

2016



Utrecht University
Bachelor Thesis

[FROM AID TO TRADE]

*Dutch Official Development
Assistance in Ghana's Agricultural
Sector affecting Land Degradation
and Food Security*

Sara van der Hoeven
3975762

Cherrelle Druppers
Supervisor

27 January 2016

The front page shows a Kente Cloth from Ghana. The different colours symbolise different meanings.

Blue: spiritual sanctity, good fortune, harmony, and peacefulness.

Red: spiritual and political readiness.

Green: growth, fertility, prosperity, and vitality.

Yellow: spiritual purity, royalty, preciousness, and wealth.

Black: spiritual maturity, antiquity, and ancestral connection (Blanco, n.d.).

PREFACE

This thesis presents my final work at the University of Utrecht and finalises my bachelor's degree Liberal Arts and Sciences. Because of my broad interests, I have chosen a major that combines development studies and environmental studies. In addition I followed the minors Gender Studies and Conflict Studies. Dimensions of all these fields of studies are found and integrated in this thesis, thereby forming a good representation of my study career. I have really enjoyed studying at this university in an even more exciting city.

I would like to thank my supervisor, Cherrelle Druppers, for her support and enthusiasm at the start, during, and at the end of the process of writing this thesis. She was always available and has never hesitated to answer all my questions, which has been very helpful for me.

Furthermore, my thanks go out to all the people I have interviewed and without whom this study would not have been possible: Arnout Aarnink (Amatrex), Divine James Buo (IFDC), Eric Agyare (Solidaridad), Gemma Betsema (UU), Mariska Lammers (Dutch Embassy), Peter Niekus (the Rabobank), Richmond Antwi-Bediako (UU), Sebastiaan Soeters (UU), Sheila Assibey-Yeboah (Ghanaveg).

Lastly, I would like to thank my family and friends for their continuous support throughout the entire process of writing the thesis. In particular Adriaan van der Hoeven, Marieke Martens, and Martha Meijer for the energy they have put in reviewing and commenting on my thesis.

EXECUTIVE SUMMARY

The introduction shows that the neoliberal discourse and the idea of sustainable development both influence (international) development strategies. The Netherlands focuses in its development cooperation policy considering Ghana both on sustainability, food security, and the modernisation of agriculture by increasing Dutch direct investments in and trade relationships with Ghana (Dutch Embassy, 2014) – the latter potentially resulting in land degradation and other environmental problems (Gonzales, 2004). Therefore, the following research question is tackled in this thesis: *How does Dutch Official Development Assistance (DODA) in the agricultural sector in Ghana affect land degradation and food security?*

In the chapter constituting the theoretical framework it becomes clear that both neoliberalism and sustainable development are dominant discourses considering the research subject (Gawor, 2007; Haque, 1999). The adoption of the Sustainable Development Goals indicate that sustainable development is becoming more important in development thinking (Gawor, 2007; Potter & Tilzey, 2007). However, policies are currently still influenced by both discourses, creating a hybrid form, even though Rees (2006) and Gawor (2007) see the two as distinct. Mitigation and adaptation strategies to enhance sustainability vary in scale and are often adopted on different levels. The literature suggests the need to integrate the two types of strategies because they strongly influence one another (Termeer, et al., 2011; Martens, McEvoy, & Chang, 2009). Especially from an ecological sustainable viewpoint it is necessary to analyse Dutch policy with the conceptual model to find out to what extent Dutch policy affects land degradation and food security and, thus, is sustainable.

The methodology used in this research constitutes of three different parts: the terminology, the literary review, and an analysis of the in-depth interviews that have been conducted. The literary review is needed to create the theoretical framework and a comprehensive contextual framework as a basis for the rest of the study. The in-depth interviews were semi-structured and based on a topic list. The interviewees have been separated in four categories: the private sector, the government, experts, and the non-profit sector. Doing this, specific information has been gained which could not have been obtained through the use of solely literary research methods. This was especially necessary in the case of researching sustainable development and development cooperation in general, because people take on different definitions and viewpoints. The interviews have been labelled and analysed through carrying out both descriptive and explanatory analyses.

Although Ghana has experienced relatively high economic growth rates in recent years, it still faces many developmental challenges such as food insecurity, poverty, and negative consequences of climate change (Mensah & Adanu, 2015). Several adaptation and mitigation strategies have been adopted on various scales to combat and adapt to climate change (World Bank, 2015). Furthermore, DODA in the agricultural sector in Ghana and Ghanaian agricultural policies aim to reduce poverty and food insecurity in a sustainable manner (Dutch Embassy, 2014). These policies reflect both the neoliberal and sustainable development discourse, but Ghanaian policies explicitly adopt sustainable development strategies, in contrast to the Dutch policy.

The analysis of the interviews shows the different viewpoint of the four categories on the eight topics related to DODA, land degradation, and food security. It demonstrates that most views are influenced by both the idea of sustainable development and the neoliberal discourse. The idea of sustainable development is specifically important in the non-profit sector but is also visible, yet less explicit, throughout the other categories through adaptation and mitigation measures. Neoliberal ideas, such as PPP creation, a focus on economic growth, and increased trade, come to the fore in all four categories. The growing adoption of sustainability strategies and visions indicate that the sustainable development discourse is becoming more important.

The results demonstrate, furthermore, that food security is explicitly important when looking at development strategies for all categories. In contrast, climate change and land degradation are only made explicit in strategies and programmes in the non-profit sector. The other categories do take into account climate change challenges and land degradation through conducting, for example, environmental impact assessments and evaluating programmes by sustainability criteria. However, in Dutch policy it is not made explicit like the food security objective. It is neither taken into account by all actors in the private sector. Finally, the interviewees have not linked the topic of land degradation explicitly to the issue of food insecurity. This shows that an integration of the two problems does not exist yet.

This thesis concludes that food security and land degradation are both positively and negatively affected by DODA. DODA is highly affected by the idea of sustainable development which is interwoven in many of the activities in the sector. However, it is still mostly influenced by neoliberal ideas, for example, the process of globalisation and ideas from the Green Revolution. So, both discourses have become visible in Dutch policy, providing a hybrid form. This is interesting because Gawor (2007) sees the idea of sustainable development as an alternative to neoliberalism. Further developments are dependent on which discourse will dominate and, thus, where the focus will lay in the future. The international adoption of the SDGs shows the growing importance of sustainability thinking, indicating that in the future this will be reflected in DODA as well.

As for adaptation and mitigation, the necessity remains that these two strategies will be adopted integratively on both the local/regional and international levels. Currently, through several projects adaptation and mitigation strategies have already been adopted. However, there has been no acknowledgement on the fact that these can nullify the effects of one another.

In all, these results provide an overview that can be used by the Dutch Embassy in Ghana. It is important to take on an integrated approach on the issues of land degradation (climate change) and food security and poverty as these have a high degree of interrelation.

TABLE OF CONTENTS

Preface	2
Executive Summary	4
Table of Contents	6
List of Acronyms	8
1 Introduction	10
2 Theoretic Analytical Framework	12
2.1 From Neoliberalism to Globalisation	12
2.2 Neoliberal Globalisation and Development Thinking.....	13
2.3 The Idea of Sustainable Development.....	13
2.4 Adaptation - Mitigation	15
2.5 Conceptual Framework.....	17
2.6 Conclusion.....	18
3 Methodology	20
3.1 Terminology	20
3.2 Literary Review	21
3.3 Qualitative Research.....	22
3.3.1 Interviewees.....	22
3.3.2 Topic List Interviews	23
3.4 Analysis	25
3.5 Conclusion	26
4 Ghana Situated	28
4.1 Country Overview	29
4.1.1 Development: Facts and Figures	29
4.1.2 Risks and Vulnerabilities.....	35
4.2 A Bilateral Relationship	39
4.2.1 Dutch policy	39
4.3 Ghanaian Agricultural Policies.....	44
4.4 Conclusion.....	50
5 Analysis and Results	52
5.1 Sustainable Development	52
5.2 Agricultural Investments in Ghana.....	53
5.3 Climate Change	55
5.4 Food Security.....	56
5.5 Dutch Policy	57
5.6 Ghana's Government.....	59
5.7 Land degradation	61

5.8	PPPs	61
5.9	Conclusion	62
6	Conclusion.....	64
6.1	Discussion.....	66
7	Bibliography	68
8	Annex.....	72
8.1	Topic Lists	72
8.2	Written Interviews	78

LIST OF ACRONYMS

2SCALE	toward Sustainable Clusters in Agribusiness through Learning in Entrepreneurship
AGRA	Alliance for a Green Revolution in Africa
AU	African Union
CCA	Climate Change Adaptation
CORIP	Cocoa Rehabilitation and Intensification Programme
CSO	Civil Society Organisation
CSR	Corporate Social Responsibility
DODA	Dutch Official Development Assistance
DRR	Disaster Risk Reduction
DTM	Dutch Trade Mission
EPA	Environmental Protection Agency
EU	European Union
FAO	Food and Agriculture Organisation of the United Nations
FASDEP II	Food and Agriculture Sector Development Policy
FBO	Farmer Based Organisation
FDI	Foreign Direct Investment
GCAP	Ghana Commercial Agriculture Project
GDP	Gross Domestic Product
IFDC	International Fertilizer Development Centre
IMF	International Monetary Fund
LANDac	the Netherlands Academy on Land Governance for Equitable and Sustainable Development
Ltd.	Limited
MDG	Millennium Development Goal
METASIP	Medium Term Agriculture Sector Investment Plan
MoFA	Ghanaian Ministry of Food and Agriculture
NABC	Netherlands African Business Council
NGO	Non-governmental organisations

ODA	Official Development Assistance
PPP	Public Private Partnership
RSPO	Round Table on Sustainable Palm Oil
SADA	Savannah Accelerated Development Authority
SAP	Structural Adjustment Programme
SD	Sustainable Development
SDG	Sustainable Development Goal
SEA	Strategic Environmental Assessment
UN	United Nations
UNDP	United Nations Development Programme
USAID	United States of America Aid
UU	University of Utrecht
WB	World Bank
WFP	United Nations World Food Programme
WUR	Wageningen University and Research

1 INTRODUCTION

The technological developments of the Green Revolution in the mid-1900s (Potter & Tilzey, 2007) have increased agricultural production in many countries. Ever since, many people and organisations, for example the African Union (AU) and the United Nations (UN), find agricultural development a transformational tool in development cooperation. Traditional ways of agriculture are transformed to modernised forms of agriculture (industrial agriculture). It is argued that this form of development enhances food security and leads to economic growth within a specific region or country, countering developmental issues such as hunger and poverty (FAO, 2015; World Bank, 2007).

Although most industrial agriculture enhances agricultural productivity and, subsequently, causes economic growth and food security, there is another side to development that is missing in this framework: the environmental dimension. Industrial agriculture apparent since the Green Revolution often includes monoculture agriculture and the use of (chemical) fertilizers, herbicides, and pesticides. From an environmental and ecological point of view and in light of the Millennium Development Goals (MDGs) and the Sustainable Development Goals (SDGs), industrialised agriculture is unsustainable and causes an increase in land degradation and, thus, does not enhance food security (Gonzales, 2004).

These issues of food security and economic growth are currently high on the Dutch development agenda. The Netherlands' development cooperation programme has changed over the past years. A new policy has been adopted in 2012, kick-started by Minister Lilianne Ploumen. This policy change included a shift in focus *from aid to trade*. The fact that Ploumen previously would have carried the title of Minister of Development Cooperation but with the change in policy this has transformed into the title 'Minister for Foreign Trade and Development Cooperation' illustrates this point. Furthermore, this transformation also means that the Dutch government now only has bilateral aid relationships with a handful of countries, those which cannot get out of the vicious cycle of poverty without plain aid. In addition, the Netherlands has identified sixteen 'transition' countries with which it continues a bilateral trade relationship to enhance development. The Netherlands focuses on its specific areas of expertise through several themes, including agriculture, to counter, among others, the issues of food insecurity and climate change (Rijksoverheid, 2012).

Ghana, located in West-Africa, is one of the countries identified by the Netherlands as a 'transition' country. Thus, trade has become significantly important in their bilateral relationship (Dutch Embassy, 2014). Ghana is a country which already experiences several consequences of climate change, for example, droughts and irregular rainfall. These create risks for Ghana's environment, food security, and economic development (World Bank, 2015). These are reasons for the Netherlands to focus its development themes here on, inter alia, agriculture. It has, for example, facilitated the establishment of public-private partnerships (PPPs) between Dutch and Ghanaian actors active in the agribusiness; ranging from the Ghanaian government to small-scale farmers. Their focus has been laid mainly on increasing agricultural production and the sustainability of cocoa, oil palm, and vegetables (Dutch Embassy, 2014).

So, the Netherlands focuses in its development cooperation policy considering Ghana both on sustainability, food security, and the modernisation of agriculture by increasing Dutch direct investments in and trade relationships with Ghana – the latter potentially resulting in land degradation and other environmental problems. Therefore, the following research question is tackled in this thesis: *How does Dutch Official Development Assistance (DODA) in the agricultural sector in Ghana affect land degradation and food security?*

DODA includes projects, programmes, and PPPs financed or initiated by the Dutch Ministry of Foreign Affairs and the Dutch Embassy in Accra, Ghana. A wide range of actors are involved in these activities, including businesses, NGOs, non-profit organisations, knowledge institutions, and government institutions.

