology

The design of the interviews was guided by Robson (2011). Due to the limited time period available for this study no on the ground, field study (visiting farms and organizations) was carried out. No pre-test - where the interview guide is tested and reworked before the actual data collection (Robson, 2011b) was not sought out.

This study's framework as explained in the literature review was based on the WPRB designed by Bacchi, 2009. The questions from WPRB were used not only to question the Common Agriculture Policy (CAP) reform 2014-2020 and the 'problems' represented in it while suggesting the "greening measures" as the answers to these problems; but, also used to identify the 'problems' seen by the Swedish agriculture stakeholders. However, the exact six WPRB questions were not answered as it is and were more so used as guideline throughout the study in trying to understand the history of the policy and its nature, how it came to be, the process of policymaking as a whole and to uncover the values that might have been at play during the process.

An, iterative process was adopted during the entire study, where literature review was followed by designing of interview guides and data collection; few pertinent follow up questions were asked after working with the data obtained from the interviews with some of the stakeholders. This process also involved modifying the interview questions periodically, on the basis of data obtained, what data was needed to answer the research question and sub-questions, and the profile of the respondents.

Sampling Methods & Tools: The sampling was made for the sake of capturing a significant number of organisations of relevance to Swedish agricultural and environmental policy and public debate. In part, convenience sampling was used for the study due to the fact that only participants comfortable in speaking English could be interviewed, and due to the time and cost limitation of the study. Secondly, this sampling was carried out with an aim of getting representatives from relevant stakeholder groups.

A rough categorization of different types of stakeholders were made with the purpose of capturing organisations with different perceptions on and interests in Swedish farming and environment. Following this I made sure to interview stakeholders from each category: Agricultural policymakers: Lantbrukarnas Riksförbund (LRF), Jordbruksverket and Ekologiska Lantbrukarna; extension service providers: Greppa Näringen and Hushållningssällskapet; NGOs: Swedish Society for Nature Conservation (SSNC, Naturskyddsforeningen in Swedish) and WWF Sweden on the basis of their engagement with the reform at various stages.

Semi Structured interviews: The most effective way of approaching the stakeholders and trying to get their perspective on the CAP and its recent reforms was through semi structured interview. The interview guide (see appendix) was made created on the basis of the literature review and on the basis of the questions raised in the framework by Bacchi (2009) as described above. The questions such as "what do you think are the main challenges of

Swedish agriculture” and “why do you think they are the main challenges?” were asked on the basis of reformulation of the first two questions from the WPRB framework. It was also asked at the initial stage of the interview, to have an easier entry into the topic for discussion and for creating a scenario/ context instead of directly focusing on the CAP reform. Similar types of questions were asked to respondents in the organizations within the same categories. It was expected that this would help in obtaining data easier for coding later for the analysis.

Semi structured interviews were carried out in three formats due to time constraints and convenience. These can be grouped together as face to face interview, telephonic interview and internet based interviewing (Skype audio/video calling). Each of these interviewing methods have its own advantages and disadvantages which might have had an effect on the quality of the data obtained. Advantages of face to face interviewing was it helped in participant observation. Observing the body language of the participants while explaining, using pictures, taking notes, all of these actions helped in understanding the way the participants felt about the topic. Whereas advantages of telephonic or internet based calling is that it was quicker and cheaper. However, the biggest disadvantage was that participant observation could not be carried out to the fullest. Although, mental and physical notes were taken during the interview on the long pauses and slightly uncomfortable silences and hesitation heard over the phone. Recording of these interviews also helped in revisiting the interview scenes to understand the situation or the context of the pauses. However, it was devoid of visual cues that could have given an enriched picture of the participants “perception on the issue” being discussed (Robson, 2011b).

The creation of the interview guide was the first step in directing the kind of information obtained, and served to narrow the kind of answers given to be responsive to the research questions. Using the literature review in the form of policy documents, communication and working papers prepared during the consultation process and the studies thereafter; and questions such as “what do you think are the main challenges of Swedish agriculture” and “why do you think they are the main challenges?”, as mentioned above, during the data collection helped in identifying, the different problem representations according to the stakeholders and EU’s CAP.

Data analysis subsequently drew on the WPRB framework described above and was done through selective coding and creating tables. Selective coding (such as positive and negative attitudes), helped in identifying initial patterns and new emerging themes from the text. Answering the research questions, by creating tables and placing the relevant data respective to the respondent, helped give a clearer image of the patterns and trends observed among the stakeholders (Robson, 2011a; Bacchi, 2009).

Reporting: The main findings in this study is divided into two sections: results and discussion. The results from the interview mainly focused on the key problems of the Swedish stakeholders in agriculture and their perception of the greening measures. This was illustrated using the citations and quotes of the stakeholders from the interviews. In the discussion section the results were discussed in the light of the literature review.

Results & Analysis

This chapter will begin with a brief introduction to the organizations and the respondents who participated in the study. The section will carry forward and present the results obtained from the interviews addressing the key challenges in Swedish agriculture according to the stakeholders and their perception on the greening measures and its challenges.

Jordbruksverket is the Swedish National Board of Agriculture. The respondent from Jordbruksverket, was involved in the research council for the Commission during the consultation process for the reform 2014. Prior to this 2014 reform he was involved in simplification of CAP scheme. During the presentation of the proposal he interacted with the Ministry and spoke on the proposal especially, the administrative and payment aspects of it. He was however, in constant interaction with other members from Jordbruksverket discussing the actual measures and its environmental effects.

LRF is the Swedish farmers' members' organization. The organisation consists of farmers across Sweden and works with them and other institutions such as Jordbruksverket. LRF has some political influence on the rules established in Swedish agriculture. Two representatives were interviewed for the study. The first respondent was the head of the crop production department of LRF and was involved in the consultation process when the government approached them first at the beginning of the consultation process. The second respondent is LRF Sweden's representative in Brussels and works with the Board of Agriculture and the Ministry on the implementation of the CAP. She was heavily involved in the consultation process, interacting with the stakeholders at Brussels as well as in Sweden. She was also involved in discussing proposals from various other stakeholders after the public consultation was opened up for the reform 2014.

Ekologiska Lantbrukarna is an organic farmers' association across Sweden. The organization was involved in the consultation process via reference groups. They were encouraged to answer and communicate about the reform 2014 through "remiss" or "referrals". The respondent interviewed worked with agriculture policy and market, and business development departments in this organization.

SSNC is an environmental organization mainly working on climate change, overfishing, forests, agriculture, hazardous chemicals and sustainability certification system and are known to be influential at a political level. As an NGO, they participated in different reference groups for both implementation of the P2 measures and for consultation on the reform 2014. They are also in a group for CAP 2020 that was started within the Swedish parliament. The respondent worked with CAP and was involved in the consultation process of the reform 2014. She is currently in contact with the European Environmental Bureau (EEB). During the consultation process, she was involved in studying the proposals for greening, submitting her comments and had written a paper on the Swedish implementation of the greening measures.

WWF Sweden is a nature conservation organization, involved in preservation of nature, biodiversity and landscapes. Their agriculture chapter was established by the need to preserve

biodiversity and maintain ecosystem services. As a part of reference group, this organization has been involved with Water Framework Directives, Helsinki Commission and various other network of working groups. The respondent currently represents WWF Sweden in one of the agriculture reference groups. He is currently also a member of various reference groups in Brussels and in some civil dialogue groups. He was representing WWF in a reference group, working on the rural development programme, a project of the Department of Agriculture and Rural Affairs. Greppa Näringen is a Jordbruksverket and LRF supported advisory service project. The organization basically acts as a source point for dissemination of knowledge on the reforms and policies by conducting lectures, seminars and workshops. The respondent as a project manager is well versed with the current agricultural scenario, policies, rules and regulations applied in Sweden. CAP in its entirety and the greening measures of 2014 specifically, was discussed during the interview.

Hushållningssällskapet's main aim is to help farmers with information and application process for subsidies. The organization per se, was involved in the consultation process for the reform like other stakeholders. The respondent is an agronomist and a crop advisor at this organization and is usually in contact and constantly interacts with the farmers. Therefore, the information obtained from her acted as secondary source of information on farmers' perception on the reform. However, they were not involved in implementing or influencing the policy's decision making.

Key problems in Swedish agriculture according to the stakeholders

It was clear from the interviews that the main problem in Swedish agriculture was not generally thought of as being of environmental nature. Instead, economic challenges were one of the most often cited challenges facing the Swedish agriculture. The major problems addressed by the respondents were *high cost of production* due to increase in land prices, expensive investments in infrastructure such housing, stables for animal husbandry, employment, heavy loans from banks for investments, taxes. Another most often addressed economic problem was *competitiveness*. Sweden has to compete with other countries who have comparatively cheaper cost of production.

"...most of the agriculture in Sweden are selling in the market are on the basis of the world prices and compete with countries which have much lower production costs which is a hard situation if you don't work with added values"

(Ekologiska Lantbrukarna)

This difference in cost of production can be because of the varying Member State rules with respect to environmental standards or animal welfare standards that emphasizes on infrastructure, health and wellbeing and proper auditing and certification of the farms, which the WWF Sweden respondent mentioned has been complained about by the farmers. This difference in production costs has an impact on profitability, sustainable production and the ability to invest in innovative techniques.

“I think, its profitability. Of course, there is always the environmental aspect. But the combination of sustainable agriculture and profit”

(Jordbruksverket)

“It might be tricky to Because we don’t want to be polluters, they (the farmers) want to have sustainable production. The key issue is innovation and investment. During the present market situation it is difficult for farmers to finance and invest in best available technique.”
(LRF)

Self-sufficiency was another socio-economic challenge that was mentioned by respondents from Greppa Näringen and Ekologiska Lantbrukarna. Sweden imports not only agriculture products but also meat into its domestic market because of the cheaper prices in European markets as compared to the domestic prices. An interviewee from LRF, mentioned that 50-60% of the meat is imported along with a lot of the garden products and cheese, while milk powder is exported, and an interviewee from Ekologiska Lantbrukarna mentioned that:

“Our food production in Sweden quite soon would be a problem for us if we would have any sort of crises. If our country would be shut at the borders and if there would be problems of any kind, because we are importing very much the food that we are eating today.”
(Ekologiska Lantbrukarna)

In addition, low profitability for farmers in general, certain lack of jobs and volatility of market prices which have led to decreasing number of farmers and lack of younger generation in agriculture was iterated by stakeholders such as Jordbruksverket, LRF and Ekologiska Lantbrukarna as one of the major social challenges.

“The social challenge is to get the young people to get involved in agriculture. The next generation, and to keep the rural neighbourhood, lively and keep the services in the countryside with new people and new families.”

(LRF)

An interesting point was made about the lingering effects of the previous CAP on the current issue of lack of younger generation in this field.

“Many farmers are old and when they pull out we have not (sic) as many young people joining the farm... But there is some problem with the EU policy because PI was until recently paid on the basis of historical data which allowed old people who ran the farm to just stay on the farm without actually farming it or keeping it bare cultivable condition and not running it very actively because they could still get the funding... Yes, it has [changed now] but it was recent and will still take time before we notice any difference.”

(Ekologiska Lantbrukarna)

It was *observed* that all the respondents, except WWF Sweden, addressed the socio-economic challenges prior to the environmental challenges. Since the respondents come from different

sectors, in relation to agriculture and environment, it was interesting to note such similar priorities of the agriculture sector in Sweden. The answers for environmental challenges varied across the stakeholders. Primarily, there was an underlying sense of acceptance from stakeholders such as LRF, Jordbruksverket and extension service providers that environmental challenges weren't much of a problem because a lot had been done over the years and is being done at the moment in Sweden as compared to other European countries. They had a *production and competitiveness oriented* stance throughout the interview. There was also a sense of justification that environmental issues will always be around.

"I would say it is tricky to have all three dimensions of sustainability. But you cannot have a template that works everywhere. Agriculture is a biological activity, it depends on the soil and its surroundings."