Land degradation is a form of environmental degradation: it includes the creation of soil infertility, soil erosion and loss, and desertification. It is primarily caused by direct human actions such as land and water contamination and pollution, unsustainable use of land and water, deforestation, and unsustainable industrial agriculture, and by indirect human actions in the form of climate change: irregular rainfall and droughts (UNISDR, 2009).

Food security focuses on households' availability of and their access to food, and its nutrition level (Boko, et al., 2007).

Much research has been carried out on agriculture in relation to poverty and food security. Much research has also been done on agriculture in relation to climate change challenges and land degradation. This thesis aims to combine these two fields of research in order to create a more comprehensive understanding of the intertwinement of agriculture, food security, poverty, climate change, and land degradation in a Dutch-Ghanaian context. Finally, the results of this research can be used to further develop the Dutch-Ghanaian bilateral relationship in the agricultural sector and improve sustainable development in Ghana.

The first section presents the theoretic analytical framework, focusing on the relation between neoliberal ideas and practices, globalisation, the idea of sustainable development, and the adaptation-mitigation discussion.

The second section elaborates on the Ghanaian context related to climate change and its vulnerabilities, food security, and agriculture, on Dutch development policy in Ghana, and Ghana's agricultural policies.

The research methodology is presented in the third section. This includes, firstly, the use of several concepts throughout the thesis. Secondly, it includes a literary review that functions as the basis for the research. Finally, a description of the collection of empirical data in the form of in-depth interviews and its analysis is presented.

The next chapter presents an analysis of the interviews per research topic. This is, subsequently, linked back to the theoretical framework and the main research question. The thesis is finalised by a comprehensive conclusion and thereafter a short discussion.

2 THEORETIC ANALYTICAL FRAMEWORK

The theoretic analytical framework presented in this chapter functions as an umbrella for the rest of this research project in order that the results obtained can finally be analysed within this broader framework. It encompasses the idea of neoliberalism, globalisation, sustainable development, and the issues of adaptation and mitigation strategies.

2.1 FROM NEOLIBERALISM TO GLOBALISATION

In the past few decades the neoliberal discourse has dominated government policies and development thinking, manifesting itself in globalisation. “Globalization is a specific concept of socio-economic development, arising mainly from the principles of neoliberalism.” (Gawor, 2007, p. 127) Globalisation is multi-dimensional, its different dimensions are cultural, political, and economical. However, in the development field, the economic (neoliberal) dimension dominates (Gawor, 2007).

Neoliberal ideas, in a nutshell, focus on economic growth, market expansion, the encouragement of Foreign Direct Investments (FDI), the idea of comparative advantage in free trade, and the liberalisation of trade, creating free flows of trade and capital (Haque, 1999; Freeman, 2006). In globalisation terms, the final aim is ‘hyper globalisation’, the deep integration of countries into the liberal world economy. Or as Raco (2005) defines it: “open, competitive, and unregulated markets, liberated from all forms of state interference, represent the optimal mechanism for economic development” (p. 327).

There have been many critiques on these ideas. For example, others have said that because of neoliberalism’s overemphasis on economic growth it seems to forget that this is not the only type of important growth. Ghana, for example, experienced huge economic growth in recent decades but as it was not accompanied by increased employment and an increase in jobs this has been called a ‘jobless growth’ (Haque, 1999). Another critique is that neoliberal globalisation, through increased trade and migration, induces a global culture of consumerism, one which is inherently unsustainable in ecological terms (Haque, 1999; Rees, 2006).

Neoliberalism also manifests itself in development thinking and this is especially visible through multilateral organisations like the International Monetary Fund (IMF) and the World Bank (WB). The Washington Consensus in the 1980s illustrates this point (WHO, 2016). This has, inter alia, resulted in the spread of the Green Revolution (increased industrial agriculture to increase productivity) to so called developing countries in the South and it in the Structural Adjustment Programmes (SAP’s) of the 1980s. Both have had devastating effects on the respective countries in environmental and economic terms (Haque, 1999; Gonzales, 2004).

However, in the case of agriculture, although neoliberal thinking is one of the main discourses, in the European Union (EU) many governments continue to subsidise their own farmers, in stark contrast to the neoliberal idea of liberalising agricultural trade. Governments do this under the name of the ‘agricultural multifunctionality’ argument. ‘Agricultural multifunctionality’ describes the non-trade benefits of agriculture, such as environmental protection, landscape preservation, rural employment, and food security. EU governments state they aim to protect

their farmers and lands from losing environmental integrity and social sustainability in Europe's rural areas (Potter & Tilzey, 2007).

Continually, Gonzales (2004) argues that already the colonial and post-colonial division of labour between 'core' and 'periphery' introduced patterns of economic specialization in the developing world that have promoted food insecurity, degraded the environment, and produced rural poverty and inequality.

2.2 NEOLIBERAL GLOBALISATION AND DEVELOPMENT THINKING

One of the results of the neoliberal discourse has been the rise in PPPs as a tool for development in the South. To illustrate, "bilateral and multilateral donor agencies including the United Nations Development Program (UNDP) and USAID (United States of America Aid) advocate PPPs as the solution to keeping pace with the need for public services in the fast-growing third world cities" (Miraftab, 2004, p. 91). Often, the governments of these countries in the South have only recently, in the last few decades, adopted neoliberal policies of free trade liberalisation, a focus on economic growth, and market expansion as a result of, inter alia, international pressure from international institutions such as the WB and the IMF (Haque, 1999). This has as a result, argues Miraftab (2004), that those states do not have the capacity to be a powerful intervener to create equitable PPPs. Thus, in this way, he argues, PPPs function as 'Trojan Horses' of development. Meaning that "private sector firms approach local governments and their impoverished communities with the message of power sharing, but once the process is in motion the interests of the community are often overwhelmed by those of the most powerful member of the partnership—the private sector firms" (Miraftab, 2004, p. 89). This means that PPPs often function in the dominant interest of the for-profit private sector firms and, thus, are a form of privatisation instead of the developmental function it could possibly provide through enhancing economic growth, reducing hunger, and aiding governments in the South (Miraftab, 2004).

In the agribusiness sector in which actors from the North invest in countries in the South, like Ghana, this is a danger. Taking into account that those businesses need to make a profit in order to survive, this might be at the expense of local farmers if the government cannot be a strong partner.

2.3 THE IDEA OF SUSTAINABLE DEVELOPMENT

Environmentalists have questioned this neoliberal driven form of development, its continued market expansion, its focus solely on economic growth, and its sustainability: what are its effects on the natural environment? These type of questions arose because it already had resulted in environmental degradation; partly by cause of industrial agriculture which came forth out of the Green Revolution (Potter & Tilzey, 2007).

Sustainable Development (SD) as a development discourse and concept arose in the 1970s and gained momentum through the 1987 Brundtland report 'Our Common Future', the Earth Summit in Rio de Janeiro in 1992, the Kyoto protocol, and the MDGs and is now proceeding

in the form of the SDGs (Raco, 2005). In the commonly accepted definition of SD it focuses on future generations and their ability to live a life in which their needs can be fulfilled: “socio-economic development that meets the needs of the present society without compromising the needs of future generations” (Gawor, 2007, p. 130; Raco, 2005; Haque, 1999; Kemp & Parto, 2005). Gawor (2007) explains that SD’s philosophy is distinct from neoliberalism because the former focuses development on the interest of the general public (long-term future) while the latter focuses on the individual point of view (short-term future). This is one of the reasons why he argues that SD is an alternative to neoliberal driven globalisation.

The definition of SD adopted in this thesis comprises a multidimensional SD: the social, cultural, economic, and environmental dimensions are all interrelated. In general, the environmental dimension of SD has gained the most attention internationally, because it also has been the most neglected dimension in international development agendas and because the environment has endured most of the negative consequences of the neoliberal development project manifesting itself in globalisation processes, in the form of land degradation, climate change, and a decrease in biodiversity (Gawor, 2007; Haque, 1999). The philosophy of SD, thus, concerns itself with the above outlined problems and constraints of neoliberal driven globalisation, especially with the constraints of the economic dimension. “It tries to outline such a course of desirable economic development that would not fundamentally and irreversibly disturb the environment of human life and would not lead to biospheric degradation. (...) [This action has to be taken] “On behalf of the interest of present day humanity and its near and distant future” (Gawor, 2007, p. 133).

Looking solely from an ecological-biological point of view, Rees (2006) argues that “techno-industrial society is inherently unsustainable” (p. 220). From this point of view, (economic) globalisation is inherently unsustainable. He says that the socio-economic dimension of SD has gained too much attention within sustainability discussions, while the environmental dimension is the most fundamental and important, as it is the prerequisite to everything else (Rees, 2006).

The environmental dimension in SD concerns itself with environmental degradation. For example, land degradation caused by climate change and direct human action. This results in poverty and hunger because (small scale) farmers’ agricultural productivity decreases. The fact that land degradation causes a decrease in farmers’ income with which they are supposed to buy agricultural inputs, pay taxes, and consume goods and other food, clarifies this. This form of poverty, as a vicious cycle, directly leads to food insecurity for many households. Other reasons that underline the importance of the environmental dimension of SD are that to achieve food security, economic diversification is necessary, next to high biodiversity, to create a healthy ecosystem. One which wards off land degradation and supports a constant food supply, in contrast to monoculture agricultural production which is based on a few crops, not bio diverse, and promotes diseases, depletes soil fertility, and requires more agrochemicals (Gonzales, 2004).

As both Gonzales (2004) and Rees (2006) show, the globalisation process of liberalisation and the expansion of global trade is unsustainable. First, liberalisation of trade and economic specialisation create an increase in monoculture and cash crop production, which have the

above negative environmental effects (Gonzales, 2004). Second, it increases global consumption and waste production and drives the world into a state of ecological overshoots in which countries have ecological deficits much larger than their domestic bio-capacities (Rees, 2006).

In line of this anti-globalist argument, Haque (1999) argues that it is precisely the fact that many African (and other ‘developing’ countries), including Ghana, recently have adopted neoliberal policies that causes a threat to the realisation of the SD objectives. They replaced their former policies by market-oriented policies, for example attracting FDI and enhancing industrialisation. This is especially visible in the case of the agricultural sector because within the neoliberal discourse this encompasses growth-oriented industrialisation “in order to multiply the volumes of production and consumption” (p. 202). The danger is that such countries that are eager to attract FDI are vulnerable to environmental degradation because their conditions are attractive for big agricultural businesses. For example, cheap labour, the availability of their undervalued privatised assets, and often low environmental standards. This makes it easier and cheaper for agricultural businesses to marginalise pollution and restoration costs (Haque, 1999).

2.4 ADAPTATION - MITIGATION

The impacts of climate change generates two types of policy responses: mitigation and adaptation strategies (Martens, McEvoy, & Chang, 2009). Mitigation strategies encompass human interventions to reduce the sources of greenhouse gasses (GHGs) which increase climate change. Adaptation strategies try to adjust current systems to respond to effects of climate change to moderate harm (UNFCCC, 2014; Martens, McEvoy, & Chang, 2009). Adaptation is often perceived to be unsuitable for addressing the impacts of climate change on natural systems and biodiversity and it is viewed that mitigation should have primacy over adaptation. However, for regional and local development programmes, adaptation strategies are easier incorporated within their projects, in contrast to mitigation strategies. Because mitigation strategies are often bigger of scale, these are seen to be more apparent on the global and national governance level (Goklany, 2007; Termeer, et al., 2011). To illustrate, “at the global level, mitigation-policy arrangements have been agreed upon under the Kyoto protocol” (Termeer, et al., 2011, p. 161).

In the figure below these different roles of mitigation and adaptation are illustrated.