(LRF)

However, they did agree that there are still issues that need to be addressed especially the context specific problems and some that have territorial effects within and outside EU which would need regulations.

"There are, problems with certain types of agriculture. I don't say it's a big part in Sweden, but on an overall level there are problems in agriculture."

(Jordbruksverket)

"When it comes to environmental issues, we in Sweden are quite advanced so that is not a big problem. The problem is rather we export environmental problems that is why we have strict regulations in Sweden as compared to other countries. The production moves to other countries, we import food and other countries import environmental impacts"

(LRF)

As expected, the respondents from SSNC and WWF Sweden had an overall priority to the environment throughout the interviews. SSNC addressed the socio-economic challenges *before* the environmental ones, just like other stakeholders when specifically asked about the key challenges affecting Swedish Agriculture. The respondent divided it into short term challenge of profitability and income problems and long term challenge of competitiveness and the need for value added products through better environmental and animal welfare standards which could give better market value.

All the stakeholders agreed that the context specific environmental problems were very different in comparison to broad environmental challenges such as planetary boundaries which was addressed by the respondent from SSNC.

"...they (Visby) have big problem with drinking ground water. Some farmers use pesticide called Bentazole and it is very easy to move with the water and enters into the drinking water. They had to put up water cleaning plant and it costed 40 million"

crowns and it is a huge cost for the society due to small amount of farmers that are allowed to use this pesticide. So on a local level it could be other issues than the planetary boundaries... of course, the farmers closest to the Baltic Sea have eutrophication as the biggest priorities, so it could be different for different areas."

(SSNC)

"I mean we have lot of forests in Sweden you have one set of problems there where there is too much grass and too little diversity and then you in the larger fields and agricultural landscape, there the problem is you don't have any grass, you don't have any diversity. It's homogenous."

(WWF Sweden)

Lastly, two of the eight interviews, mentioned the need for *adapting* to the constantly changing laws and regulations related to environment, as a challenge. This is a result of the constantly changing nature of the CAP for over decades - in a bid to keep improving and evolving.

Perceptions of Swedish stakeholders on the greening measures

The range of perceptions of the stakeholders - about the 2014 CAP reform especially the three greening measures and their effects - varied from indifference on one side to criticism on the other side with only few of them acknowledging the possibility of positive effects from the reform in its current form.

A sense of indifference was observed from stakeholders such as LRF, Jordbruksverket and extension service providers such as Hushållningssällskapet and advisory project such as Greppa Näringen's point of view, in Swedish context for the greening measures.

"In Sweden everyone here at the board, think (sic) that it is not very important for us according to the environment. Because we already have several crops not just one crop. If you are in northern France then perhaps it is just one crop. And we have quite a lot of forests between the fields and have biological diversification already and [so] it is more about how can we adapt to the system (EU's CAP reform) in the best way possible and not causing so much trouble for the farmers."

(Greppa Näringen)

"I think it is kind of a "green wash". In our country it is not very important for the environment but in other countries it might be important. We have a lot of variation in the landscape and we have forest and agriculture lands, so it's not a big issue with the greening measures"

(LRF)

On the other hand, stakeholders such as SSNC and WWF Sweden were critical towards the end result of the reform and its intention as compared to its claim for environmental sustainability.

“So we were in one way pleased that the Pillar 1 (P1) could have some environmental demands on it. But at the same time when it comes out that the national levels have big influence and don’t really want to prioritize anything else but competitiveness; it is somewhere in between greenwashing and actually having a [positive effect]”
(SSNC)

“Greenwashing” was the term which was most frequently used by the interviewees throughout the process of data collection when describing the reform. The term greenwashing as colloquial word means an organizations’ or institutions’ false claim of following environmental friendly practices, policies or aims via their promotions. Although the official stance taken by the CAP and the EU on this reform is that it aims to work towards environmentally friendly agriculture, many amongst the stakeholders agreed the presence of “greenwash” elements.

“Officially of course it is the environment, but I think everyone understands that it has some components of greenwashing or something in it. There are, problems with certain types of agriculture. I don’t say it’s a big part in Sweden, but on an overall level there are problems in agriculture. There is lot of focus on it at the moment and something has to be done to make these payments more environmentally friendly. So that the payments also addresses the environmental problems.”
(Jordbruksverket)

This attempt at making these payments more environmentally friendly was perceived as justification of the single payment system and a method to reinforce the importance of the direct income support, by stakeholders such as SSNC, WWF Sweden and Ekologiska Lantbrukarna.

“[The main intention was] to give better value to P1 payments. It is highly discussed topic as it should be and it is also about why the farmers should be given payment in such a direct way and that they have to at least fulfil these criteria of greening. In the end, the criteria of the greening measures were so much criticised and so discussed that there was not much worth in the end”
(Ekologiska Lantbrukarna)

On the other hand, stakeholders from LRF were worried about the reduction in budget during the consultation process.

“Farmers were mostly worried about the budget, that there would be too much budget cut. And for the upcoming reform that is the same worry they are having (sic)...

saying straightforwardly that in the coming reform, they will focus on keeping the budget for the CAP.”

(WWF Sweden)

“To get as much money out of the system as possible without too many complicated rules”

(LRF)

According to the Hushållningssällskapet respondent, farmers are interested in improving the environmental quality of their farms because they depend on it but they are not interested in making too many changes in their production if the measures cannot show the necessary benefits in the environment. However, the stakeholders felt, that most of these measures were not exactly looking at what was needed on the ground.

“What is the effect of the greening measures, it’s just that you tick the box that is what it is all about... I mean, it doesn’t look at what is needed at the landscape”

(WWF Sweden)

The major criticism for the reform 2014 across the respondents was towards the complexity of the greening measures - crop diversification, permanent grasslands and EFA – with already existing measures within the agri-environmental schemes of P2 of the CAP, and maintaining cross compliance as part of Water Directives, Habitat Directives, Nitrate Directives and Natura 2000 areas. The need for appropriate implementation of cross compliance and the need to prevent double funding had created a layer of administrative complexity at the implementation level for stakeholders on the ground within Sweden. This administrative complexity has been termed by one of the stakeholders as an “administrative nightmare”, mainly because of the long process of application and the process of understanding the various requirements of the three greening measures in terms of composition, area, dates of sowing and harvesting for grasslands and EFA.

Further attention to detail was required by institutions like Jordbruksverket while establishing P2 measures or revisiting P2 and other environmental scheme measures in order to avoid similar measures from P1 getting double paid, which would mean some of the measures from the P2 also had to be removed.

“Greening measures has made it more problematic to find suitable voluntary measures. Because there is double funding problem. It is very important that we do not pay for the same thing in the greening measures and voluntary measures. So we have to be very aware of that when we construct and when we make our voluntary measures, more things to think about, so (sic) we don’t pay for double funding”

(Jordbruksverket)

The above described were *general perceptions of the greening measures* from the stakeholders point of view. However, the stakeholders had specific critique about each of the greening measures and what could have been done instead. *Specific observations* were made on the three greening measures which illustrated the conflict between ‘what measures are already in place’ and ‘needed on the ground’ vs the ‘broad measures prescribed’, thereby complicating the rules for the farmers.

The major difference between the crop diversification and crop rotation is that for crop diversification at least 3 different crops have to be grown at the same time, according to the greening measure rules. While for the crop rotation multiple annual crops can be rotated, such as following five crop rotations for period of five years. Crop rotation in Sweden was already part of the voluntary measures which farmers in the southern Sweden mostly chose to follow because of the benefits of good soil quality and natural pest and weed management.

Jordbruksverket felt more resources would be needed for managing diversification. The major criticism for crop diversification was the lack of rotation. Some were of the opinion that this diversification will not bring in the benefits that the land experiences with crop rotation.

“Our original criticism to this is that it should be instead of crop diversification, it should be actually crop rotation (sic). That would have given the environmental benefit from practicing because when you switch between the crops, that is when you get the good effects on soils, less pesticides and so on. But today it’s just you need to have two or three different crops on your land. You don’t have to rotate them”

(SSNC)

The respondents from Jordbruksverket and LRF believed that it would be especially difficult for small scale farmers to follow the rules. Secondly, they got an exception for farmers in the 62 parallel north latitude. They have an exception of growing only two crops and one of them can be grassland. It would be less profitable for the farmers to grow more crops. One of the interviewees, however, felt that the mandatory crop diversification might be able to achieve the environmental friendly management objective in areas where there is vast lands in monoculture.

“Perhaps up in Skara, they have very much winter wheat after winter wheat after winter wheat. So there are places where there isn’t much crop diversification... Perhaps, in those places it can be good.”

(Greppa Näringen)

While, for the environmental organization stakeholders and the organic farmers organisation, the need to have only two or three crops on the land was termed too easy to fulfil the requirement and also addressed the possibility of few loopholes that the farmers might be able to take advantage of

“I think it’s quite on a low limit and quite easy to fulfil it. I think it is better if the farmers can follow a good crop rotation”

(Ekologiska Lantbrukarna)

The major reason for choosing crop diversification over rotation, was that crop rotation, is a multi-annual payment scheme. These measures and payment schemes are paid by the specific Member States. Whereas crop diversification is a single payment scheme. Measures from P1 schemes such as crop diversification are funded by the EU which is obligated to

follow the World Trade Organization's (WTO) international trade and "green box" rules, which addresses the kind of payments that can and cannot be provided as subsidies in order to avoid market distortion.

"As it turned out, EU found out that if there has to be diversification then it had to be one and the same year, it could not be over several years... I believe the reason was that, it might be regarded as creating demand for production and that would not be compatible with the WTO, "green box" criteria"

(Jordbruksverket)

The second greening measure; the permanent grassland, was largely accepted by most stakeholders. Sweden has chosen to take up a total of 5% limit of permanent grasslands at national level. This limit considers all the grasslands in Sweden as a whole and dictates Sweden to maintain 5% of the total land as grassland areas. Therefore, the grassland areas at farm level can decrease only as long 5% of total grassland areas at national level is maintained. Secondly, the natural pastures and meadows under Natura 2000 are also given extra protection in the permanent grassland greening measure and their protection is guaranteed by the payments from both Natura 2000 program as well as from the green payments of pillar 1. Finally, the exception that Sweden received of using grasslands instead of crop diversifications in the areas with majority grasslands and in the latitudes 62 north parallel and above, also largely favours the Swedish grassland ecosystem. However, there are certain details about the permanent grasslands that Jordbruksverket is hoping to clarify during the next mid-term review.

"...we have some interpretation, concerning grasslands that we would like to discuss further, because we think we didn't end up very well with the current interpretation of the commission"

(Jordbruksverket)

Lastly, the EFA. The EFA vary from country to country and this allows it to tailor the greening measures according to the context of the country. EFA received a wide range of criticism from all the respondents for different reasons. Many admitted that the concept of EFA could be very effective in bringing about changes in biodiversity, however, it could not be obtained with the currently established measure of 2014 reform.

The respondent from Jordbruksverket acknowledged at the very outset that they had chosen to make the EFA as *"simple as possible"* for the farmers. Therefore, they had decided to do away with small features such as stone walls which would require considerable portion of administrative actions for registration at the land parcel identification system. They chose to focus mostly on area based features and decided on the following five: fallow land, nitrogen fixing crops, catch crop/under sowing ley crop with the main crop, salix/short rotating coppice/bioenergy crops and buffer strips/field margins.

The nature of the current EFA measure of nitrogen fixing crop feature was explained as follows:

“I mean the greening measures you could more or less grow peas and beans and say that ok, I have 5% beans so, I have done my share of EFA...”
(WWF Sweden)

The major critique on the EFA have been the *weighting factors* allotted to each of the features. The first critique according to SSNC respondent was on salix/bioenergy crop was the low weighting factor of only 0.3, which would not be enough to encourage the farmers to implement it. The same could be said of the flowering nitrogen fixing crops, which for the stakeholders indicated a lost opportunity.

“...there are some bioenergy crops which are good for feeding bees, they have pollen for the bees early in spring time. There are possibilities to use them as good EFA in very intensive landscapes. But since it's so low in the factor, I don't know if many farmers have used this”

(SSNC)

As explained by the same respondent, weighting factor is given to each of the EFA feature which provides a biodiversity value. The factors range from 3 to 0, 3 being the highest weight. Each feature is measured in per square meter, for instance: 1 meter in length, buffer strip is worth 9 square meter of EFA and the width of the buffer strip can vary from 1 to 20 meters; nitrogen fixing crops has 0.7 as the weighting factor which makes 1 square meter of nitrogen fixing crops worth 0.7 square meters of EFA. Similarly catch crops and salix have the factor of 0.3 for 1 square meter which equals to 0.3 square meters of EFA area each.

“If you have 1 square meter of unused farmland (sic) [unused border/ uncultivated field border/buffer strip] then you can count it as 9 square meters. So it will be very easy for the farmer to fulfil the EFA with this scheme. They don't have to do anything really, they just have to not farm... and then the biggest environmental benefits from these are the nitrogen fixating crops. [But] weighting factor for that is only 0.7 which is really strange, it's not even 1. If you have 1 square meter of nitrogen fixating crops it will only be counted as 0.7 square meter. So that's also something that tells the farmer that this is nothing that you should really go for. And fallow, is 1. In some regions, of course, fallow is very attractive. It's where you don't have so much economical income from your crop and it's much more beneficial to have fallow in some areas to be able to fulfil the EFA. But in intensive areas, when I have been asking around, I would say that intensive areas, the most used ones are the unused field borders”

(SSNC)

Another issue could be the use of chemical pesticides on EFAs. Although for salix the pesticides can be used only during the first year. However, herbicides could be used to maintain fallow lands as part of EFA or fallow unused field margins, provided they are not next to water courses. The weighting factor was allocated by the Commission and was

labelled as a “*political discussion*” by one of the interviewees. This emphasized the power of Brussels and EU over the Member States. The process of calculation was made on the basis of the basic acts of CAP worked on by the Council and the European Parliament (EP).

One of the explanations received for low weighting factors was that it was not meant for production and was not meant to be expensive for farmers and was not intended to be a coupled support for the nitrogen fixing crops but at the same time aimed to encourage environmentally friendly production systems. Respondents from Jordbruksverket and LRF, addressed the compromises made while allocating the weighting factors. The LRF respondent also made an observation that during the consultation process, the weighting factor for the nitrogen fixing crops was increased.

Apart from the issues of low weighting factors, making no demands of the farmers on how they were planning on utilizing the unused borders or field margins was the second major critique from the environmental organization stakeholders. SSNC respondent believed that fallow would be used on unused field borders by intensive farms.

“...They have put no demands on what to do on these unused borders. But it is up to the farmers to choose what to do with it. I mean, you could have sown in (sic) flowers that are good for bees, or nitrogen fixating crops, catch crops and so on but they have made no demand on what to do.”

(SSNC)

On the other hand the Jordbruksverket’s assumption that farmers will be able to use the EFA effectively for the purposes of improving the biodiversity indicated their stance towards flexibility. Other stakeholders also believed that EFA, especially field margins have good potential.

“I think the field margins is the best thing in the greening package... the field margins might make the corridors, the wildlife within the fields in Skåne & Västra Gotland where there is a lot of grain, and birds nest there and all that. I think the field margins is the best thing in the greening package”

(Jordbruksverket)

WWF Sweden’s understanding was that the weighting factors have steering effect and it depends on what is needed to be achieved.

“...the measures included as EFAs in themselves have very different potential to actually contribute to environmental benefits the results can be questioned. As they are now it does not seem that the question what do we want to achieve really has been asked. What is lacking in the agriculture landscape... I believe that the basis for measures should be what is lacking in the landscape. Clearly one such thing is available nectar sources the whole growing season. To solve this one way could be to have buffer strips sown with flower and weighted with 2.5 making it really attractive for farmers. So to summarize the weighting factors should be used in a better way to

promote what we need to have more in the landscape, and then it might be a good tool”

(WWF Sweden)

To illustrate this further the respondent, during the consultation process for the reform 2014 asked how the tool would be used and pointed out the importance of geographic context and that specific demands should be made accordingly.

“If you have buffer strips- where are they likely to put it... they need to make sure that the buffer strip is placed where it is mostly needed in the landscape, I mean out in the larger fields and make sure that they are sown with nectar bearing flowers to increase pollination or increase in the ecosystem services.”

(WWF Sweden)

However, with the final reform and the flexibility for this measure, the respondent stated that farmers “will not take up” sowing flowering plants because of the expense and that with such kind of flexibility farmers could simply grow grass. Jordbruksverket’s favour for flexibility within the EFA was seen by environmental groups as the prior wanting to do “*as low (sic) as possible*” instead of “*as simple as possible*”. Although the environmental organizations such as SSNC and WWF Sweden, agree that Brussels has the major influence on the CAP, such as allocating the weighting factors of EFA. They were of the opinion that, by doing as little as possible, Jordbruksverket is still putting competitiveness over environmental aspects of agriculture.

“The nations at national level could put more restrictions but all the countries have done implementation as low as possible. No one has really wanted it to have an effect on the biodiversity because everyone wants the farmers to be doing as little as demanded. Because they all are focusing on the competitiveness of the farmers in their own country. So they do not want to put up any higher restrictions on their farmers in one country as compared to other countries. So in Sweden, it was very clear that they didn’t want farmers do anything that would go against the competitiveness of the farms.”

(SSNC)

However, the Jordbruksverket and LRF addressed that EU has not only more influence on how the rules and regulations are made at CAP but also on the interpretations at the Member State level.

“The problem is that the greening measures is steered by the people in Brussels so, there is a limited variation in the system. The national influence is not that big, really. We all have to be part of the CAP and the greening measures, and we can just hold on some small detail in the system.”

(LRF)

The reduction in the Rural Development Programme of Sweden in P2 of CAP which is largely funded by the Member States, was also addressed but it was not considered to be a

significant decrease from LRF's point of view, while WWF Sweden's respondent had a different view point.

"We have 2 billion SEK less, and they have taken away so many measures which are very crucial. I mean there are no biodiversity related measures in the larger agriculture landscape at the moment. They are all gone."

(WWF Sweden)

As mentioned in the earlier sections, issues of double funding, were the reason for scrutiny while creating and reviewing the P2 measures. This signified the importance and influence of CAP rules on the Member States' decision making regarding agriculture and how it affects other policies. However, the 6 month closed process of making the Rural Development Programme (RDP) for P2 and the consequent reductions in P2 measures especially the cultural heritage structures related to landscape and biodiversity measures – which had no connection with P1 greening measures - strongly placed the onus on the Member State of Sweden and their decision, according to one respondent.

"The board of agriculture is open and transparent, we were proposing these measures to be included in the next rural development programme and that goes to the Ministry of Agriculture and Rural Affairs and I was in reference group there, representing WWF. We discussed it and we came in with our inputs and then all of a sudden there was no dialogue because it was a political process which took almost half a year and we didn't hear anything. So the current programme that we have today is based on politics and ideology, which has nothing to do with reality. I mean they have removed measures, we have changed government since then."

(WWF Sweden)

Challenges during the implementation of greening measures

Although all the above discussed critique of the new reform was mainly focused on the reform 2014 and CAP in its entirety. There were other practical and on the ground challenges which also added to their overall critical perception of the stakeholders.

Building of new IT systems for each reform requires tremendous input of resources such as time and money, in spite of which systems are still being made and developed even after the transition year of 2014. Delayed flow of information with respect to the rules and details of the reform and consequent misinterpretation by the Member States, further complicate the issue of implementation.

"It has been a big challenge to know how to adopt the crop production to the new system when the new system is not set yet."

(Hushållningssällskapet)

An example was given by one of the respondents from LRF:

"For example: [rules of] permanent grasslands from last year to this year there has been changes. This is maybe because the decision from Brussels came very late. You

also have to make your own interpretation of the rules. Swedish authorities of course want to make it right but sometimes it's difficult to know."

Implementation due to misinterpretation of the rules often leads to farmers being unpaid or at times paying back the money they received. These cases were experienced during the previous CAP reforms as well, according to the respondent from Greppa Näringen, because of which farmers are very scared of following the wrong rules.

"The farmers can be a bit afraid of doing something wrong. They want to do the right thing. Perhaps, I do something wrong and then I have to pay back. That's a confusion for the farmers"

(Greppa Näringen)

Apart from lack of payment due to misinterpretation of rules, there has been delayed payment for the implementation in general.

"One of the struggles is that the payments are very late. The national authorities have too much to do and they cannot deliver everything they need to deliver therefore there is late payments"

(LRF)

Payment for in transition farmers (farmers who are transitioning from conventional to organic) has been an issue even for the Ekologiska Lantbrukarna due to unclear formulations from Jordbruksverket.

Desired changes

As a consequence of how the greening measures were perceived by the stakeholders and challenges they faced, the respondents across the board supported the view that over many discussions on EFA and other greening measures, compromises were made which towards the end had reduced the effectiveness of the potential measure.

"I think the environmental benefits will be very small. There was so much negotiations and many have been upset due to these criteria that the actual effect of them will be very limited. I think they are for sure bringing in lot more complications than there is already in this complicated system and the farmers will be reluctant because of the types of political systems and politicians and I think that will be bad for the sector."

(Ekologiska Lantbrukarna)

"I think, it's of marginal use if any. We would have preferred to use more precise measures within the rural development program."

(Jordbruksverket)

In the same vein, interviewee from LRF agreed that they would have preferred P2 measures since Sweden has a large environmental program which could have been more efficient to achieve the goals that the greening measure was hoping to achieve. This very sentiment had been addressed by other respondents across the board from SSNC, WWF Sweden and Ekologiska Lantbrukarna at various points during their respective interviews each giving the benefits of focusing on P2 on environment in Sweden.

Sweden's large environmental program was lauded by the respondents stating that, 60% of funding from the Member State is applied for the P2 measures. Now these measures involve, other rural development projects and a big chunk of it is known to be applied for environmental issues related to agriculture. The respondents also observed that these P2 measures are targeted and have precise tools which makes it easier for the farmers to use depending on the context of the farm.

"They were more precise tools than the greening measures. The greening measures had to be applicable therefore they are not very precise and not adjusted to the place and producers. They are from a very basic scale... but with the voluntary measures within P2 we could do more precise measures which is needed for the region or the type of farm something like that."

(Jordbruksverket)

However, WWF Sweden, although in favour of P2 measures, had an important critique to make on the monitoring aspect of the environmental program in general in Sweden. According to him, there is a need to make an improvement if these precise tools had to have an effect. He emphasized that recording the amount of money spent

"...how much money they have spent and how many farmers are applying for the measures" was not the way to monitor.

(WWF Sweden)

The respondent referred to a study where they were monitoring the environmental measures applied in general. He stated that county administrations are working on the monitoring and evaluation of the situation on the ground. However, on observing him during the interview it was evident, he agreed, that it was a difficult task but extensive, on the field monitoring was lacking which is very crucial. The respondent, also mentioned of other studies and actions taken up by Jordbruksverket and other concerned organizations within Sweden itself, to help improve the monitoring and evaluation standards in order to have better environmental quality on the farmlands.

"The whole program of measures in Sweden has got stuck in some old way of doing. But there are some interesting [things] going on at the board of agriculture. They are right now planning a study for value based or result based measures... We are going to be discussing, if result based or value based measures in the RDP could be a way forward or could be something Sweden could pick up."

(WWF Sweden)

This change is needed in P1, Good Agriculture and Environment Conditions (GAEC) and cross compliance measures as well as for the P2 voluntary measures, monitored in the past, according to the stakeholders. According to the respondent from WWF Sweden, although, voluntary measures have been observed to be effective because of their context specific precision,

“...we still have a problem. I mean the RDP has a lot of potential but we still have a problem with how many farmers are undertaking the measures... you have buffer strips, then you come to a neighbouring buffer strips and you don’t have buffer strips and then the other has buffer strips, you don’t have consistency.”