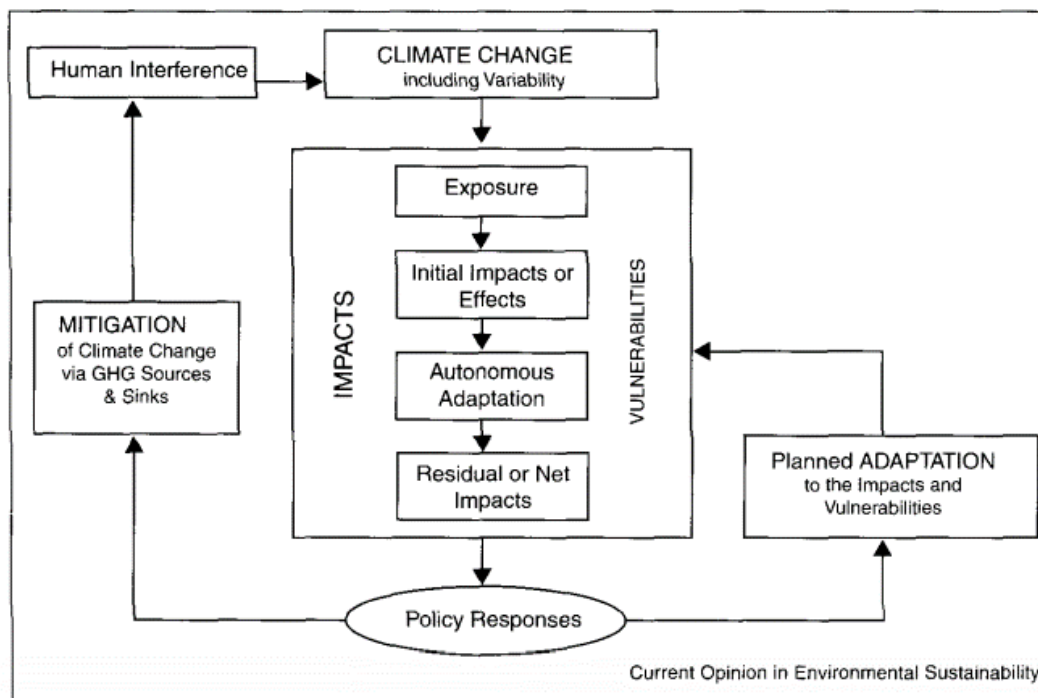


Figure 1 Adaptation Mitigation (Martens, McEvoy, & Chang, 2009)

The question considering adaptation and mitigation that arises is how to harmonise these two different types of climate change strategies to create one that is more comprehensive and better integrated to combat climate change risks and vulnerabilities (Moser, 2012). According to Moser (2012) this is possible because “positive synergies and complementarities between mitigation and adaptation exist in virtually any sector because virtually all emit at least some greenhouse gases and all will be impacted to varying degrees by climate change” (p. 166).

She provides an example of a harmonised adaptive and mitigation agricultural-environmental strategy: soil conservation through changed tillage or cover cropping practices has both positive implications for mitigation and adaptation. In the case of mitigation, it increases the potential of carbon storage and nitrogen fixation. In the case of adaptation, it improves nutrient and water retention, and increases soil biodiversity (Moser, 2012, p. 166).

The following example illustrates that the discussion on adaptation and mitigation is necessary because both types of measures can also undermine one another. To adapt to climate change consequences, a strategy could be to increase the use of nitrogen fertilizers to offset potential yield losses. However, this has potential negative implications for mitigation because this could mean increased emissions from the agricultural sector. This also works the other way around. For example, a mitigation measure could be to replace liquid fossil fuels with biofuels. However, this could have potential negative implications for adaptation; biofuel production could replace more diverse ecosystems and have potentially negative impacts on food production and security (Moser, 2012). It is, thus, important to not only consider mitigation and adaptation measures by themselves but also in relation to each other.

2.5 CONCEPTUAL FRAMEWORK

The following conceptual framework has been created to visualise the synthesis of the theories presented above. The framework is used as a basis for this research to analyse the (empirical) data obtained from in-depth interviews and the literary review. The (+) sign means an increase of the process or output in the subsequent box, the (-) sign implies a decrease of the process or output in the subsequent box.

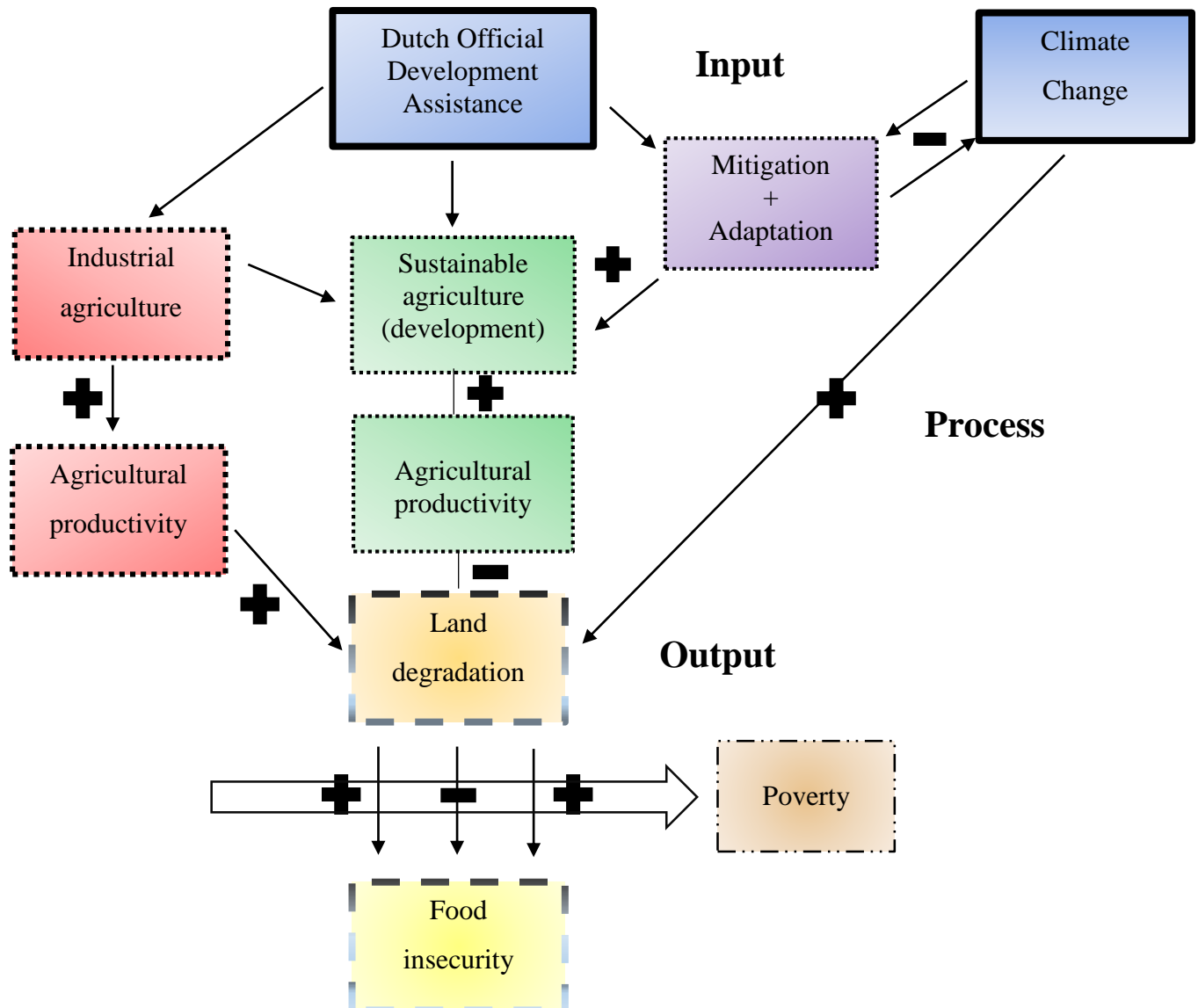


Figure 2 Conceptual Framework

The basic premises derived from the theoretic analytical framework and the conceptual framework can briefly be put into words:

- industrial agriculture causes an increase in agricultural productivity but also in land degradation, which in turn causes an increase in poverty and food insecurity;
- climate change causes an increase in land degradation, which in turn causes an increase in poverty and food insecurity;

- DODA causes an increase in industrial agriculture, this enhances agricultural productivity, which alleviates poverty, and increases food security;
- DODA increases sustainable agriculture (development), which in turn decreases land degradation, alleviates poverty, and improves food security;
- mitigation and adaptation strategies decrease human induced climate change;
- mitigation and adaptation strategies promote sustainable development and decrease land degradation and food security;
- land degradation induces poverty, which in turn increases food insecurity;
- poverty is another developmental issue closely related to and affected by land degradation and food insecurity.

2.6 CONCLUSION

So, both neoliberalism and SD are dominant discourses considering the research subject. The adoption of the SDGs indicate that SD is becoming more important in development thinking. However, policies are currently still influenced by both discourses, creating a hybrid form, even though Rees (2006) and Gawor (2007) see the two as distinct. Mitigation and adaptation strategies to enhance sustainability vary in scale and are often adopted on different levels. The literature suggests the need to integrate the two types of strategies because they strongly influence one another. Especially from an ecological sustainable viewpoint it is necessary to analyse Dutch policy with the above presented model to find out to what extent Dutch policy affects land degradation and food security and, thus, is sustainable.

3 METHODOLOGY

This chapter elaborates on the methodology used in this research to make clear what it is exactly that is researched and how this is operationalized. First, a definition of different terminologies is provided. Second, the organisation of the literary research is presented. Following, the use of interviews is elaborated on and, finally, the techniques used to analyse the interviews are presented.

3.1 TERMINOLOGY

This section presents the definitions and explanations of several important and broad concepts and terms in order to clearly demarcate the research. Below the different concepts are explained in alphabetical order.

Adaptation: “adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities” (UNFCCC, 2014).

Climate change: “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods” (UNISDR, 2009, p. 07).

Climate variability: “The way climate fluctuates yearly above or below a long-term average value” (Dinse). Examples of climatic variability are droughts and floods (IPCC report, p. 454).

Environmental degradation: In short, like the United Nations International Strategy for Disaster Reduction defines it: “the reduction of the capacity of the environment to meet social and ecological objectives, and needs” (UNISDR, 2009, p. 14). Environmental degradation often includes the creation of soil infertility, desertification, decrease of biodiversity, and negatively affected ecosystem dynamics. This can be because of effects of climate change, for example desertification, irregular rainfall, drought, or directly as a result of human action, for example because of deforestation because of wood as a resource, because of unsustainable industrial agriculture, because of unsustainable use of water resources, water and air contamination and pollution, and land degradation etc. (UNISDR, 2009). “The types of human-induced degradation are varied and include land misuse, soil erosion and loss, desertification, wild land fires, loss of biodiversity, deforestation, mangrove destruction, land, water and air pollution, climate change, sea level rise and ozone depletion.” (UNISDR, 2009, p. 14)

Food security: The availability of, access to, and the intake of necessary nutrients (IPCC report, p. 454): “a situation in which all people at all times have physical and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life” (Hjelm & Dasori, 2012, p. 6).

Industrial agriculture: The industrialisation and mechanisation (‘modernisation’) of agricultural practices to increase productivity and close the yield gap. Often this type of agriculture takes the form of monoculture and larger scale practices.

Mitigation: “a human intervention to reduce the sources or enhance the sinks of greenhouse gases” (UNFCCC, 2014).

Sustainable agriculture: “an approach to agriculture that focuses on producing food in a way that does not degrade the environment and contributes to the livelihood of communities” (University of Kentucky, 2014).

Sustainable development: The definition presented in the Brundtland Report of 1987 is used and in addition to that the different dimensions of sustainable development are emphasised: “socio-economic development that meets the needs of the present society without compromising the needs of future generations” (UNISDR, 2009, p. 29). This type of development has the following dimensions: social, economic, cultural, and environmental which are all interrelated. Most of the emphasis in SD lays on the environmental dimension through which environmental degradation is countered and ecosystems are restored (Gawor, 2007).

3.2 LITERARY REVIEW

In order to create a theoretical framework and the context to my research, it was necessary to do a literature research to collect all the necessary academic data available on the subject. In the case of the theoretical framework, ‘Google Scholar’ has been used to search for the most relevant articles, next to the use of several articles provided in various courses at the University of Utrecht (UU). The articles have been chosen after the main concepts had been identified to be important to research on agricultural development in the Global South. These are in particular the following: neoliberalism, globalisation, sustainable development, climate change, ecology, mitigation, and adaptation. To start with, relevant knowledge had been gained from courses on development cooperation and a course on globalisation at the UU. In addition, other academic articles have been found searching ‘Google Scholar’ on the above concepts. Also, combinations of the above named concepts have been used to search for academic articles and articles cited by relevant authors have been found.

This process has been similar for the literary review which provides the context of Ghana in the next chapter. First, the most crucial information on the subject, on the basis of the introduction and the theoretical framework has been identified and structured in different sections. Second, research has been done per section to create a clear structure.

First, Ghana is placed in an international context by providing general information on its climate and agricultural sector and relating Ghana’s situation considering development to the international development context such as the MDGs and SDGs which are used as indicators for Ghana’s progress. Secondly, the literary review shows Ghana’s situation considering climate change risks and vulnerabilities, also in relation to agriculture, food security, poverty, adaptation, and mitigation. Furthermore, DODA policy is explored to show what foci and strategies are adopted in the agricultural sector and how these relate to the theoretical framework and Ghana’s developmental situation. In addition, Ghana’s agricultural policies are

analysed with the aim to show their vision of the sector and compare it with the situation on the ground and the Dutch policy to answer the main research question.

As a basis, reports and policy documents have been used to provide the necessary research context. For example, Dutch and Ghanaian policy documents have been used, next to research reports on climate change, food security, and agriculture in Ghana. In addition, other academic articles and quantitative data have been used to create a sound argumentation. The quantitative data has been collected from the WB's data bank on Ghana and from Ghana's official government's reports.