(WWF Sweden)

The respondent from WWF Sweden, had indicated the inconsistency in the measures’ application and emphasized on finding solutions for the needs of the greater landscape.

“So I think, voluntary way is something that Sweden, at least board of agriculture and farmers are very proud of. But I think after 3 periods of rural development programs, biodiversity levels in agriculture landscapes are still going down a lot. I think we need to start questioning, if farmers are not undertaking the measures that are given to them. We need to discuss other ways as well to stop the loss of biodiversity in agriculture landscape.”

(WWF Sweden)

With these struggles in mind, most of the respondents were looking for changes during the mid-term review in 2017 or changes for the next CAP reform. Firstly, most of them in broader sense wish to focus on ‘simplification’ of the rules to reduce the administrative burden and make easier rules for farmers to follow.

“There is no promise of mid-term review but they have already started to look at the simplification of the greening. So even if it’s not official mid-term review, there will be something like it. Of course we are, active, but maybe instead of saying we shouldn’t introduce greening, we will say that it should be adjusted in this and this way.”

(Jordbruksverket)

“So now when we look forward there is more discussion on simplification then on, actually giving the greening a better environmental implementation. So it’s a tough way forward to make it more green (sic), because focus is so much on competitiveness and simplification is the lead word for the coming revision/reform”

(SSNC)

This difference of opinion on the simplification and competitiveness is likely to continue in the next CAP reform as well. Secondly, Jordbruksverket and LRF had other specific issues that are also being reviewed and hope necessary changes will be made.

“...we have some interpretation, concerning grasslands that we would like to discuss further, because we think we didn’t end up very well with the current interpretation of the commission”

(Jordbruksverket)

At one point, using the AES as one of the greening measures was discussed by LRF. However, they agreed, that would also lead to issues of double funding.

“We cannot do much because everything is set in the context of the basic rules. [If] we would like to make the major changes then we would have to change the basic acts which are decided by the Council and Parliament and that’s a bit tricky. So if we want to make big changes we will have to wait until the next reform.”

(LRF)

On the matter of EFA, respondent from SSNC agreed that a lot could be done to make improvements and make it even more effective, stating that there are many ways in which biodiversity on the farms could be improved at the same time the agricultural profits will not be affected. She also emphasized that measures focusing on improving the biodiversity does not go against the higher yields.

“So there are so many schemes that could be a win-win. So instead of looking at farmers to not doing anything [“burdening them”] instead they should look into schemes that benefit the farmers’ income and biodiversity.”

(SSNC)

The stakeholders such as SSNC, WWF Sweden and Ekologiska Lantbrukarna, emphasized encouraging the value added products, such as organic food (problems with lower prices) or Swedish meat and dairy products (competitiveness problems). This, they felt, could help solve the issues of competitiveness without compromising with the environmental quality. They believed, this was mainly the responsibility of MS to take initiative at national level to implement it, as well as to promote it at European level.

“Sweden needs to be producing added value products because that’s where Sweden can have competitiveness over other countries because we cannot compete with because of the bulk production. A lot of Swedish consumers also want to have added value in the food but also consumers in other countries want to buy food with added value. It could be animal welfare. We have Swedish cows today and they do not eat GMO seeds, so we have meat of cows without GMOs, it could be added value for Sweden to export. So Sweden really needs to focus on giving the farmers better pay for added value products but also communicating this added value in Sweden and outside Sweden. That’s where we see that the Swedish farmers have competitiveness

over other countries.”

(SSNC)

The decline in biodiversity due to decline in semi-natural grasslands and decreasing animal production was also observed by LRF and indicated that the need to bring balance between the economic and the environmental issues was acknowledged.

Since, Sweden is not an agriculture oriented country, the lesser interest of the State in it was noted by the respondent from Greppa Näringen. On the other hand, Sweden's major dependence on imports for food as expressed by Ekologiska Lantbrukarna and LRF earlier, draws the stark image of the need for active participation of Sweden as Member State in its agriculture for its farmers.

Finally, two of the eight interviewees, mentioned the need for slow removal of the P1 funding and using on P2 funding in order to make an impact on the challenges faced by the agriculture in Sweden.

“...it would be much better to have a payment in P2 AES to stimulate activities to enhance the environmental aspects than having P1 greening measure- EFA. It is much better if the money goes to larger extent to “what is done” instead of having to pay for “what has to be done”. The general payment in P1 should be faded out. It is better to have the politician system (sic) to work with payments the way we have in P2, where we have the criteria of common good. This is much better way than qualifying EFA and get general payment.”

(Ekologiska Lantbrukarna)

To that effect, WWF Sweden, is currently independently working on a proposal called as Common Environmental and Rural Policy (CERP) which is a three tier system to replace the current two pillar system of CAP. The first tier follows all the rules of GAEC, EU Directives and much broader environmental measures without any payment as a baseline requirement which is indicative of 100% greening of P1 in terms of the current CAP but without the pay. The second level of system will focus on area based payments for those farmers who are contributing to the public good and this level aims to strongly follow “public money for public goods” principle and the final level of the system would have economic support for more targeted and complex issues of habitat restoration.

The respondent from Ekologiska Lantbrukarna stated that they wished to push

“...for political systems to put sustainability first because we still have an agriculture program with aims and goals of higher productivity, which is not a problem in Europe. We have to be alert about the sustainability and to be able to produce good food for long time we have to look into sustainability issues”

(Ekologiska Lantbrukarna)

In the end, although, most of the stakeholders had strong words of criticism for the greening measure due to the complicated rules, and the problems of adjusting the Member State rules within EU's framework, it was observed that some of the respondents also positively acknowledged some aspects of the reform 2014 – such as rules for convergence and bringing in uniformity of payments, active farmers, and payments for young farmers. All respondents also noted that it was positive that the EU has begun working towards adjusting the CAP to make sure that people who actually deserve the benefits are the one getting the support.

The quote below expressed by the respondent from Ekologiska Lantbrukarna when asked to comment on the reform as a whole, sums up the very well the general attitude and perception that the stakeholders held during the data collection.

“Small steps in the right directions, but we are still struggling with important and bigger steps.”

(Ekologiska Lantbrukarna)

Discussion

The greening measures were established within the ‘sustainable management of natural resources’ objective of the CAP 2014-2020 reform with an aim to address the problem of biodiversity loss that the agricultural landscape in EU is facing.

This chapter will discuss the major results obtained, in the light of the literature review carried out for this study. The discussion will be presented by answering the research sub-questions. The sub questions addressed are: key challenges of Swedish agriculture; framing of the challenges by EU’s CAP and how they fit with that of Swedish priorities; and perceptions of the Swedish stakeholders on the greening measures. Finally the difference in the stakeholders’ viewpoints are discussed. The perceptions on the greening measures will be viewed under the purview of agricultural sustainability which will be discussed at the very end. By doing so, the study aims at giving a broad perspective about the impact greening measures and the perceptions of the stakeholders will have on the agricultural sustainability of EU.

Key challenges of Swedish agriculture according to the stakeholders

Firstly, according to the stakeholders interviewed in this study, socio-economic challenges, are one of the main issues of Swedish Agriculture. Socio-economic challenges in this study have been termed as “priority problems”, purely on the observation that all the stakeholders, except WWF Sweden, mentioned the socio-economic issues *before* environmental issues. The data collected indicated that LRF, Jordbruksverket, Greppa Näringen, and Hushållningsällskapet were more oriented towards production and addressed economic challenges. Ekologiska Lantbrukarnas who many a times held environment a priority by promoting for further organic agriculture production also held the socio-economic situation of organic production a priority. This does not mean that these stakeholders were indifferent towards the environmental challenges faced by Sweden, but it was not their main concern.

On the other hand the environmental organizations WWF Sweden and SSNC were environment oriented with clear insights on how the CAP reform 2014-2020 needed to address the environmental issues from Swedish perspective. However, SSNC respondent addressed the socio-economic challenges *before* the environmental issues and provided a detailed description of those challenges and how better environmentally oriented production and animal welfare could help improve the competitiveness of the Swedish agricultural produce. This hints at how the environmental greening measures were received, since studies have shown that, while embarking on implementation of environmental measures or biodiversity policies, farmers have wanted to address their economic interests first (Siebert, 2006).

The socio-economic challenges mentioned were mainly high cost of production, competitiveness, low profitability and lack of self-sufficiency (at national level). These challenges were also raised by the EU countries during the negotiations and often linked it to the need for food security at global level (Rutz, 2013) and were heightened during the 2008 economic crises when Europe witnessed extreme price volatility and fluctuations (Castro,

2014). Another socio-economic challenge was reduction in number of farmers and farms in the recent years in Sweden. This has been observed over the years as described in the Genealogy section. EU-15, of which Sweden is a part, has seen a decrease in both family labour and non-family labour under agriculture employment by 23% from 2000 to 2010 and an overall 16% reduction of agriculture employment between 2007 and 2010 in EU-28. The decline post 2008 could be basically due to the economic crises of 2008. The technological advancements in agriculture that replace manual labour on large scale farms; and the inability to cope with these advancements on small scale farms, leading to farm abandonment and consequent land consolidation by bigger farms has led to unemployment in agriculture (Papadopoulos, 2015). Ageing farming population, lack of successors and poor attractiveness of agriculture in general were also considered reasons for such reduced employment in agriculture (Commission, 2011a).

These socio-economic challenges were followed by environmental challenges. Broad challenges such as eutrophication, biodiversity loss and climate change were addressed by the stakeholders. All of the stakeholders agreed that environmental challenges are very context specific. Nutrient leakage, contamination of river waters by pesticides, biodiversity loss due to either monoculture in South or homogenous landscape of forest and grasslands of north. An environmental assessment of Swedish agriculture studied the above mentioned issues along with air quality and pollution, GHG, soil fertility. The results indicated that agriculture was the major cause for nutrient leakage in water streams and GHG in air (Engström, 2008; Engström, 2007)

Differences in framing of the problems between EU's CAP and Swedish stakeholders

EU, through the CAP 2014, framed the problems broadly around its main objectives of addressing the need for “sustainable management of natural resources and climate action”, “viable food production and balance territorial development” (Commission, 2011g). However, it was the suggestions to solve the environmental challenge of biodiversity losses by establishing the greening payments that created the stir among stakeholders (Hart, 2014).

Since the 1950s specialization, consolidation and mechanization encouraged the conventional farming practices. This was complimented by use of pesticides, fertilizers and monoculture which brought about changes in land use systems which helped achieve the initial objectives of increasing productivity and food security, as mentioned in the Genealogy section. These policy instruments changed the land systems into improved grasslands and intensive cultivated lands, for over decades, which was identified as the primary cause of agriculture related environmental issues such as decline in biodiversity (Poláková, 2011). The CAP 2014-2020 reform comes after EU failed to meet the target of reducing biodiversity loss by 2010. Despite the efforts to reduce biodiversity loss, taken up by the EU legislation, only 11% of the key ecosystems were found in a favourable state (Condé, 2010). However, with this new CAP the intention was to reduce the biodiversity loss by 2020 (Oppermann, 2014). Therefore, biodiversity loss was the problem identified by CAP and the main driver for the greening measures of CAP 2014-2020. However, the main idea of WPRB framework is to

question this problematization and see what lies underneath it or what the policy's "implicit problem representation" is.

With the background of biodiversity loss, the Commission hoped to improve the environmental sustainability of the European agriculture, by encouraging the farmers to practice agricultural techniques beneficial for climate and environment (Bureau, 2012). It proposed the three greening measures to form mandatory basic rules for receiving 30% of their direct income support payment in the new CAP reform 2014 (Commission, 2013; Development, 2013). Therefore, the CAP reform was aiming at changing the current farming practices for improving the environmental sustainability and help solve biodiversity loss.