Overall, the literary review has been formed using a combination of a wide range of sources; from academic articles and policy documents to reports and quantitative data. Sources vary from governments, NGOs, independent parties, and academic knowledge institutions. Thus, this shows a choice of a wide range of sources in which different viewpoints come to the fore to create a well-balanced overview.

3.3 QUALITATIVE RESEARCH

In order to gain in depth information on the research subject, like opinions, viewpoints, motivations, attitudes, and stories behind facts, several interviews have been conducted in person, over Skype and per e-mail. Doing this, specific information has been gained which could not have been obtained through the use of solely literary research methods. This was especially necessary in the case of researching sustainable development and development cooperation in general, because people take on different definitions and viewpoints. It is important to know what the different people and organisations actually mean by the concepts they use in their programmes and to be able to include stories of people whom are less represented in the literature, for example, the local population. In addition, as I have travelled to Ghana two times before the start of this research, I am aware of the Ghanaian culture, interactions, and context, especially of the Northern region. This has greatly facilitated my interpretation of the literary, quantitative, and qualitative data that has been collected.

3.3.1 INTERVIEWEES

First, all involved actors related to the research area have been identified and classified into four different categories to provide a clear structure for the research: (1) the business sector, (2) government institutions, (3) non-profit sector, (4) experts (researchers on the subject from knowledge institutions). The same is the case considering the actual interviewees.

Table 1 shows the people and organisations that have been contacted and gave a positive response to conduct an interview with them. The aim has been to interview three people from each classified group. In the end this has resulted in the conduction of ten interviews in total (see table 1). These people have been identified important to be interviewed because they are the most closely related to the research subject. Some organisations to be interviewed have been recommended by other interviewees. Other organisations have been recommended by a Ghanaian friend who is active in the development sector in (Northern) Ghana. The so called 'experts' have been chosen on the basis of their field of research. The people interviewed are

both Dutch and Ghanaian, which provides for a more credible research because both perspectives are brought to light. In all, these interviewees form a just representation of the actors involved.

Table 1 Interviewees

Business	Government	Non-profit	Expert
<u>Netherlands-African Business Council (NABC)</u> <i>Marlou Rijk</i> Project coordinator horticulture	<u>Dutch Embassy in Ghana</u> <i>Mariska Lammers</i> Policy advisor for agribusiness	<u>Solidaridad West-Africa: Ghana</u> <i>Eric Agyare</i> Programme Manager CORIP	<u>Utrecht University</u> <i>Sebastiaan Soeters</i> Researcher
<u>The Rabobank</u> <i>Peter Niekus</i> Manager of the International Desk Africa	<u>Ghanaveg (PPP)</u> <i>Sheila Assibey-Yeboah</i> Deputy project leader	<u>IFDC</u> <i>Divine James Buo</i> Country agribusiness cluster advisor – 2SCALE project	<u>LANDac</u> <i>Gemma Betsema</i> Coordinator
<u>Amatrex Holland</u> <i>Arnout Aarnink</i> Director			<u>Utrecht University</u> <i>Richmond Antwi-Bediako</i> PhD Student UU - Executive Director Rural Environmental Care Association (RECA) Africa

Because it is difficult to get in contact with several of these actors, in case of a high level institution or being situated abroad, it has not been possible to have a face to face interview with all of the actors. Instead, several of the interviews have been conducted through Skype, and one per e-mail (Peter Niekus).

3.3.2 TOPIC LIST INTERVIEWS

For conducting the interviews, a topic list has been created (see table 2) so that all of the interviews followed were similar structured. However, because the research is dealing with four

different type of actors, each interview differs from the topic list below. Four similar but slightly different topic lists have been made to suit the four different categories. All four topic lists can be found in the annex.

During the interviews, before having started with the topic list, some generalities have been explained and agreed upon: the fact that the interviews would be recorded and written down, the purpose of the interview and a small introduction to the research of the thesis, thanking the people for making time for the interview, addressing terms of confidentiality, explaining the format of the interview and how long it would approximately take, ask them if they had any further questions before the start of the interview, and let them know how to get in touch with me later if they would like to.

The interviews took the form of a standardised, open question, semi-structured interview so that the interviewees could bring in their own views and additional useful information. Each interview has been adapted according to the category the interviewee was placed under. This made it easier to analyse and compare the different interviews and the interviewees were still able to answer the question in a manner they find comfortable. Some closed questions have been included as well to confirm some important information. The largest part of the questions asked are knowledge or opinion/value questions.

Table 2 Topic List Interviews

Topics	Guideline Questions
Sustainable Development	<ul style="list-style-type: none"> ▪ How is the idea of sustainable development incorporated within [name of organisation] policy? ▪ What value does [name of org] attach to the idea of sustainable development? How important is this value to your organisation? ▪ How would you define sustainable development? ▪ (Why) do you think the idea of sustainable development is important? ▪ Do you think Dutch agricultural investments in Ghana take into account the idea of sustainability? (especially from an ecological point of view)
Agricultural investments in Ghana	<ul style="list-style-type: none"> ▪ What type of agricultural investments has [name of organisation] made in recent years? ▪ How and why did [name of organisation] decide to invest in Ghana? ▪ Which type of agricultural investments do you find the most important? Why? ▪ Which different aims does [name of org] have with investing in Ghana, in developmental terms? ▪ What role does [name of org] have as an agricultural investor in Ghana? ▪ What do you think is the role of agricultural investments in Ghana? ▪ What do you think is the role of PPPs in development in Ghana?

	<ul style="list-style-type: none"> ▪ What type of agricultural businesses in the Dutch Trade Mission to Ghana? Do you invite them or they can subscribe themselves? ▪ Type of agriculture? Trees? ...Crops?
Agriculture and climate change	<ul style="list-style-type: none"> ▪ How do you see the relation between agriculture and climate change? ▪ What adaptation measures does [name of org] incorporate within their programmes, if it does? ▪ What mitigation measures does [name of org] incorporate within their programmes, if it does? ▪ Are there specific actions taken to counter climate change? In the form of adaptation/mitigation measures?
Agriculture and food security	<ul style="list-style-type: none"> ▪ How do you see the relation between agriculture and food security? ▪ Do find that [name of org] helps to increase food security? ▪ Are there specific actions taken to enhance food security?
Dutch development cooperation (DC) in Ghana	<ul style="list-style-type: none"> ▪ What role did the change in Dutch DC policy play in your decision to invest in Ghana? ▪ Were you aware of this change in Dutch DC? ▪ How did you get/find the opportunity to invest in Ghana's agricultural sector? ▪ How did [name of organisation] experience their participation in a Dutch Trade Mission to Ghana?
Ghana's agricultural policy	<ul style="list-style-type: none"> ▪ How are you limited/encouraged by the Ghanaian government (e.g. through their policy) to invest in Ghana?
Land degradation	<ul style="list-style-type: none"> ▪ Are you aware of land degradation taking place in Ghana as a result of climate change? ▪ Are you aware of land degradation taking place in Ghana as a result of some forms of agriculture? ▪ Is the issue of land degradation incorporated in [name of org] policy?

3.4 ANALYSIS

For the analysis of the interviews, several techniques have been used. The aim was to find out similarities and differences between and among the four different categories. This provides a comprehensive overview on the subject in which many different views come to the fore. First, the written interviews have been organised per person per topic. The relevant information has been separated from irrelevant information considering the main research question. By dividing the interviews into the topics, relations with the theoretical framework and context can easily be found and highlighted and a comprehensive overview can be given on the different main aspects concerning the main research question of this thesis. Second, the interviews have been labelled per topic. Several labels have been assigned to the topics per person. Third, within the different groups the labels have been compared to find an overall perspective for that group. Critiques have also been included. Fourth, the overall perspectives have been analysed through carrying out both descriptive and explanatory analyses.

Although the analysis divides the categories, the interviews with Mariska Lammers and Sheila Assibey-Yeboah have been analysed separately. Ghanaveg, although initiated by the Dutch Embassy in Ghana, not just presents the view of a government institution but also of the private sector.

Thereafter, the different perspectives have been used to answer the main research question. The inclusion of many different perspectives provides for a comprehensive answer. The final results of the entire research are presented in the final conclusion.

3.5 CONCLUSION

The methodology used in this research constitutes of three different parts: the terminology, the literary review, and an analysis of the in-depth interviews that have been conducted. The literary review is needed to create the theoretical framework and a comprehensive contextual framework as a basis for the rest of the study. The in-depth interviews were semi-structured based on a topic list. Doing this, specific information has been gained which could not have been obtained through the use of solely literary research methods. This was especially necessary in the case of researching sustainable development and development cooperation in general, because people take on different definitions and viewpoints. The interviews have been labelled and analysed through carrying out both descriptive and explanatory analyses.

4 GHANA SITUATED

This chapter presents an overview of Ghana’s developmental progress by looking at the MDGs and SDGs and its situation considering the climate, agriculture, and land use. Furthermore, a literary review shows Ghana’s risks and vulnerabilities in relation to climate change, food security, poverty, and agriculture and the adaptation and mitigation strategies that are adopted by various actors. Thirdly, DODA policy is examined and, finally, Ghana’s agricultural policies are analysed to complement the understanding of the Ghanaian context. These two policies are then compared to find out to what extent DODA policy is aligned with Ghanaian policies on the subject.



Figure 3 Ghana located (Ezilon.com, 2009)

4.1 COUNTRY OVERVIEW

Ghana is situated in West-Africa, surrounded by Ivory Coast to the West, Togo to the East, and Burkina Faso to the North, and by the Gulf of Guinea to the South. Ghana covers an area of 238,539 square kilometres. It contains a huge lake, Lake Volta in the East of the country and extensive water bodies, most of which are rivers, throughout the country (World Bank, Ghana, 2014; Opong-Anane, 2001). It is divided in several regions: Upper West, Upper East, Northern Region, Brong-Ahafo Region, Ashanti Region, Eastern Region, Western Region, Volta Region, Central Region, and Greater Accra (Ghana.gov.gh, 2016). Ghana counts around 26.79 million people in 2014 and is valued as a lower middle income ‘developing’ country by the World Bank in 2014 as its GDP is 38.65 billion US\$ (World Bank, 2014).

4.1.1 DEVELOPMENT: FACTS AND FIGURES

Different methods can be used to evaluate a country’s development compared to specific criteria. At least, from a SD perspective, different dimensions need to be looked at: the social, cultural, economic, and environmental (Gawor, 2007). Because this thesis explores the agricultural sector, land degradation, and food security, the environmental and economic perspectives dominate. Although there has been critique on the MDGs set for 2015 (Fehling, Nelson, & Venkatapuram, 2013), they give a good indication of a country’s developmental progress. In the next years the SDGs can be used instead as indicators for a country’s progress. In the seventeen sustainable goals set for 2030, the climate and the environmental dimension in general, have been given a more important place in order to promote a sustainable planet and combat the negative consequences of climate change (UN, 2015). This is an indication for the fact that the idea of SD is outbalancing neoliberalism in the international development discourse.

Interestingly, SDG 2 complements MDG 1: eradicating poverty and hunger. It states: “end hunger, achieve food security and improve nutrition and promote sustainable agriculture”. In addition to the many goals that include ‘sustainability’, the 15th states: “protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss” (UN, 2015). Together, these two goals encompass and try to combat the issue tackled in this thesis: agriculture, food security, and land degradation. This shows that internationally attention is given to the idea of SD and the intertwinement of food security and land degradation in agricultural development. However, these goals are relatively new and not yet reflected in most development policies, as this thesis will also show.

In general, in 2013, Ghana has made considerable progress in achieving the MDGs but challenges remain. Progress has been very diffuse, varying per goal and indicators. “While significant progress has been made in some key MDG targets such as poverty eradication, education and access to safe water, the overall pace of progress, based on current trends, is insufficient to achieve many of MDGs such as under-five, infant and maternal mortalities as well as improved sanitation facilities by the target date of 2015.” (Osei-Assibey & Grey, 2013, p. 1)

In addition, from an economic perspective, although Ghana has experienced high rates of economic growth, this has been jobless growth, as it has failed to create enough employment opportunities for Ghanaians (Osei-Assibey & Grey, 2013; Haque, 1999).

Northern Ghana (Upper West, Upper East, and the Northern Region) is distinguished from the Southern regions in this thesis. The North has not experienced the same rate of development compared to the South. For instance, climate change challenges are more visible in the North and poverty, malnutrition, and food insecurity are higher in the North (Hjelm & Dasori, 2012). The fact that “more than 680.000 people were considered either severely or moderately food insecure at the time of the survey and of these, 140.000 had a very poor diet, subsisting on staple foods, some vegetables and oil, and little else” illustrates this point (Hjelm & Dasori, 2012, p. 2). This division is also taken into account when looking at DODA in Ghana to find out if it responds to the needs of the Ghanaian citizens.

4.1.1.1 Climate

The climate of Ghana is tropical but differs between the North and the South in average temperature and the dry and rainy seasons because Ghana’s climate is heavily influenced by the West African Monsoon (Intertropical Convergence Zone and the Harmattan). In contrast to the Northern regions of Ghana, which experience one wet season and one dry season per year, the South of Ghana experiences two wet seasons. On average the North of Ghana experiences higher temperatures than the South (McSweeney, New, & Lizcano, 2012; Hjelm & Dasori, 2012).