While in the framing of CAP's greening measures, biodiversity loss was represented the central 'problem', as has been mentioned above, Swedish stakeholders prioritised socioeconomic issues, which indicated a clear clash between the CAP and the Swedish context⁵. More specifically regarding the framing of environmental problems in agriculture, there are two additional reasons why the CAP and Swedish perspectives clash; difference in geographical context and the production oriented stakeholders 'acceptance' that Sweden is advanced from environmental sustainability point of view in agriculture.

True to the CAP's nature, the newly established greening measures of crops diversification, permanent grasslands and EFA, had broad uniformity in rules and regulations for environment and production. These broad measures were seen as challenge primarily because the geographic context in which a country's agriculture sector functioned (Matthews, 2012) varied within the EU. This was supported by the answers received from the respondents in the study, who stated that the geographic context of Sweden - environmental and natural landscape, is quite different than in other Western European agricultural countries such as Germany or France. Northern Sweden has vast grasslands and large forested areas which do not provide with diversity; whereas the homogenous agricultural fields of South also lack biodiversity. An example of the importance of geographic context while establishing the conservation spots, was observed in Stuttgart, Germany, where the simplified implementation of establishing hedgerows to improve the large blue butterfly population, was deemed counterproductive, since the population dropped further (Henle, 2008). Apart from the geographic context, this example also showed how a simplified environmental measure without proper consideration of its ecological effect can further contribute to biodiversity loss (ibid). Therefore, this brings to the fore, how broad measures are unlikely to help equally across geographical contexts. However, the proponents of these measures might argue that these measures are supposed to act as baseline measures on top of which much more targeted measures can be set up (Allen, 2013). The possibility of the baseline being counterproductive

⁵ Although it can be said in this context that some, but not all, of the socioeconomic issues are handled by the Basic Payment System (BPS), progressive capping and redistributive payments of income under P1 of CAP and the Sweden created RDP financed under P2 of CAP, (Commission, 2011g) which is however not the focus of the present study. Despite that, it's impact and place in the wider context of agriculture sustainability along with the greening measures will be addressed in last section of the discussion.

to the existing environmental measures and its ecological effects should be considered as well.

A statistics drawn out for the Millennium Ecosystem Assessment report 2005 and studies have acknowledged that a considerable percentage of farmland birds, mammals, insect species, pollinators, and threatened vascular plants were dependent on the agriculture landscape in Sweden, and were negatively affected by the intensive farming activities (Nilsson, 2013; Björklund, 1999). In such a situation, applying broad based greening measures such as EFA, or maintaining permanent grasslands might lead to oversimplified use of those features, as illustrated in the blue butterfly case, which might go against what is needed (Tangermann, 2012). This was considered as an inefficient use of resources and ineffective method of addressing the biodiversity loss (ibid) was the beginning of the critical reception of the greening measures in Sweden in general.

While the environmental organizations were very critical of the reform, LRF, Jordbruksverket, Greppa Näringen were indifferent towards the potential of the current form of greening measures. This is primarily because, they believed Sweden is advanced in terms of environmental programmes – stand alone and in agriculture through P2- in comparison to other European countries. This history of progressive national environmental policies and environmental policies regarding agriculture was the reason for the sense of ‘acceptance’ of the stakeholders with regard to Sweden’s environmental issues in agriculture. For instance, the RDP, set by the EU but tailored by the respective MS according to the context, was divided into 4 axes, all of them focusing on competitiveness, environmental measures and improving the rural lives and community development (Commission, 2008b). Sweden under the 2007-2013 RDP of P2 spent a substantial portion of its total allocation on the axis 2 of the programme – improving environment and the countryside. In the period between 2007 and 2013, Sweden was known to allocate 64% of the total funding (CAP and national) of P2 for environmental measures. A long list of environmental measures were made available for the farmers of which, *grazing lands & meadow*, *ley cultivation*, *less favoured areas* and *organic production* received considerable portion (a quarter for the first two and one fifth for the last two) of the second axis funds (Öhlund, 2015). A press release on the new RDP from EU described that Sweden, would be focusing on “restoring, preserving and enhancing ecosystems related to agriculture and forestry”. The statement included that Sweden would have around more than 28% and 33% of agricultural lands under biodiversity improvement and water management respectively (Commission, 2015a).

Therefore, due to the issues of varying geographical context, emphasis on socio-economic challenges by Swedish agriculture, the broad and mandatory nature of the greening measures, and differences in environmental agendas of EU and Sweden, indicated that the aims of CAP's greening measures are unlikely to improve environmental conditions in the Swedish context.

Perceptions and criticism of Swedish stakeholders on specific greening measures

Although, as the reform is in the initial years of its implementation, we can say little about the actual material impacts of it (i.e. what Bacchi calls the lived effects). However, we can say something about the potential future lived effects, based on the predictions made by the Swedish stakeholders interviewed here, in combination with perceived findings from the literature review where the potential effects of the greening measures from across EU, were studied.

Studies, indicated that the crop diversification was an ineffective tool to help with the problems of biodiversity, in comparison to crop rotation, which is well known for improving the soil quality (Commission, 2011c), soil microbial diversity and for business reasons (Tangermann, 2012) which follows the main criticism from the stakeholders in Sweden. As mentioned in the results, crop rotation is known to be followed in the South of Sweden. Replacing it with diversification would only lead to complex implementation, planning of crop production (Hart, 2014) and difficulty in identifying its ecological benefits (Commission, 2011c). Secondly, literature has also pointed out that it might also lead to growing of same crop on the same field every year if the crop mix is right; or an input intensive crop would end up being grown because of the mandatory crop diversification conditions (Norell, 2012). On the other hand, crop diversification and set-aside in the form of EFA were known to increase the food prices in the market on the basis of a simulation study carried out by the Commission (Commission, 2011b). However, one of the stakeholders agreed that it would be a good solution for the homogenous areas, as agreed by some studies (Rutz, 2013; Commission, 2011b)

5% of national limit on permanent grasslands and the exception for crop diversification and grasslands in 62 parallel north latitude, have been accepted without much of critique by the stakeholders in Sweden. Also the special attention was given to Natura 2000 grasslands, and would receive additional payments from P1 and under the Natura 2000 cross compliance measure. However, literature has stated that this requirement of 5% maintenance of permanent grasslands might lead to a reduction of previously maintained permanent grasslands at farm level as long as the national level of 5% is maintained (Norell, 2012) which goes against the idea of halting biodiversity loss and protecting the ecosystem services, obtained by the permanent grasslands (Pe'er, 2014).

Lastly, the European Parliament and the Council had major influence on the end result of the EFA. Both institutions worked to further dilute the original proposal of the Commission, firstly, by extending the list of elements that could be applied under EFA, and by increasing the farm area size from proposed 10 ha to 15 ha for implementation of the EFA. Another

proposal from the Council was not to consider greening measures as a baseline for P2 measures which was finally rejected by the EP (Hart, 2014). All the stakeholders involved in the actual establishment of the greening measures in Sweden were aware of the compromises made in the creation of the weighting factors and creation of the list for EFA. The major critique regarding the EFA was the low weighting factors applied to the components of the EFA. This was termed as a political discussion by one of the stakeholders and it was not broached again during that interview. By terming it as a political discussion, the interviewee, stated that the creation of weighting factors and their values comes from the basic acts, something that was decided by the EP and the Council and it is not from Sweden. The weighting factors as well as the final content of the EFA were one of the many key subjects which were taken up in the trilogue negotiations, a closed door meeting between the EP, Council and the Commission. This indicated lack of transparency and the end of which resulted in a diluted reform (Hart, 2014).

The different weighting factors for different EFAs was introduced by the Council to indicate the benefits each of the respective EFA elements held in terms of biodiversity value (ibid) Another understanding of the weighting factor was presented by an online agriculture news forum of Agriculture & Rural Convention 2020, where they described the use of weighting factors as an “incentivisation of particular practices and land uses”, and it meant that *lower the value, less value the feature* (ARC2020, 2014). However, during the negotiations there was no detailed description of how these factors would be achieved and the objectives of the measure, thus allowing for a possibility of diluting the effect of the measures (Matthews, 2012). “*How these weighting factors will be used, depended on what we want to achieve through it,*” were the points raised by the WWF Sweden as mentioned in the results. Since these questions were not addressed while establishing the EFA in the reform, complications and controversies arose.

Under pressure from EP, the Commission made amendments in the weighting factors for the EFA which entered into the final reform. 1 square meter of nitrogen-fixing crop would be equivalent to 0.7 square meter of EFA as opposed to initially proposed 0.3 square meter, in the hopes of making it “attractive”. The Commission’s communication, addressed that this change should be seen in the context of EU’s “dependence on protein crop import” (Commission, 2014). This was strongly opposed by the environmental organizations in EU (Moore, 2014; Wates, 2014). This was because, according to them, the main aim with this form of incentivisation was that by applying low value for nitrogen fixing crop it would address the balance between conventional cropland such as nitrogen-fixing and land-use that supports nature and agro-ecosystems such as buffer strips. Secondly, the possibility to use pesticides was also highly criticized (ARC2020, 2014).

Under this context the SSNC stakeholder’s perspective was that they wished the nitrogen fixing crops factor should have been 1 instead of *just* 0.7, as mentioned in the results. Although her reason for higher factor for nitrogen fixing were environment oriented most likely due to the benefits of increased soil nitrogen content that comes with nitrogen fixing crops as well as the biodiversity enhancers such as red and white clover (Jordbruksverket, 2016b). This indicated how unclear formulation of rules and more so objectives of the given

measures, created tensions and impacted the reform itself⁶ (ARC2020, 2014; Commission, 2014). This lack of clarity in rules was pointed out in WWF Sweden's respondent's rhetoric question "*What are the EFA supposed to deliver?*" However, the respondent agreed that these weighting factors could be very effective provided their reason and purpose for implementation was clear.

It is clear from this study that the stakeholders believed that these greening measures in their current state will not be able to achieve the goal that they aim to achieve, at least in Sweden. The environmental organisations interviewed are critical about the effectiveness of the greening measures, especially due to the geographical context and unclear intentions. The Swedish agriculture board, farmers' organizations and extension service providers believe that these measures and their application is only going to complicate the implementation and administrative process further.

Differences in point of view on the CAP reform 2014-2020 between the stakeholders

Similar to difference in opinions among the environmental organizations at EU level on clear objectives of the greening measures, as mentioned above, differences between the Swedish stakeholders was also observed during the data collection. There was a major difference in the opinion on the direct payments. Some stakeholders such as WWF Sweden, SSNC, Ekologiska Lantbrukarna acknowledged that greening payments were a way to justify the direct payments – an opinion environmental organizations and some economists had presented during the consultation process for the CAP reform for environmental and market orientation reasons respectively (Swinnen, 2015; Bureau, 2012) within EU as well. They instead asked for complete greening of P1, removal of the direct payments and directing the funds towards targeted and focused environmental measures of P2 (Hart, 2014; Matthews, 2012).

This was a major critique on the side of WWF Sweden, SSNC and Ekologiska Lantbrukarna; whereas Jordbruksverket reluctantly accepted, that "*something had to be done for the payments*". This resonated with the Commission's intention that, they wanted the farmers to see the payments as an "*incentive*" for enhancing the environmental quality (Matthews, 2013b). The new greening payments have been considered as a step backward in two aspects; first, they have not moved towards further decoupling of the direct payments, which had been the trend of previous CAP reforms, with an aim of achieving better market orientation for the agricultural products (ibid). Second, as mentioned earlier, this greening of CAP has led to further administrative complexity which countered the conclusions of Health Check 2008, of

⁶ The conclusion on SSNC stakeholder's perspective was drawn on the basis of the data received from the interview and on the basis of the press releases from Agriculture & Rural Convention (ARC) & the Delegated Acts, communication from the Commission. However, the author of this study is awaiting the concerned stakeholder's response to the follow up question, on this issue. Therefore, the conclusion presented on the perspective of the stakeholder by the author should be considered in this context.

administrative simplification, to begin with and has not been appreciated by the MS administration (Moehler, 2015).

Interestingly, the “public money for public goods” principle which the environmental organizations interviewed supported, and various other studies by think tanks and research institutes attested the importance to (Bureau, 2012), acted to legitimize the environmental measures and as an extension the new *greening measures* (Matthews, 2013a). This way of using the concept of “public money for public goods” has led to conflict on true meaning of the concept. Studies consider that the new greening measures such as permanent grasslands and EFA will not be effective for enhancing biodiversity, therefore act as a “highly inefficient policy approach” (Tangermann, 2012) and lead to ineffective utilization of resources for targeted measures (Matthews, 2013a). This is also the reason why stakeholders felt that these measures were “greenwashing” (Bureau, 2015).

The production oriented stakeholders and the environment oriented stakeholders had different opinions on implementation of specific greening measures. Sweden was of the opinion that the farmers should be provided with measures which were ‘*as simple as possible*’ (Interview with Jordbruksverket representative, 26th February, 2016) to implement and in extension there was no demand on how the unused field margins would be used. Jordbruksverket believed that this freedom to choose on how to utilize the unused field borders can provide with the expected positive impact of EFA as nature conservation spots (Berger, 2006) because they could use it for growing flowering plants and meadow plants and give the freedom to work with the geographical context of the farm (Oppermann, 2015).

However, the environmental organizations interviewed were sceptical of farmers’, especially intensive farmers, utilizing the field borders according to the geographic context, because they had an attractive option for fallow. Although fallow and set aside have been known to be very beneficial in terms of biodiversity according to studies (Buckingham 1999) environmental organizations’ understanding was that, Sweden wanted to do ‘*as low (sic) as possible*’ instead of ‘*as simple as possible*’ (Interview with SSNC representative, 24th February, 2016). This analysis gets intertwined with the wider debate on the simplification and competitiveness and influence of Member State vs the influence of EU. Environmental organizations in Sweden (interviews) and across EU believed that Member States have used their possibility for adjustments of the CAP for focusing on competitiveness and less on bringing about quality improvements in the environmental situation. The main aim has been maintaining competitiveness for the farmers’ organizations in EU especially COMAGRI, Member States and Council while negotiating the reform with the Commission (Bureau, 2015; Hart, 2014). Various exceptions across the countries, such as, greening equivalence, option to define EFA, ways of counting different crops and defining ‘diversification’, were provided that exempted considerable amount of farmers from following the greening measures, therefore, reducing the effectiveness of the greening measures (Bureau, 2015).

The final difference between the stakeholders was on the influence of the Member State and EU on the CAP reform and its national implementation. This is a wide aspect of CAP reform and its implementation. It can be divided into three parts; Sweden as a Member State's influence on greening measures; Sweden as a Member State's influence on socio-economic challenges; and finally influence on wider environmental conditions in Sweden through implementation of CAP. Therefore, although it moves slightly away from the focus of greening measures, it is important in the broader context of biodiversity loss and socio-economic challenges addressed by the stakeholders. Firstly, the influence of Member State in the negotiations with respect to the greening measures. The influence of conservative farming countries such as France, UK and Germany was visible during the negotiations, whereas, Sweden's influence was not observed in the literature used for this study for the reform 2014-2020. This might indicate the position Jordbruksverket and LRF had, stating that Sweden is a small agriculture country without much influence.

The environmental organizations who participated in this study also agreed that Brussels does have higher influence in matters such as rules for weighting factors under P1 and its implementation. P1 measures to some extent consequently affects the nationally created compliance measures and P2 measures in order to avoid 'double funding'. But they believed that the Member State could have a considerable influence on how the CAP could be implemented at national level, especially through P2 measures. Major elements that came into focus in this context of the results were; need for better environmental measures in RDP for environment sustainability; and value added products.

This is important to address since P1 greening measures act as baseline and, only effective complementary P2 voluntary AEM, its effective monitoring and evaluation will help address the environmental sustainability and biodiversity loss issues. However, the blanket cover nature of P1 greening measures, as mentioned earlier, contradicts with existing P2 measures, GAEC and SMR cross compliance (Matthews, 2013a) which has been considered as a challenge by Jordbruksverket. Secondly, the decreasing CAP budget for both P1 and P2 from EU is already a concern for many stakeholders (Papadopoulos, 2015). Also the new initiatives such as risk management and income stabilization through P2 might in totality have an impact on the total funding available (Matthews, 2013a). Therefore, the decrease in national allocation in Sweden as well as the reduction in certain cultural and biodiversity measures in RDP was an area for concern for WWF Sweden representative and emphasized the role of Sweden (here: the Ministry) in proper implementation of the CAP reform at a national level.

The environmental organizations of WWF Sweden, SSNC and Ekologiska Lantbrukarnas emphasized that the promotion of value added products such as organic farming and higher value due to better standards of animal welfare (interviews from SSNC and Ekologiska Lantbrukarnas, 2016), was Sweden's responsibility and should be prioritized. It should also be taken into consideration that the organic farming falls not only under P2 measures but is also automatically eligible for the P1 greening payments. Therefore, indicating its importance on how Sweden as MS has an impact on CAP's national implementation. Increasing organic production; national policy instruments to create attractive market opportunities; increasing

exports of (added value) organic or animal products produced under high Swedish animal welfare standards, were the solutions that the respondents came up with. Banking on the history of Sweden's persistence on increasing the animal welfare standards and other veterinary issues - which influenced EU to accept their demands and also over the period of time ban some antibiotics (Rabinowicz, 2000); and level and influence in terms of environmental programmes at EU and other international forums (Molin, 2000), it is understandable why the environmental organizations lay considerable amount of responsibility on Sweden. Factsheet from the European Commission's country profile website and the press releases from the Commission, stated that Sweden is taking necessary steps in the direction the interviewees for this study desired in the new RDP (Commission, 2015a; Commission, 2015b).

However, to critically view these above mentioned solutions for improving competitiveness through value addition; or improving monitoring and evaluation of P2 measures presented by the interviewees and the steps taken by Swedish government under RDP falls outside the boundaries of this study. This does not mean that the perception held by stakeholders during the interviews is not connected to CAP reform or relevant in addressing the problems of biodiversity loss, socio-economic challenges and in wider context agricultural sustainability of Sweden.

Greening measures and CAP reform under the scope of agriculture sustainability

The final research sub question, questions the significance of these greening measures in the larger scope of achieving stronger sustainability in agriculture across Sweden and in extension EU. From the findings of this study it was clear that the greening measures in particular and the reform as a whole does not suggest or present with radical or strong sustainability measures which was also reiterated by Castro & Mambro (Castro, 2014). On the spectrum of sustainability developed by Stuart Hill, the current reform presented elements of both 'efficiency shallow sustainability' and 'substitution shallow sustainability'. However, literature review for this study indicated that the intent of the Commission as well as the provisions made in the original proposal of the reform did aim to move forward towards further sustainability (Bureau, 2015; Haniotis, 2015; Commission, 2010c). The term 'further sustainability' has been used here because, even the original proposal's elements could not have achieved "deeper sustainability" because of the complex and ideologically different nature of deeper sustainability as described by Hill (Hill, 1998). The provision of crop diversification and EFA in an attempt to diversify the agricultural landscape and enhance biodiversity. This can be considered as an attempt at 're-designing the agroecosystem' and trying to move it more towards naturally occurring ecosystem, which is one of the many final aims of achieving deeper sustainability. A, Farm Accountancy Data Network (FADN) simulation, conducted by the Commission, studied the effects of the greening measures which indicated that the crop diversification did have an impact on land allocation, especially in EU-15 countries due to the highly specialized production systems (Commission, 2011b). However, the consequent dilution of the EFA from 7% in the original proposal to 5% in the final proposal due to the fear of reduction in productivity and competitiveness; the extension of the greening measures list by adding 'greening equivalent' measures, indicated that the

major players in CAP policymaking, still maintained the economic growth and competitiveness at the core of their decision making (Hart, 2014). Efficiency and effective management of production are still the goals (Erjavec, 2015). Lack of proper monitoring and evaluation of the environmental measures, of both voluntary and greening measures shows that, in terms of maintenance of ecosystem, greening measures do not address it (Haniotis, 2015), as required under both the ‘efficiency shallow sustainability’ and the ‘substitution shallow sustainability’ (Hill, 1998).

Another attempt at improving the current reform towards further sustainability was through reducing the income gap, through substantial payment redistribution program through SPS and capping on the amounts of income support in areas which received higher agricultural income through market (Henke, 2015; Bureau, 2012). This meant that this reform was moving towards one of the higher goals of ‘justice’ by trying to address income disparity (Haniotis, 2015). However, the reduction of CAP budget by around 10% for the current reform period (Erjavec, 2015), had led the conservative farming countries to pressurize the Commission to avoid redistribution towards less productive farms in order to maintain the production levels (ibid) and avoid increase in bureaucracy (Rutz, 2013). The farmer organizations and lobbies worked towards avoiding any further reduction of CAP budget in any form and retain the “basic component of CAP the direct support of agricultural markets” (Papadopoulos, 2015; Rutz, 2013). This drastically changed the payment systems redistribution and capping proposal and led to watering down the original ideas set by the Commission (Erjavec, 2015).

However, the Commission’s own, initial proposal of allowing for shifting of funds between the two pillars across EU, and its legitimization of direct payments through the establishment of greening payments had bolstered the conservative farming countries. They used the legitimized greening payments and the “public money for public goods” concept as a way for keeping the direct payments, as mentioned earlier. It was also indicated that the Commission, approached the reform basing on the ideology that, veering away from the direct payments would lead to bankruptcy of farms and land abandonment, which led to their dependence on the existing values and status quo while presenting the proposal for the new reform (Bureau, 2015). Hill’s sustainability spectrum does support incentives but only for short term period while in transition practices are set in place alongside. Sweden, before joining the EU in 1995 in its national policy was abandoning the concept of income support. According to Sweden’s EU country profile on CAP, that is still the aim (Rabinowicz, 2008). However, the continued dependency on economic support from stakeholders in EU, and the debate held to keep it during the negotiations, and in Sweden (interviews) showed that these goals are set in the direction opposite of deeper sustainability (Tangermann, 2012).

Sustainability does not have a single definition and is highly dependent on the motivations to implement it (Hansen, 1996). Therefore, with such complex nature of the concept, it has become a highly influenced political concept (Redclift, 2005) capable of being moulded on the basis of the social discourses being practiced in the social world (Kambites, 2014; Bryman, 2012). This elaboration on the CAP reform components in comparison to the values and goals of Hill’s sustainability spectrum, indicated that this reform lies between

‘unsustainable practices’ and ‘shallow sustainability’ where the focus of agriculture is still productivity, competitiveness and growth which are considered as the lower goals of sustainability. The result from a Critical Discourse Analysis (CDA) conducted on the negotiations, original proposals and the final reform by Erjavec & Erjavec (2015), also concluded that the focus was still on the above mentioned values because of productivist and neo-liberal discourses adopted by various actors involved in the negotiation process (Erjavec, 2015). CAP and its reform by trying to address various aspects of agriculture in EU, over the years, has become a product of multiple discourses running within it, such as the liberalist paradigm which focuses on market oriented production, under P1 and multi-functionalist paradigm which focuses on promoting environment sustainability, territorial and regional development under P2 (Papadopoulos, 2015). The CDA, identified and divided the measures of the reform into elements of productivist, neo-liberal and multifunctional discourses. Most of the direct payments like BPS, coupled payments, young farmers, small farmers, active farmers were marked as productivist in nature whereas greening measures and areas under natural constraints (ANC) were multifunctional in nature; market measures of abolishment of sugar quota, market interventions such as providing safety nets for farmers, school fruits and milk schemes were neo-liberal and productivist in nature, whereas RDP was majorly multifunctional in nature. It also concluded that the productivist in tandem with the neo-liberal discourses were highly influential during the process of negotiations over the multifunctional discourses and measures, where the terms such as food (in) security, price fluctuation, market pressure, stable prices for the prior discourse; and competitiveness, simplification, efficiency & effectiveness for the latter were commonly mentioned (Erjavec, 2015). This supports the findings of this study from Sweden’s point of view.