The country is divided into six different agro-ecological zones (see figure 4): coastal savannah, rain-forest, semi-deciduous forest, forest-savannah transition, Guinea savannah and Sudan savannah (MoFA, 2007; Hjelm & Dasori, 2012). Different agricultural commodities are produced in the different ecological zones and the different zones also experience different threats from climate change and human induced vulnerabilities (SRID, 2010). Therefore, this division will be taken into account when looking at DODA in Ghana.

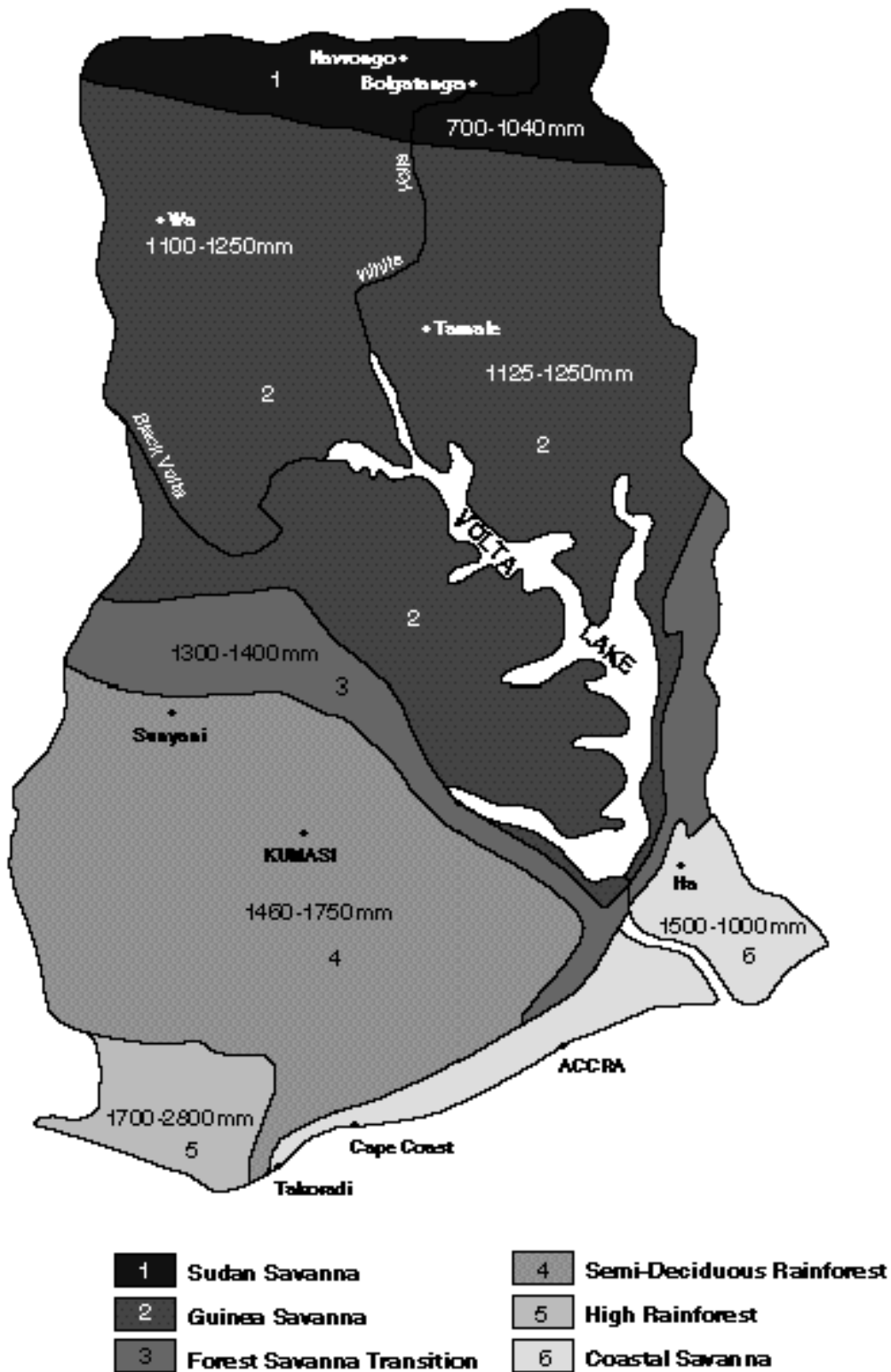


Figure 4 (The Six Ecological Zones of Ghana, n.d.)

4.1.1.2 Agriculture

Agriculture functions as a huge pillar of Ghana’s economy. For example, 42% of total employment in Ghana is in the agricultural sector. Furthermore, agriculture accounted for 30,8% value added of GDP and 20,7% in 2014 (World Bank, 2014) (figure 5).

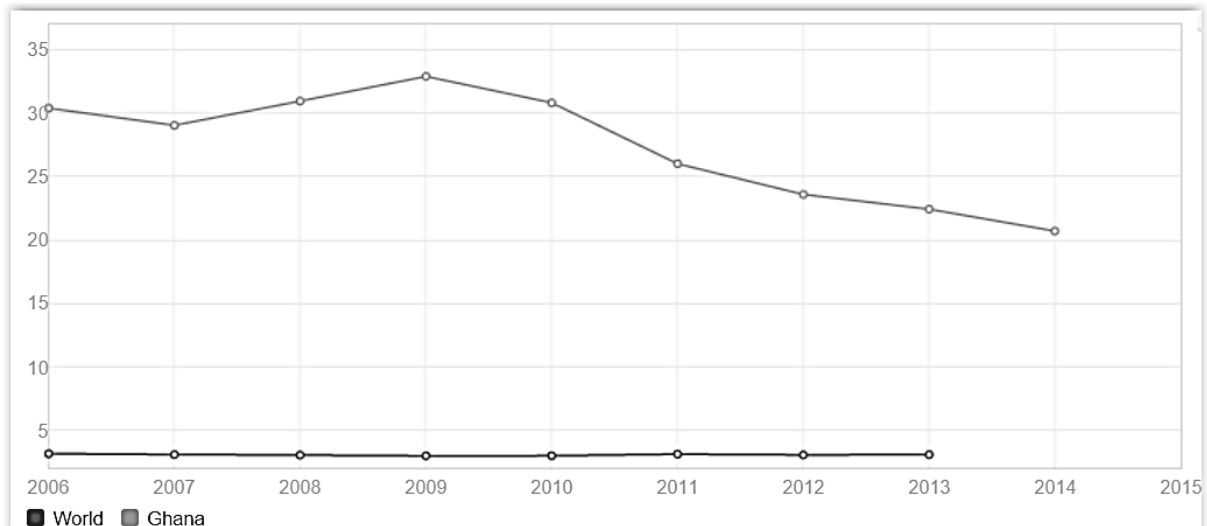


Figure 5 change in agriculture % value added of GDP per year (World Bank, 2015a)

Figures on northern Ghana and agriculture stress the importance of agriculture for 75% of its population: “Almost half of the households (46%) in northern Ghana acquire their income from crop cultivation while close to a third (29%) rely on agro-pastoralism, a combination of income from livestock (49%) and crops (43%).” (Hjelm & Dasori, 2012, p. 3)

Furthermore, agricultural productivity has increased in recent years. For example, cereal yield (kg per hectare) has increased from 1.432 in 2005 to 1.768 in 2012. Furthermore, the crop production index (2004-2006 = 100) was 144,3 in 2013, the food production index (2004-2006 = 100) was 143,7 in 2013, and the livestock production index (2004-2006 = 100) was 136,1 in 2013 (World Bank, 2014).

Fertilizer consumption (kilograms per hectare of arable land) has at the same time increased from 18,8 in 2010 to as high as 34,9 in 2012 (World Bank, 2014). This could have huge impacts on the natural environment and the future of agriculture in Ghana as the use of (non-organic) fertilizers eventually causes land degradation and, thus, a decrease in productivity and food security.

Additionally, because agriculture in Ghana is mainly rain fed, it is highly vulnerable to changes in climate. Climate extremes in Ghana have caused periods of severe drought in which crop production and livestock herds declined and which can cause severe food shortages, as for example happened in the early 1980s (World Bank, 2015).

4.1.1.3 Land use

Looking at land use gives an indication of the status of Ghanaian soil and degradation and its causes. In addition, it helps to determine to what extent land degradation takes place and how agricultural land use and soil quality are related, because “deforestation and agriculture have caused severe land degradation, erosion and siltation, particularly in the savannah zone – and they continue to reduce the fertility of already degraded soils.” (Hjelm & Dasori, 2012, p. 11)

The Guinea Savannah (woodland Savannah) counts for 62% of the land area in Ghana (SRID, 2010; Hjelm & Dasori, 2012). It consist of densely wooded grassland with fire resistant shrubs

(Siaw, 2001). Much of forest that once covered Ghanaian soil has been lost over the years due to agricultural expansion, the creation of urban settlements, and usage for timber (Hjelm & Dasori, 2012).

As is visible in figure 6, there exist many varieties of soil types in Ghana, which all are suitable for different usages, according to the Ministry of Food and Agriculture (MoFA). However, not all potential arable land is actually under cultivation (Hjelm & Dasori, 2012).

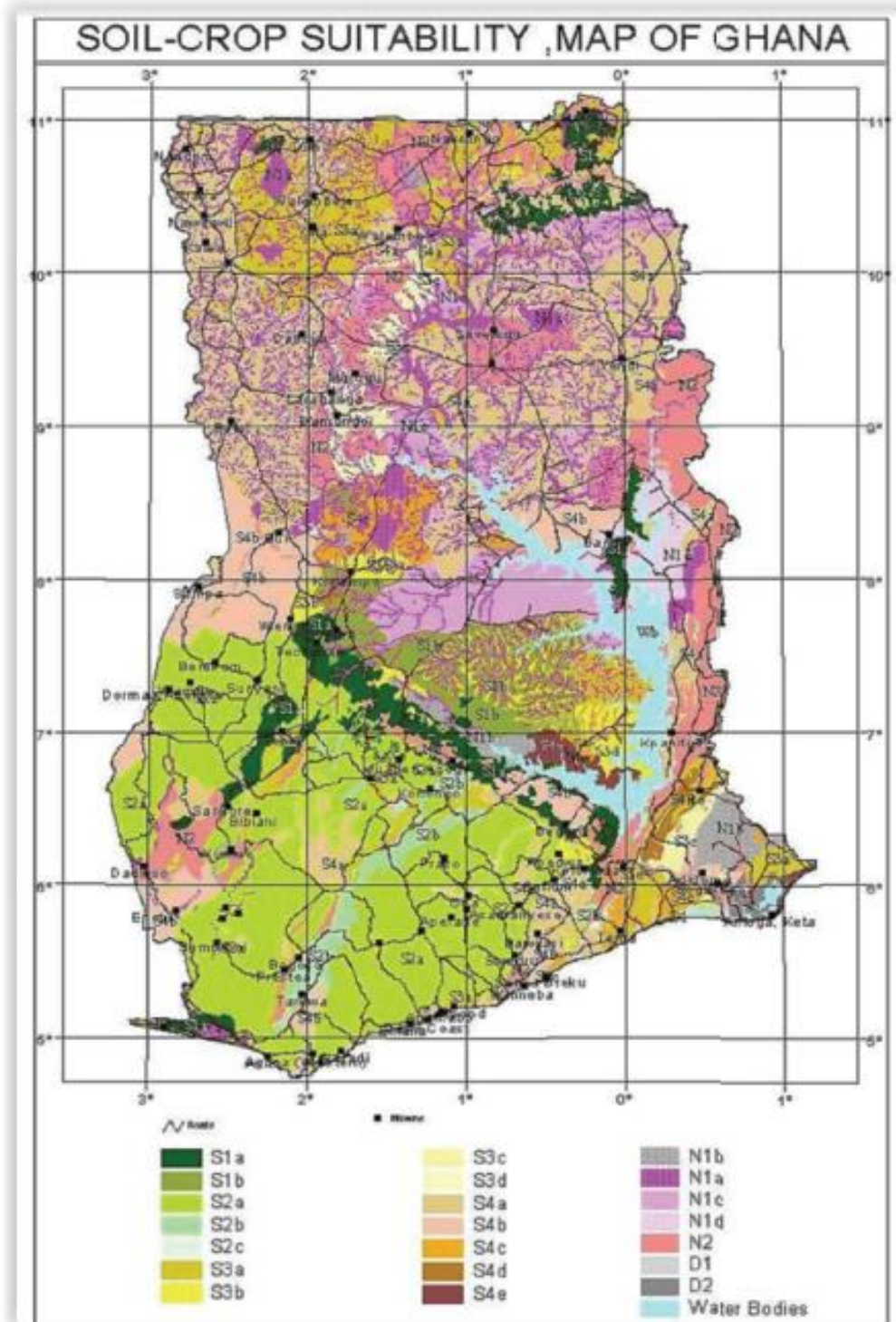


Figure 6 (SRID, 2010)

As becomes clear in figure 6, the biggest areas are S1a, S2a, S3a, S4a, and N1a. These are explained in the table below.

Table 3 Soil Crop Suitability (SRID, 2010, pp. 60-61)

Soil type	Suitability
S1a	“Highly suitable soils, non-gravelly medium to moderately heavy textured. Suitable for cocoa, coffee, black pepper, sweet berry, ginger, citrus, cocoyam, banana, rice, sugarcane and vegetables.
S2a	Highly suitable areas for extensive mechanized cultivation of export and food crops, (cashew nut, sunflower, pineapples, maize corn, guinea corn, soybean, cassava, yam, cocoyam, plantain, beans etc.). Limitation to crop production may be due to gravelly subsoil horizons.
S3a	May consist of heavy plastic clays mostly imperfectly to poorly drained soils good for mechanized irrigation of rice, sugarcane, vegetables, maize and millet.
S4a	Consist of gravelly, moderately shallow to shallow, imperfectly drained soils. Limited to hand cultivation of cassava, citrus, palm oil and mangoes.
N1a	Predominantly poor to very poorly drained soils, which may be developed for rice, sugarcane and vegetables.”

However, 69% of the land area has been identified as prone to severe erosion by the MoFA (2007), which accounts for a cost of 2% of GDP. The problem affects the Savannah regions in the North the most. The MoFA finds there is a need to address poor agricultural land management to prevent further erosion. These include over-grazing, the practice of bush burning for crop production (contributes to over-grazing), and lack of prudent management of agrochemicals and drainage. This has been included in official policies, however, enforcement is weak (MoFA, 2007).

Farming systems in Ghana consist mainly of smallholders. The MoFA states that 90% of the farmers are small holders with less than two hectares of land and mainly use traditional farming methods. There is little mechanised farming and there is bullock farming in the North of the country. Most food crop farms use intercropping. Monocropping is mainly practiced in larger-scale commercial farms (SRID, 2010).

The next table (table 4) shows the main agricultural products of Ghana. The production of industrial crops has increased over the past decades, especially cocoa and oil palm. Cocoa specifically is an important industrial crop for Ghana as it highly contributes to its GDP: 12% of total value added. Moreover, it takes up a large area compared to food crops: 1600(‘000 square km) compared to 19.4(‘000 square km) for vegetables other than tomato (SRID, 2010). However, only considering GDP when looking at development can be misleading. How does

the production of cocoa in Ghana actually lead to food security and livelihood improvement for the cocoa farmers and other citizens in the cocoa regions?

Table 4 Main agricultural products (SRID, 2010, p. 10)

Industrial Crops	Cocoa, Oil Palm, Coconut, Coffee, Cotton, Kola, Rubber
Starchy and Cereal Staples	Cassava, Cocoyam, Yam, Maize, Rice, Millet, Sorghum, Plantain
Fruits and Vegetables	Pineapple, Citrus, Banana, Cashew, Pawpaw, Mangoes, Tomato, Pepper, Okra, Egg Plant, Onion, Asian Vegetables

The yield of selected food crops under rain fed conditions on average for all crops was lower than the possible achievable yield. As most agriculture in Ghana is rain fed, much could be gained considering increasing productivity and food security through e.g. irrigation. However, taking into account the risks and vulnerabilities climate change brings with it, increasing productivity can also be dangerous: creating food insecurity (SRID, 2010).

Agricultural machinery import has increased over recent years according to statistical data from the MoFA but it is still low. This indicates a slow mechanisation of the Ghanaian agriculture sector (SRID, 2010).

In contrast, agro-chemical and fertilizer imports have shown increases over recent years. This indicates that farmers aim at higher yield and production through the use of such products. However, these can also have negative effects on the environment and eventually cause soil degradation and increase climate change if not organic. So, when looking at fertilizers it is important to take this into account (SRID, 2010).

Also, there has been an increase in agro-processing firms which, theoretically, should lead to value addition to specific value chains because the commodities are not just sold in their raw form but processed. This can, among others, enhance the shelf life of products (SRID, 2010; Assibey-Yeboah, 2015).

4.1.2 RISKS AND VULNERABILITIES

4.1.2.1 Climate change and agriculture

Recent climate trends in Ghana include an increase in the average temperature with 1.0 degrees since the 1960s. Especially in the hot, dry seasons in the North the temperature is prospected to increase with 0.27 degrees per decade. This has as a result that the frequency of hot days and nights has increased and that of cold days and nights decreased (McSweeney, New, & Lizcano, 2012; World Bank, 2015). Furthermore, since the 1960s there has been a trend of a decreasing amount of average annual rainfall. However, most prospects for climate change in Ghana are highly uncertain as models show a divergent range of possibilities, for example trends of both an increasing and decreasing amount of rainfall (McSweeney, New, & Lizcano, 2012).

This means that climate change will indirectly negatively influence the economic growth rate of Ghana of the past decade “due to widespread crop failure/loss, outbreaks of human and

animal diseases, dislocation of human populations, destruction of property and infrastructure, and loss to livelihoods.” (World Bank, 2015)

However, the most significant problem people face is specifically climate variability. Meaning that, for example when rainfall is highly unpredictable it causes huge problems for the rural farmer population in terms of food insecurity and deficits. Resulting in food crises and rural-urban and rural-rural migration (Bruijn & Dijk, 2006; World Bank, 2007).

4.1.2.2 Droughts

Droughts and floods are examples of high climatic variability. In the case of Ghana, droughts and floods have severe effects on many people’s livelihoods and food security. For instance, in 2007 there was a case of floods in Northern Ghana (Armah, Yawson, Yengoh, Odoi, & Afrifa, 2010), directly followed by a drought. These are accompanied by high temperatures and intense heat, causing a decline in agricultural productivity and resulting in food insecurity. The Ghanaian government has taken measures to cope with such events by incorporating Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) strategies in their policies and programmes (World Bank, 2015).

4.1.2.3 Food security and poverty

The Comprehensive Food Security and Vulnerability Analysis in Ghana, led by the World Food Programme and the MoFA, focused mainly on the three Northern regions, but can also be seen as an indicator for the situation in the South. The aim of the research has been to map the status of food insecurity in Ghana.

680.000 people were considered food insecure, however, percentages differ per region (figure 7). Poverty is the main cause of food insecurity because the poorest “not only have limited means of purchasing food, but have smaller harvests, greater vulnerability to shocks due to reduced coping capacity and lower levels of education” (Hjelm & Dasori, 2012, p. 2). Other socio-economic and spatial factors add to the fact that some households are more food insecure than others. For example, there is a difference between rural and urban households, female headed households are more likely to be food insecure, and the size of a farmers land for cultivation is also correlated with food insecurity. It is important to emphasise that agriculture in the North is especially significant for people’s livelihoods because as many as 75% of households gain their income or part of it from agriculture related activities (Hjelm & Dasori, 2012).

Other main practical drivers for food insecurity are the limited agricultural outputs, poor harvest management and seasonal effects, fluctuations in food prices, education, and poor infrastructure (lack of irrigation, poor farm to market roads, insufficient storage facilities, lack of processing facilities) (Hjelm & Dasori, 2012; IS-Academy, 2015). To solve these challenges the government of Ghana has adopted new policies concerning agriculture and food security: METASIP and FASDEP II. These are elaborated on later on in this chapter (IS-Academy, 2015).

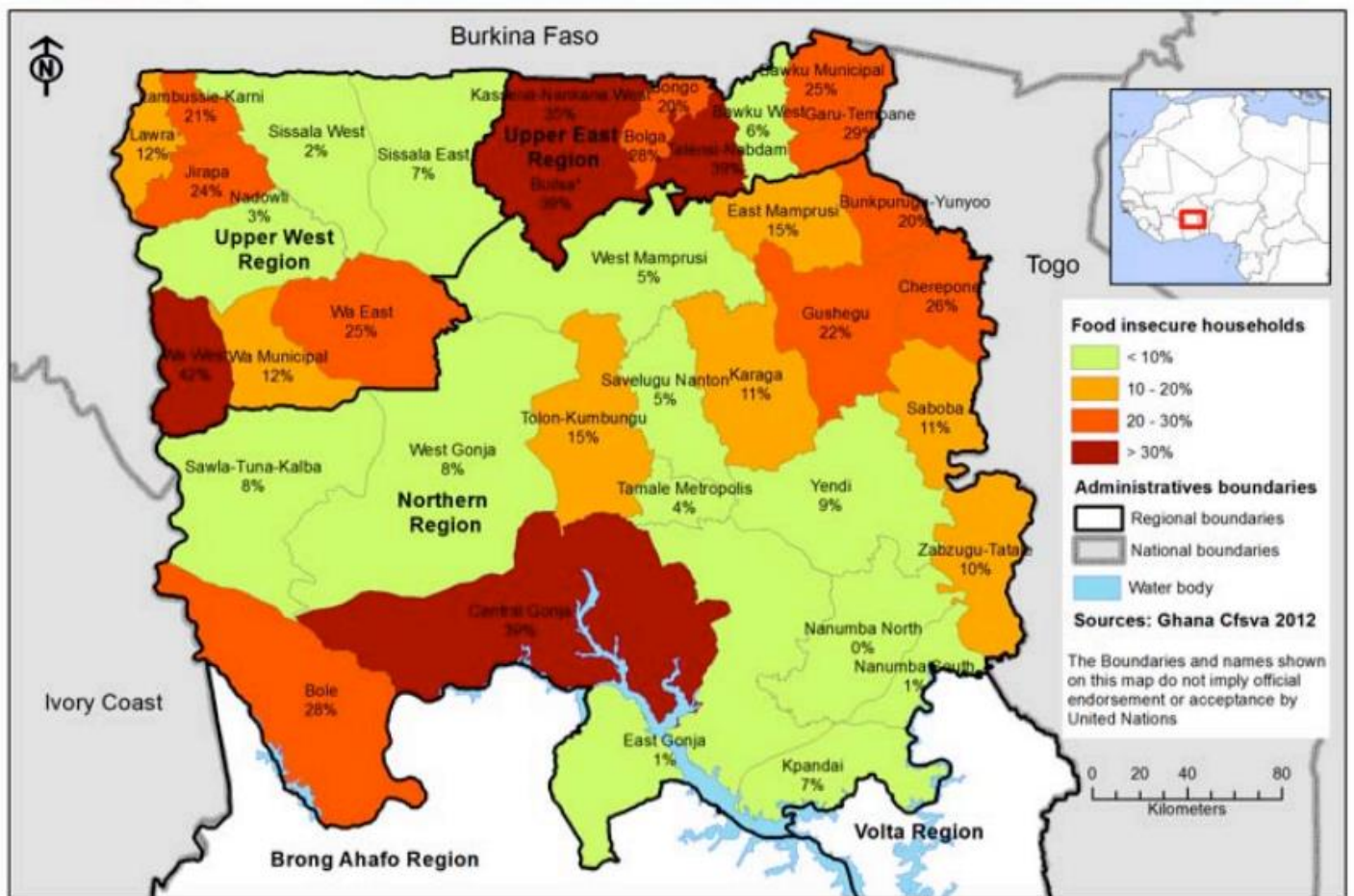


Figure 7 Food Insecure Households in Northern Ghana (Hjelm & Dasori, 2012, p. 19)

A different practical problem related to food security is that of land governance. When foreign investors want to invest in Ghana, which is encouraged by the government, they have to obtain a specific area of land suitable for their project. However, several problems exist considering land and land rights in Ghana. In many cases of land acquisition, there are overlapping claims. For example, it is possible that a family owns a plot of land and some members of the family sell the plot to an investor. When the investor starts using the land, other members of the family might protest to this because they still own the land as well. Also, a community chief might sell land at the expense of others. Often it is the vulnerable groups, minorities, and women that experience the negative results of such land issues (IS-Academy, 2015).

In addition, the Ghanaian government has advocated to promote and attract foreign direct investments (FDI) in its agricultural sector by adopting liberal regulatory regimes. This has resulted in huge land deals, however, the data on this is uncertain, unreliable, and incomplete (IS-Academy, 2015). It happens that after land is sold to foreign investors, it leaves locals alienated from their land, which they often are not compensated for. Not in money, nor in employment (IS-Academy, 2015). Land alienation is a huge problem in Ghana and happens regularly (Antwi-Bediako, 2015).

While land alienation and land acquisition issues also have negative influence on the food security of the local population, land policies do not focus directly on food security and agricultural programmes directed at food security do not focus on its implications on food

security as a result of land issues. However, in February 2012, the government, through the Lands Commission, developed guidelines for such land acquisition issues, aiming to operationalize the responsible agricultural investments principles which have been developed internationally by, inter alia, the FAO and the WB (IS-Academy, 2015).

Finally, climate change is a significant factor that causes food insecurity for many Ghanaians. Resulting in land degradation it causes a drop in yield and productivity, crop failures, and impoverish the poor population more (Laube, Schraven, & Awo, 2011; MoFA, 2007). The fact that “environmental change and economic globalisation exert an increasingly high degree of pressure on the agricultural livelihoods of small-scale farmers in West Africa” illustrates this point (Laube, Schraven, & Awo, 2011, p. 753).