These findings therefore, raises the question if radical sustainability changes can be brought about in such a large scale economic system and international trade which is constantly under the gaze of GATT and WTO. According to Hill, institutions such as, GATT and WTO affect the way countries, and EU as a region, promotes agriculture and often leads to weakening of the sustainable resource management. Therefore under the influence of GATT and WTO it would be difficult to achieve deeper sustainability (Hill, 1998). To further understand why and how GATT and WTO affects the EU rules, (WTO rules did affect the formulation of the current greening measures) and sustainability would lead this discussion beyond the scope of the current study and therefore is not pursued further.

However, if major changes towards deeper sustainability are aspired for, the major political players at EU level, national level and regional level, farmers organizations and environmental NGOs and civil society might have to re-think what ‘sustainability’ means to them and how they want to answer the issues of ‘agriculture sustainability’. This does not mean, that a rigid definition of sustainability has to be followed by all the actors involved. That would go against the very description of sustainability which is said to be achieved through pluralistic (Sneddon, 2006), and holistic thinking and understanding the context of the situation (Hill, 1998). However, this flexibility of sustainability has been misused over the years by various governments (Kambites, 2014) and even CAP, where the previous Commissioner most commonly spoke of ‘competitiveness’ and legitimized “multi

functionality as consumer (in the food safety and quality dimension) and market success” (Erjavec, 2009). The concept of sustainability has been appropriated in such a way that economic growth has become important and necessary for environmental sustainability (Kambites, 2014). Therefore, re-thinking on what sustainability means, is an exercise in reflection, on what values the social actors involved in agriculture hold and should hold in order to achieve deeper sustainability (Hill, 1998).

Conclusion

This study pointed out the problem representation of Swedish stakeholders did not fit with EU's focus on the problem of biodiversity loss which the greening measures intended to solve. This indicated that different stakeholders define the problem differently. Jordbruksverket, LRF, Greppa Näringen, and Hushållningsällskapet, the 'production oriented stakeholders', from Sweden focused more on socio-economic aspect of Swedish agriculture. On the environmental aspect of the Swedish agriculture, they agreed that there were some context specific problems in the environment. However, they felt that Sweden was advanced as compared to other countries with regard to handling environmental problems in agriculture, due to strict regulation. There was also a sense of justification that not all the pillars of sustainability could be achieved. Ekologiska Lantbrukarna and SSNC who throughout the study had environment as a priority also placed the socio-economic concerns *before* the environmental ones especially by addressing the need for competitiveness and how environmentally friendly production, animal welfare and organic farming could help achieve that. Regarding environmental aspects of Swedish agriculture the 'environment oriented stakeholders', WWF Sweden, SSNC and Ekologiska Lantbrukarna, addressed the broad problems of biodiversity loss and climate change but were, like the production oriented stakeholders, more focused on the context specific problems of managing biodiversity and nutrient leakage.

The EU Commission with an intention to solve the problem of biodiversity loss and fulfil its objective of sustainable use of natural resources proposed the mandatory implementation of the three greening measures; crop diversification, maintenance of permanent grasslands and ecological focus areas. These were broad brush measures designed in an attempt to make all the MS responsible for their agricultural practices and environment. These were meant to act as the baseline for the P2 measures. However, these general measures were not seen by the studied stakeholders to fit well with the diverse environmental conditions in Sweden.

Crop rotation was preferred over crop diversification by both 'production oriented and environment oriented stakeholders'. It was argued that diversification would not give, agronomic benefits such as improved soil quality, would be difficult to manage and would not give the best business solution. Some 'environment oriented stakeholders' believed that the farmers might find loopholes in the implementation, and thereby make the greening measures ineffective. However, the advantage it might have on monoculture production was also acknowledged. Maintaining 5% permanent grasslands had been broadly accepted with only some interpretation issues which would be discussed in the coming mid-term review. Lastly, the EFA received a wide range of criticism. Jordbruksverket addressed at the outset the need for simple EFA measures and therefore, focused only on: fallow land, nitrogen fixing crops, catch crop/under sowing ley crop with the main crop, salix/short rotating coppice/bioenergy crops and buffer strips/field margins. Jordbruksverket and few other respondents believed that EFA and unused field margins specifically had great potential. However, the EFA was largely criticized by the 'environment oriented stakeholders' due to the low weighting factors and lack of clear purpose of the EFA. Jordbruksverket and LRF, agreed that certain compromises were made with the weighting factors and WWF Sweden

respondent agreed that EFA has a steering effect but it largely depended on how it is being used. It is important that the measures especially the EFA address the landscape requirement in order to help reduce the loss of biodiversity, therefore bringing in the geographic context into picture.

With these views in place the study found that the ‘environment oriented stakeholders’ were most critical of the objectives and the implementation of the greening measures. Whereas, the ‘production oriented stakeholders’ were indifferent towards the objectives and purpose of the greening measures, but were critical of the implementation of the greening measures established by the Commission through the CAP reform, due to the increase in administrative, land management and planning complexity.

The differences between the stakeholder groups continued with respect to the direct payments as well. Jordbruksverket agreed that the payments should be made environment friendly and LRF focused on the budget cut and the need to maintain the continued support of direct payment. Whereas Ekologiska Lantbrukarna and WWF Sweden, perceived these greening payments as justifying the need for direct income support. Instead they requested to see the payments to be directed towards more targeted environmental measures. Differences between the stakeholder groups arose regarding Sweden’s role in CAP reform implementation at national level specifically the implementation of the field margins and the lack of demands on how it would be utilized under P1 & on RDP in the wider context of agricultural sustainability.

On viewing the results of this study through Hill’s defined spectrum of shallow and deep sustainability, the greening measures address aspects of ‘efficiency shallow sustainability’ and ‘substitution shallow sustainability’. It can be agreed upon that the intent of the reform especially with the greening measures was to move forward in terms of sustainability and help address the problem of biodiversity loss, which is one of the key planetary level issues that Hill’s sustainability spectrum hopes to solve. The components of crop diversification and EFA can be seen as an attempt at ‘re-deigning the agroecosystem’, and as the literature indicated, the move for payment redistributive system through SPS, can be seen as an attempt at obtaining a fairer economic distribution which is the aim for higher goal of ‘justice’ as described by Hill. However, the dilution of the above mentioned measures due to the pressure of conservative agriculture countries; and the ‘production oriented stakeholders’ at EU and Sweden’s dependency on direct income support, their focus on efficiency and effective production, productivity and competitiveness indicated that these lower goals of Hill’s sustainability definition, were still a priority for major players at the EU and Sweden. On the other hand lack of appropriate monitoring and evaluation of environmental measures which is crucial for ‘improved maintenance of agricultural lands’ in final reform, led to formulation of ineffective measures with marginal use. All this indicated that the reform stood somewhere in between ‘unsustainable practices’ and ‘shallow sustainability’.

Finally, the focus on productivity, competitiveness, simplification and values associated with it, held by the major stakeholders at EU level diluted the final formulation of the reform. Similar values and aims were also largely held by the ‘production oriented stakeholders’ in

Sweden, due to which they were mainly indifferent towards the objective of the greening measures and critical of its complex implementation process. Whereas the ‘environment oriented stakeholders’ in Sweden, who focused on sustainable natural resource management, biodiversity and associated values, were largely critical of the objectives and the implementation process of the greening measures and pushed for incorporating stronger and clearer environment related measures. This indicated how different social actors involved in policymaking affected the final policy and how it was perceived in the end. This study clearly summed up the aforementioned idea in the introduction that, ‘agriculture constantly affects and is affected by the policies made in relation with it’ and the social actors involved, play a major role.

Reflection on Methodology & limitations of the study

Using the ‘what is problem represented to be’ framework designed by Bacchi was a good starting point for this study, owing to its thorough nature which motivated me to dig deeper and understand the ‘problem representation’ at hand. Bacchi’s approach helps us understand that policies designed to address ‘problems’ in society often do not build on very clear problem representations. However, by digging in, to what the problem in a particular policy is actually being presented as; we can learn more about why the policy is designed as it is, if there are stakeholders in society that define the problem differently, and who might be negatively affected by the way the problem is framed within the policy etc. The framework is policy analysis tool and is supported by a strong methodological approach based on concepts such as constructivism and encourages the users to engage with the problem representation at a conceptual level. Therefore, a considerable amount of time was invested in interpreting the various steps involved in the framework and how it would be used for this study. This is also my first attempt with policy related subject, concepts, tools, and conducting interviews for a bigger project. Therefore, the analysis of the Swedish perceptions on the greening measures should be viewed in this context. However, the results presented here are the views of the respondents to the best of my knowledge and its analysis and interpretation was an attempt at further understanding their perceptions on the greening measures. The sample size of eight might not exactly be representative of the views held on the greening measures. By considering this context, the results should be viewed as ‘indicative’ of what the perceptions might be of the Swedish agricultural stakeholders. However, the study attempted to interview most of the major stakeholders at Swedish level to gain as nearly a representative data as possible.

Although, considerable amount of information was received, at least one more round of interviews could have helped gain data on specific greening measures, rules and interpretation after going through first round of analysis. Bigger sample size and interviews could have helped in validation of the results. To address some minute but pertinent queries regarding the rules of greening measures and to reconfirm the stakeholders’ stance on certain issues, follow up questions were asked via email. However, not all the requests for follow up questions were answered which limited the study’s rigour. Secondly, detailed documents on Swedish environmental policies, CAP rules implementation, relevant literature from Swedish language academic papers - which could have given a richer picture of the key problems and the implementation of the greening measures at Swedish level - was not sought out due to the language barrier and time constraint. However, for understanding the key data such as the rules for the greening measures and payments, help from Swedish speaking supervisors and faculty members and also the respondents (during the interviews) was sought out. It must be acknowledged that faculty members were not involved with CAP related topics like me, which might also have an effect on the presentation of the greening measure rules and its analysis in this study. More communication with the respondents could have eliminated any such misinterpretations.

Expanding the interview base by including farmers would have given more depth to the key challenges of Swedish agriculture and a deeper insight on the perception of the greening measures from the farmers' point of view since they have to implement them. However, it is understood that the policy reform came into force only in 2015, and enough data on implementation could not have been obtained. This therefore, can be a starting point for future studies based on CAP reform 2014-2020.

Although the focus of the study was greening measures and the biodiversity loss was central to its establishment, there were other components of CAP that also addressed the same problem. Therefore, drawing boundaries for this subject was also difficult due to the interconnected and cross-sectoral nature of CAP.

Further studies

Considering this study as a background, the results as well as its limitations could be used for drawing out future studies.

1. Conducting similar study on the key issues of Swedish agriculture and the greening measures with the farmers, few years after its implementation, might provide important information from their perspective. What are their key issues, were the greening measures in any way addressing them? How were the greening measures implemented? What were the effects of the implementation on the environment and their economy?
2. A comparative study based on the subject of "key issues of Swedish agriculture" or "environmental sustainability of Swedish agriculture" between the *farmers* and the *organizations* involved in *this* thesis might also be looked into to see if organizational culture and values has an impact on priorities and 'problem representation'.
3. The current study, used the WPRB framework in forming its own framework and research sub-questions using the concepts of Hill's agriculture sustainability. However, the entire WPRB framework could be used to gain an in depth understanding of the CAP reform 2014-2020. This can help paint the actual picture of the values and the mental models at work while creation of the reform.
4. In terms of sustainability, one of the points Hill focuses on is the need for agriculture to *not* be influenced by market deficiencies and need to address GATT rules in order to achieve deeper sustainability. GATT, however, is one of the major influencers. Therefore, effect of such global organizations on EU and its agriculture related environmental policies should be studied. Studying how this effects Sweden or similar *smaller* agricultural country could give an interesting contrast to the usual *bigger* agriculture countries based studies.