Moreover, economic globalisation limits the adaptive capacity of small scale farmers. They face competition from agricultural products from other parts of the world “from where large quantities of cheap vegetables and vegetable products (such as tomato paste) are imported into Ghana” (Laube, Schraven, & Awo, 2011, p. 756). Furthermore, tomatoes and onions are even imported from neighbouring countries like Burkina Faso (Assibey-Yeboah, 2015).

4.1.2.4 Adaptation and mitigation

Adaptation and mitigation strategies are adopted on various levels and vary in scale. For example, the Ghanaian government adopted DRR and CCA in their development policies and programmes (World Bank, 2015). Furthermore, Ghana ratified the Kyoto protocol in May 2003 (UNFCCC, 2006).

On the national level irrigation is adopted as an adaptation strategy. The MoFA identified in 2002 that 11.000 hectares were under formal irrigation, which accounts for less than 1% of total arable land, in contrast to 500.000 potential hectares. The Ghana Irrigation Development Authority that researches irrigation in the country, identified that the capacity of formal public irrigation schemes is not reached and this causes low productivity. In addition, unclear institutional mandates cause inadequate irrigation support services (MoFA, 2007).

On a local scale, the rural Ghanaian population already adopted several adaptation strategies in light of climate change challenges and food security issues. Examples of these are diversifying crops, soil and water conservation, keeping trees on farms, keeping small ruminants, using improved crop varieties, and fertilizers to reduce smallholder farmers’ vulnerability to climate variability and seasonality (Douxchamps, et al., 2015). However, the use of nitrogen fertilizers has potential negative implications for mitigation because this could mean increased emissions from the agricultural sector (Moser, 2012).

For different household types different adaptation strategies are ‘climate-smart’ and land size and market orientation are the key drivers for food security, but the use of agricultural adaptation strategies is quite low under rural households. Barriers are the lack of capital of many households and the lack of access to knowledge and information. The adoption of adaptation strategies does increase food security but this varies per household type. The effects of adaptation strategies are stronger for market-oriented households (Douxchamps, et al., 2015). “In order to create food security this study confirms the need for intensification as major adaptation strategy. (...) Other farmers will have to switch [adaptation] type or change their

livelihood strategies as climate and demographic conditions evolve.” (Douxchamps, et al., 2015, p. 11)

4.1.2.5 Conclusion

On average Ghana is doing quite well considering its development. However, it still faces many challenges. Among others, climate change, poverty, food insecurity, and (agricultural) land use. As agriculture is a significant important sector for the country and people’s livelihoods, much can be gained here. However, climate change poses risks and vulnerabilities to livelihoods as it increases land degradation and food insecurity together with other social-economic and practical drivers. Adaptation and mitigation strategies are adopted on several levels and scales, however, these prove still to be insufficient.

4.2 A BILATERAL RELATIONSHIP

The Netherlands’ development cooperation programme has changed over the past years. A new policy has been adopted in 2012, initiated by Secretary Ben Knapen of the Ministry of Foreign Affairs and kick-started by Minister Lilianne Ploumen. This policy change included a shift in focus *from aid to trade*. The fact that Ploumen previously would have carried the title of Minister of Development Cooperation ‘without a wallet’, but with the change in policy this has transformed into the title ‘Minister for Foreign Trade and Development Cooperation’ illustrates this point. Furthermore, this transformation furthermore means that the Dutch government now only has bilateral aid relationships with a handful of countries, those which cannot get out of the vicious cycle of poverty without plain aid. Next to this, the Netherlands has identified sixteen so called ‘transition’ countries with which it continues a bilateral trade relationship to enhance development. The Netherlands focuses on its specific areas of expertise within several development themes, including agriculture, to counter the issue of food insecurity, and climate change (Rijksoverheid, 2012).

Ghana is one of the transition countries identified by the Dutch Ministry of Foreign affairs and. This means that the Netherlands not solely gives aid to the Ghanaian government but that they at the same time have a trade relationship. Within this relationship, the Netherlands focuses on the above named issues (Dutch Embassy, 2014; Rijksoverheid, 2012). The objective of the Dutch Embassy is to “gradually phase in an economic relationship with Ghana based on areas of mutual interest for Ghana and the Netherlands” (Dutch Embassy, 2014, p. 14).

4.2.1 DUTCH POLICY

The Ghanaian market environment attracts trade and investments from the Netherlands. Together the Netherlands and Ghana strive to replace aid by trade and investments to replace Official Development Assistance (ODA), this is partly due to Ghana’s economic growth and the fact that Ghana strives towards being aid free by 2020 (Dutch Embassy, 2014). “The transfer of ODA funds will start to phase out by 2017 (EUR 1,5 million). By 2019 the activities will be limited to small scale support funded from the private sector development budget.” (Dutch Embassy, 2014, p. 14) In the last few years there already has been an increase in Dutch export to Ghana since the signing of the bilateral tax treaty in 2009. It has grown from 330 million

euro in 2010 to 1.1 billion in 2012. Dutch direct investments in Ghana are also expected to increase (Dutch Embassy, 2014).

Within this bilateral relation, a few sectors have been selected on the basis of Ghanaian development needs and the interest of the Dutch private sector and knowledge institutes. The specific sectors are: water, health, and agriculture. The bilateral relation will create several (financial) arrangements to help to increase private sector involvement within these sectors where the Ghanaian government used to invest public funds. This will create new partnerships between companies, NGOs, and government institutions (PPPs). An example of such a PPP is the ‘Sisili Kulpawn’ Project with the Savannah Accelerated Development Authority (SADA) “which prepares large scale investments in irrigated agriculture in the Northern region of Ghana” (Dutch Embassy, 2014, p. 16). In addition, the programme will also consist of “co-funding arrangements, support for consortia and platforms for business and public partners, contracts for technical assistance, and capacity building” (Dutch Embassy, 2014, p. 11).

4.2.1.1 Agriculture

In the Dutch policy it is said that Ghana is struggling with agricultural modernisation because most of the sector is dominated by smallholder farmers and subsistence agriculture, prone to climatic variability. It is argued that the agricultural input and marketing chain are underdeveloped and farmers are not well organised. The policy emphasises the modernisation of the agricultural sector in order to create a higher quality and an increasing quantity of food necessary to feed the growing population and to increase a higher income for the rural population. In addition, farmers will have to continue to produce with less labour because of rural-urban migration. To help achieve this, the Netherlands is already active in Ghana’s agricultural sector because, they argue, that sector is highly developed in the Netherlands. So, the Netherlands is in a position to help develop that sector in Ghana. An example of Dutch involvement in Ghana is the company Wienco which plays a key role in modernisation. Also, Wageningen University and Research (WUR) cooperated with Ghanaian knowledge institutions on the subject (Dutch Embassy, 2014).

Many programmes that have started focus on cocoa and oil palm, the two most strategic important agricultural commodities in Ghana for the Netherlands, stressing Ghana’s importance as a strategic partner to the Netherlands. The Dutch Embassy has, furthermore, committed itself to a number of private sector led programmes. The interests of the private sector are combined in a platform in order to improve the agricultural services in the sector, for example in the value chain in vegetable production: the Ghanaveg programme. Those three commodities (cocoa, oil palm, and vegetables) are the most strategic important agricultural commodities in Ghana for the Netherlands and are focused on in their policy and practices (Dutch Embassy, 2014).

The need for a transformation in the agricultural sector is not only noticeable when looking at the Dutch policy for Ghana but also considering new policies implemented by the MoFA in the form of the FASDEP and the METASIP II (Dutch Embassy, 2014). These focus on the importance of attracting large scale agricultural (foreign) investments and on the modernisation of the agricultural sector (IS-Academy, 2015).

The Dutch strategy in Ghana considering agricultural transformation can be summarised as follows:

- “Developing and strengthening value chains;
- Focus on initiatives driven by private sector;
- Focus on cocoa, palm oil, and vegetables sectors;
- Support a conducive environment for Dutch trade and investments in the agricultural sector;
- Support Dutch agribusiness to enter Ghanaian market;
- Regional focus on Ghana and similar opportunities in neighbouring countries” (Dutch Embassy, 2014, p. 14).

In addition, in light of MDG 1, the issue of food security has become very important. This is another reason why an increase in productivity and quality of agricultural outputs in Ghana is emphasised (Dutch Embassy, 2014).

4.2.1.2 Cocoa, Palm Oil, and Vegetables

Cocoa is important to the Netherlands because of the cocoa and chocolate industries and the fact that Amsterdam is an important trading port for the commodity. The cocoa sector has been characterised by low productivity, an amount of 800,000 small-scale farmers, and its vulnerability to climate change. Changes in rainfall patterns and average temperature can decrease productivity. It has been proven that through sustainable investments, there are still possibilities to adapt to this challenge and increase productivity and farmers’ income. These are reasons why, in recent years, PPPs in sustainable cocoa production have grown. The Dutch policy regarding this sector aims to involve not only the private sector but also NGOs and knowledge institutions. Currently the Dutch Embassy funds the following two projects: CORIP Ghana (the Cocoa Rehabilitation and Intensification Programme for Ghana) and a related research project with CRIG Ghana (Cocoa Research Institute Ghana) and other research actors (Dutch Embassy, 2014).

There are three projects that are centrally funded regarding the cocoa sector:

- “PPP funded through the Facility for Sustainable Entrepreneurship and Food Security to increase productivity and sustainability in the cocoa sector;
- Projects funded by the IDH (Sustainable Trade Initiative) Cocoa Productivity and Quality Programme;
- Project funded by DDE [Sustainable Economic Development Department] to set up a twinning structure between the Dutch and Ghanaian Standards Authorities to support the development of an ISO (International Organisation for Standardisation) Cocoa Standard that includes both sustainability and quality.” (Dutch Embassy, 2014, p. 15)

Palm oil, after cocoa, is strategic for the Netherlands as well. Ghana functions as an additional source country. The Netherlands focuses in this sector mainly on sustainability and is one of the leading partners in the Round Table on Sustainable Palm Oil (RSPO). One of its aims is that palm oil for the Dutch food market will be entirely sustainable (Dutch Embassy, 2014). “Ghana can serve as an example for sustainable small-scale oil palm cultivation and palm oil

production in the region as opposed to large scale industrial plantations in Southeast Asia” (p. 15) because 70% of palm oil is produced by small and medium scale farmers and mostly by women; it provides a pro-poor economic growth opportunity (Dutch Embassy, 2014).

Furthermore, the Dutch Embassy is implementing the Sustainable West Africa Palm Oil Programme together with the private sector. Productivity is aimed to improve and emphasis is laid on sustainability (Dutch Embassy, 2014). They find that “this will significantly increase food and nutrition security and increase income along the chain, thereby reducing poverty” (Dutch Embassy, 2014, p. 15)

The increase in domestic demand for high quality vegetables by Ghana’s middle class and potential export for regional and European markets opens up many opportunities for the Dutch horticulture (vegetable) sector. Both the Dutch public and private sector are involved in improving this sector through several programmes. Ghanaveg is one of the main programmes supported and initiated by the Dutch Embassy in Ghana focusing on the entire value chain. It aims to bring in the Dutch private sector to become involved in the vegetable business in Ghana, not only supporting PPPs but also Business to Business cooperation and to responding to the main challenges in the horticulture sector (Dutch Embassy, 2014). It is linked with the 2SCALE programme of the IFDC (International Fertiliser Development Centre) which focuses on improving commodity value chains (Buo, 2015), and on the implementation of a letter of Intent that was signed between AGRA Ghana, Greenport Holland International, Rabobank, and WUR to professionalise the vegetable value chain (Dutch Embassy, 2014).

The figures on the next page show the difference between imported and exported products in 2011 in Ghana. Figure 8 shows the importance of the cocoa sector for Ghana’s export income. Figure 9 shows that Ghana imports a lot of chicken meat, palm oil, paste of tomatoes, and onions. Although it has suitable and enough land to produce these commodities, the country still depends on food imports to enhance food security (Antwi-Bediako, 2015). Food imports and food aid accounted for 4.7% of Ghana’s food needs since the early 1990s (MoFA, 2007). This shows the importance of DODA’s focus on the vegetable sector and its future foci on the poultry and aquaculture sectors (Lammers, 2015), in contrast to investing in the cocoa and palm oil sector which is only indirectly related to food security.