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Appendix

Interview Guide

The interview guide, provided below, is a framework of general questions asked during the course of the interviews to all the stakeholders. The framework below does not contain the detailed questions asked to specific stakeholders. Specific questions were asked on the basis of the stakeholders' job profile in their respective organization, their responsibility and role in the CAP reform 2014-2020 and the implementation of the greening measures.

1. Brief description of your organization
2. What are the challenges that the Swedish agriculture is currently facing?
3. How has the previous CAP affected the Swedish agriculture landscape?
4. How have the Nitrate and Water Directives affected the Swedish agriculture and landscape?
5. How have the AES and GAEC practices affected the Swedish agriculture?
6. According to you, what is the main intention of the CAP's greening measure?
7. What do you think about the greening measures: crop diversification, permanent grasslands, EFA?
8. How does your organization engage in the implementation, monitoring and evaluation aspects of these measures (GM)?
9. Do you have programs where you interact with stakeholders such as farmers' organization and extension service providers?
10. How has your organization contributed in the policy making at Member State level and EU level with respect to the CAP reform?
11. What were your expectations from the reform? Were they fulfilled? Why and why not?
12. What changes are you expecting from next?

A Beginner's Guide to CAP reform 2014-2020: A focus on the greening measures.

This factsheet is a beginner's guide to the Common Agricultural Policy (CAP) reform 2014-2020 with a focus on the greening measures. This is mainly addressed to the students entering the vast subject of CAP and the civil society, who are interested in understanding what steps Europe is taking to ensure environmentally friendly agriculture production.

Biodiversity Loss: Historically natural landscapes of Europe have changed to semi natural landscapes of wood pastures and meadow lands which were responsible for species richness and diversity (Poláková, 2011). However, modern day agriculture's expansion has led to fragmentation of those habitats. Habitat continuity in landscape is very essential for wildlife. Land-use change by converting natural or semi natural landscapes and forests into vast agricultural lands, specialization of crops (monocultures), mechanization, land abandonment, and degradation of soil and water through extensive use of fertilizers and pesticides are major causes for loss of biodiversity. These land-use changes affects biodiversity across all the tropic levels (soil biodiversity, pollinators and other beneficial insects, birds, farmland animals). Decrease in bog land, extensive agriculture land, natural grasslands have been witnessed across EU. EU 2010 Biodiversity baseline, showed that mammals and birds of European interest which were linked to the agroecosystem 25% and 42% of them are threatened respectively. EU's common farmland birds have declined by 20-25% since 1990 (Condé, 2010).



Figure 1 Spot burnet moth. Source: arc2020.eu website

With the pressure of declining European farmland biodiversity, the economic crisis of the recent years and the need to prepare for the EU 2020; the European Commission had to bring a new CAP reform. The EU on the other hand, created its growth strategy, Europe 2020, which focused on, smart growth, sustainable growth and inclusive growth. The new CAP reform needed to imbibe the same values and have similar goals as the EU 2020 in order to contribute in achieving the goals EU 2020 set, from agriculture point of view. The Commission

developed three objectives for the new reform: ensuring **viable food production**, aiming for **sustainable management of natural resources and climate action**, and achieving **balanced territorial development**. It is under the second objective of 'sustainable management of natural resources and climate action' that biodiversity loss as a central problem was identified

and measures to address it were presented. These measures were termed as the ‘greening measures’. They are mandatory measures and are linked to 30% of the national envelope. In brief, the direct income support allocated to the Member States under the P1 are called as ‘national envelope’ or ‘national ceiling’. Of this national envelope, 70% has been allocated to the Basic Payment Scheme (BPS) and 30% has been allocated as green payments (GP), which means 30% of the payments will be received by the farmers only if they have followed the greening measures. However, the 70% of BPS and 30% of GP are allotted only after another set of payments¹ have been allotted from the national ceiling.

Table 1 Eligibility for application of crop diversification and EFA. Source: DG Agriculture UK. (Affairs, 2014)

Area of arable land in 2015	Follow crop diversification rules	Follow EFA
Less than 10 ha	No	No
10 ha to 15 ha	Yes	No
More than 15 ha	Yes	Yes

Greening measures: The greening measures are, crop diversification, maintenance of permanent grasslands and ecological focus areas (EFA). Of the three greening measures the crop diversification and the EFA need to be followed on the basis of the total arable land declared by the farmers (table 1). In order to provide an example on how the rules have been designed, Sweden’s example has been given. The arable land for crop diversification and EFA has to be considered after removing

the land under permanent grasslands or permanent crops.

Crop Diversification: The rules for crop diversification is common for all the Member States (MS) except for an exemption for few northern European countries which would be discussed below. The growing season for northern Sweden is 1st June to 31st July and 1st May to 30th June in southern Sweden. This measure has to be taken up by the farmers who own more than 10 ha only. For farms with 10-30ha of land, two crops should be grown and the main crop should not occupy more than 75% of the arable land. For farms that have more than 30 ha of land the main crop should not cover more than 75% of the land. The two largest crops should not occupy more than 95% of the land. Temporary grasslands & fallow land can also be considered as a main crop where it should occupy more than 75% of the arable land. The remaining arable land, if more than 30ha, should consist of two crops of which the main crop of the two should not occupy more than 75% of the land area (Affairs, 2014).

There are also *exemptions* provided for this particular greening measure. Firstly, crop diversification is exempted if more than 75% of the arable land is fallow or under temporary grasslands or a mix of both and the remaining land area is less than 30 ha. Secondly, if 75% of the arable land is under temporary or permanent grasslands or permanent crops and the

¹ These payments include Young Farmers Scheme, Small farmer Scheme, coupled payments for special agricultural products, and mandatory degressivity, voluntary redistributive payments, and a crisis reserve (Henke, 2015).

remaining land area is less than 30 ha (ibid). The area above the 62 north parallel latitude for Sweden can grow only 2 crops, owing the climatic and geographic conditions (Jordbruksverket, 2016a).

Maintenance of permanent grasslands: The rules for permanent grasslands are similar among all the MS. The permanent grasslands should not fall below 5% in total in a country. If it does, then some parts of the ploughed or grasslands turned agriculture land would have to be re-instated. Permanent grasslands can be defined as the grasslands that have forage, herbaceous crops grown for 5 years or re-sown with grass within those 5 years, or have applied for SPS/BPS as grass or herbaceous forage for 6 consecutive years. Trees can reside amongst its landscape with a limit of only 100 trees in per hectare. Permanent crops such as fruit trees, nursery crops and short rotation coppice grown for 5 years and which give repeated harvests do not need to follow the greening measures and can apply for greening payments. There are two ways in which this particular greening measure could be implemented (Affairs, 2014).



Figure 2 Pasture in UK. Source: www.euractiv.com

Permanent crops such as fruit trees, nursery crops and short rotation coppice grown for 5 years and which give repeated harvests do not need to follow the greening measures and can apply for greening payments. There are two ways in which this particular greening measure could be implemented (Affairs, 2014).



Figure 3 Field in Belgium. Source: en.wikipedia.org

Development of Ecological Focus Areas: Ecological Focus Areas (EFA) are mandatory for farms which have more than 15 ha of arable land. Mandatory 5% of the arable land has to be included under EFA. The EFA measures can be tailored according to the geographic need of the MS. The EFA measures adopted by Sweden are buffer strips/uncultivated field edges, nitrogen fixing crops, fallow land, catch crops or under sowing with a main crop, and short rotation coppice/salix (Jordbruksverket, 2016b). Other available measures included are hedges, ditches, stone walls etc, from which MS. Each of the EFA measure is associated with a weighting and conversion factors (table 2) (Commission, 2011). More than one EFA measure can be applied. “Once the EFA features and areas have been measured (length in metres or area in square-metres), farmers can then work out the total EFA equivalent area these features and areas will add up to” (Affairs, 2014).

Buffer strips/uncultivated field edges can be 1-20 meter in width and cannot be planted along the water course. No production or cultivation practices are allowed in that area except for grazing and cutting. Fallow could also be applied to these uncultivated field edges. Mechanical

and chemical control of weeds are allowed. These strips can be grown between two fields on a farm. On harvesting and cultivating the farmland, the field edge must be removed (Jordbruksverket, 2016b).

Table 2 Weighting factors and Conversion factors for EFA. Source: European Commission Annex 1a

Ecological focus area	Weighting factor	Conversion factor (m/tree to m ²)	EFA Area
Fallow Land (per m ²)	1	n.a	1m ²
Salix (per m ²)	0.3	n.a	0.3m ²
Nitrogen fixing crops, peas, konservärter, beans, sweet lupins, vetches, chickpeas, alfalfa and clover (per m ²)	0.7	n.a	0.7m ²
Uncultivated field edges on arable land, also known as buffer strips (per m)	1.5	6	9 m ²
Vallinsådd or undersowing with main crop (per m ²)	0.3	n.a	0.3m ²

To apply fallow as EFA the farm should be out of production until 15th July. This is under the circumstance that, the farmers growing crops, or growing forage crops without cattle, ewes and goats farmers, and who do not apply for compensatory aid². The farmers need to follow the arable land fallow rules set by Jordbruksverket. The fallow could be left with or without a cover crop or catch crop. Catch crops such as utilized, forage legumes, perennial grass crops and mixtures of them could be used. Forage legumes (white

and red clover) should not be more than 10% and other legumes should not be more than 30% of the mix. Other crops which act as wild-bird seed mixes and nectar source can be used for this purpose are reed canary grass, lotus corniculatus, sweet clover, buckwheat, flax, bluebells, mustard, chicory etc (Jordbruksverket, 2016b). Under sowing with main crops where ley grass could be under sown with main cereal crops. The ley grass is sown after establishment of the main crop either in spring/summer. A list of grasses and ley varieties is provided by Jordbruksverket. Nitrogen fixing crops such as peas, beans, sweet lupins, vetches, chick peas, Lucerne and clover can be grown. These could be grown as a mixture or as pure stands. All the crops need to be grown until 31st July except peas (including konservärter). For growing salix, mineral fertilizers will be allowed only for the first year of the crop grown (Jordbruksverket, 2016b). (Affairs, 2014).

How to calculate the EFA?

If a farmer has 120 ha of arable land of which he plans to grow 3000 meters of buffer strips, 1ha of beans and 2ha of salix. Calculate the EFA area and if it fulfils the 5% EFA rule.

5% of 120 ha is equal to 6ha.

Therefore, the farmer would have to establish 6ha of EFA. ----- (a)

² This is another type of aide available to the farmers and is not considered under the greening payments or EFA.

Buffer strip: 3000 meters

1 meter in length is equal to 9m² in EFA area,

Therefore, 3000 meters will be 27,000m² ----- (b)

Nitrogen fixing beans: 1ha

1ha is equal to 10,000m²

1m² of Nitrogen fixing is equal to 0.7m²

Therefore, 10,000m² will be 7000m² ----- (c)

Salix: 2 ha

1ha is equal to 10,000m²

Therefore, 2ha is 20,000m²

1m² of salix is equal to 0.3m²

Therefore, 20,000m² will be 6000m² ----- (d)

Total EFA area:

27000+7000+6000 =40,000m²

Converting m² into ha

40,000/10,000 = 4 ha of EFA

Converting 4ha of EFA area of 120 ha of total arable land equals to 3.33%

Conclusion:

With 4ha EFA of 120 ha of total arable, occupies only 3.33% of the required 5% EFA rule.

Therefore, this particular farm does not fulfil the EFA rule and will have to increase the area under EFA. To fulfil the 5% of 120ha of total arable land, 6 ha of EFA is required.

END NOTE

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