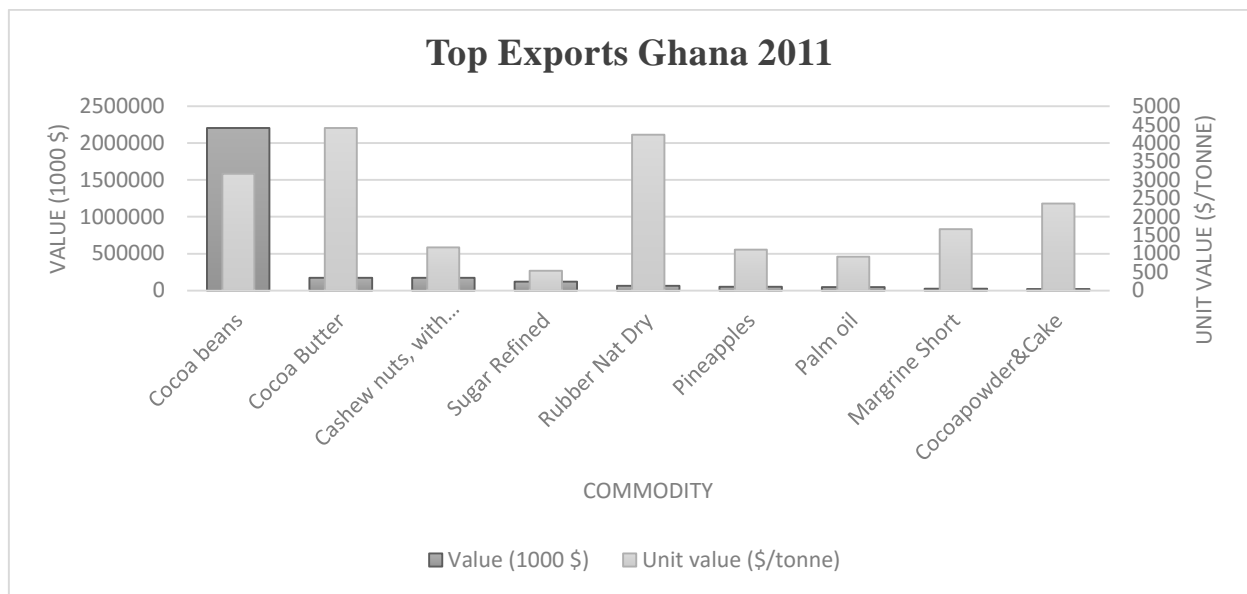


Figure 8 (FAOSTAT, 2013)

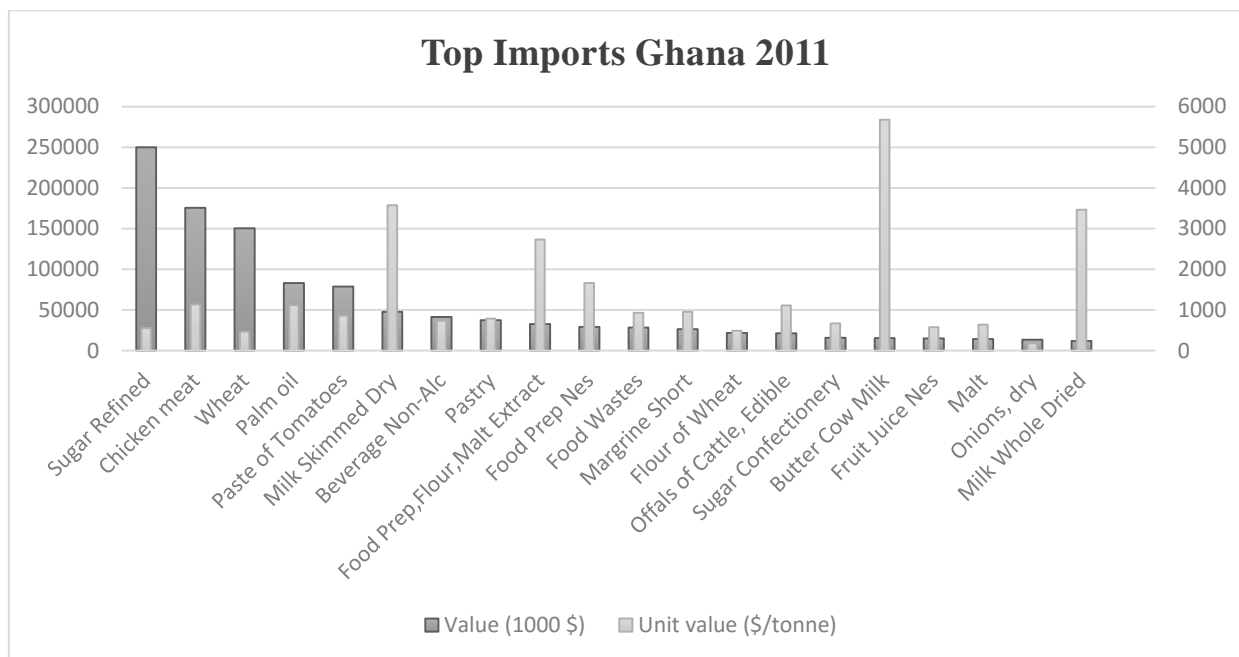


Figure 9 (FAOSTAT, 2013)

4.2.1.3 Results

By 2017 the following results are aimed to have been achieved in the agricultural sector with help of DODA:

- “At least 40.000 cocoa farmers are trained and certified and at least 20.000 farmers attain yields between 750 kg and 1 ton per ha, their gross margin has increased with at least 30-50%;
- At least 75.000 out growers of oil palm will be RSPO certified;
- At least 10 international and Dutch companies investing or expanding operations in Ghana’s vegetables sector as a result of project support” (Dutch Embassy, 2014, p. 16).

To achieve this, the Dutch Embassy financially supports programmes, for example CORIP, companies like Wienco, non-profit organisations such as the IFDC, and initiates programmes like Ghanaveg. Table 5 provides a short overview of the total budget of the Dutch Embassy. Points 1.3 and 2.1 are related to the above aims.

Table 5 Dutch Embassy Budget 2014-2017 (Dutch Embassy, 2014, p. 23)

The budget (in EUR) for 2014-2017 (the entire programme)	
<i>1.3 Stronger private sector and better investment climate in developing countries</i>	7.000.000
2.1 Improved food security	14.400.000
<i>2.2 Improvements in water management, drinking water and sanitation</i>	65.000.000
<i>3.1 Sexual and reproductive health and rights for all; stopping the spread of HIV/AIDS</i>	14.400.000
<i>Total</i>	100.800.000

4.2.1.4 Conclusion

The above shows DODA’s overall focus on agriculture, economics, and food security, in contrast to the issue of land degradation which is not made explicit. However, in the cocoa and palm oil subsectors the idea of SD takes on a central place in the policy, but SD is not defined nor elaborated on. The same applies to the results DODA tries to achieve. These focus on productivity, certification, and the involvement of the private sector. Poverty reduction and food security, thus, outbalance SD and land degradation in DODA’s policy.

4.3 GHANAIAN AGRICULTURAL POLICIES

The Ghanaian government adopted various policies and programmes on food security and agriculture: FASDEP II, METASIP, GCAP (Ghana Commercial Agriculture Project), and the MoFA Block Farm Programme (table 6) (IS-Academy, 2015). This thesis discusses specifically the FASDEP II and METASIP agricultural policies in order to indicate the main objectives and vision of the Ghanaian government. These two policy documents guide the course of the country and influence other programmes (IS-Academy, 2015). Finally, these are compared to the Dutch policy with the aim to find out if alignment exists or if there are inconsistencies; indicating how these influence each other and incorporate food security and land degradation.

Table 6 Ghana's agricultural policies - a summary (IS-Academy, 2015, p. 6)

Ghana's agricultural policies	
FASDEP II	“This programme emphasises the sustainable utilization of all resources and commercialization of activities in the agriculture sector with market-driven growth as the main focus. It encourages

	greater engagement of the private sector and collaboration with other partners to facilitate implementation of policies.”
METASIP	This policy is based on the FASDEP II objectives and is concerned with its implementation through six programmes. It mainstreams environmental issues in policies through strategic environmental assessments (SEAs).
GCAP	“GCAP seeks to increase access to land, private sector finance, and input-output markets by smallholder farms, through private-public partnerships in the Accra Plains and SADA zones in Ghana.”
MoFA (Block Farm Programme)	“This programme is geared towards supplying improved seeds, fertilizer, weedicide, and tractor services to farmers who are encouraged to farm together on common areas of land.”
Donor Support	“USAID, WFP, ADRA Ghana – The donor agencies afore mentioned intervene with direct food aid in times of poor harvests and other natural or man-made disasters that affect the nation’s food supply.”

4.3.1.1 FASDEP II - Food and Agriculture Sector Development Policy II

FASDEP II is developed as a policy to guide development and interventions in the agriculture sector aligned with global, regional, sub-regional, and national development programmes and MDGs. With this policy they vision a “modernised agriculture culminating in a structurally transformed economy and evident in food security, employment opportunities, and reduced poverty” (MoFA, 2007, p. 20). This indicates that Ghanaian policy is highly influenced by the neoliberal discourse. However, it is, as will become clear from its policy aims, influenced by the idea of SD as well.

This policy has been created on the premise that agriculture is found to be an important sector for Ghana. Because agriculture’s added value of the GDP of Ghana is high and can have a greater impact on poverty reduction than other sectors. Because the government identified slow agricultural growth, it aims to enhance this through FASDEP II (MoFA, 2007).

FASDEP II’s aim is to have greater effectiveness, equity, and sustainability in its impacts; it seeks “to enhance the environment for all categories of farmers, while targeting poor and risk prone and risk-averse producers.” (MoFA, 2007, p. 1) To achieve this, a value chain approach is adopted, increased capacity building will be focused on to uphold international quality standards and to increase productivity. This will support the need for Ghana to increase its

international competitiveness because currently “Ghana has lower competitiveness compared to Latin America, East Asia, and neighbouring West African countries because of poor infrastructure, high cost of capital, lack of irrigation, poor skills of producers in meeting external quality standards, poor logistic management and insufficient research capacity for horticultural sub-sector.” (MoFA, 2007, p. 9) Furthermore, quality control on imports and the local markets will be upheld, a research effort to promote commercialisation and linkages to the industry is started, and specific commodities are targeted for food security and income diversification. This is based on, inter alia, SLM and sustainable environmental practices (MoFA, 2007). With these aims the following constraints of the sector are to be addressed and poverty is to be reduced:

- “Human resource and managerial skills;
- Natural resource management;
- Technology development and dissemination;
- Infrastructure;
- Market access;
- Food insecurity, and
- Irrigation development and management.” (MoFA, 2007, p. 5)

Other cross-cutting identified constraints are access to land and finance, energy availability and costs, gender inequality and discrimination against women, and several commodity specific constraints (MoFA, 2007).

Overall, the aim is to integrate elements on sustainable natural resource use. This will be addressed to ensure support in the scaling up of appropriate SLM and sustainable water management practices (MoFA, 2007). This and the above show the government’s commitment to the idea of SD, not only to the socio-economic dimension but also to the environmental dimension, compared to the Dutch policy. The summarised constraints are similar to the constraints identified in the previous section. With this it addresses the three issues of poverty, food insecurity, and land degradation that are central in this thesis.

The policy, furthermore, identified intervention areas for modernising agriculture and forming implementation strategies which will help to achieve the policy objectives. The intervention areas comply with the constraints identified by the MoFA (2007). For example, reform of land acquisition and property rights, improving access to mechanised agriculture, provision of infrastructure for aquaculture, and restoration of degraded environment.

The vision and aims of the policy translate into the following specific objectives:

- “Food security and emergency preparedness;
- Improved growth in incomes;
- Increased competitiveness and enhanced integration into domestic and international markets;
- Sustainable management of land and environment;
- Science and Technology Applied in food and agriculture development, and
- Improved Institutional Coordination.” (MoFA, 2007, p. 22)

The strategies to achieve the above objectives include special cocoa, livestock, and fishery policy strategies and are furthermore elaborated on in METASIP. In addition, there is a need identified to focus strategies on irrigation, plant protection, agricultural mechanisation, access to agricultural inputs, including youth, gender mainstreaming, and improved financial services (MoFA, 2007).

To accomplish the above, the policy includes special implementation strategies. It includes the MoFA and other government institutions, stronger partnership with the private sector (co-financing), CSOs, development partners, and ensuring that commercialisation is balanced with CSR and environmental sustainability (MoFA, 2007). According to the MoFA (2007), an effective implementation can lead to sustainable growth in incomes and poverty reduction.

Thus, the policy is influenced by both the idea of SD and the neoliberal discourse. This can be derived from its focus on environmental sustainability, SLM, CSR, and the mechanisation of agriculture and increased competitiveness and enhanced integration into domestic and international markets. With this policy it seeks to combat several issues that exist in the sector, among others, food insecurity, infrastructure, poverty, climate change, and land degradation.

4.3.1.2 METASIP – Medium Term Agriculture Sector Investment Plan 2011-2015

The second agricultural policy the government of Ghana has adopted is METASIP. This policy is based on the FASDEP II objectives and is concerned with its implementation. It aims at a GDP growth of at least 6% annually with the sector, increase government expenditure to at least 10% of the national budget to the sector, and help in the achievement of the MDGs (MoFA, 2010).

This policy is, like FASDEP II, in line with regional, national, and international policy documents. The scope of the METASIP is sector wide, which is an important reason for the emphasis on the inclusion of so many sector stakeholders in the consultations and on their activities (MoFA, 2010). The MoFA (2010) states that it is a very comprehensive policy which has been created by stakeholder consultations. These stakeholders include: MDAs, the Private Sector, including Farmers, Processors, Traders, NGOs, Traditional Rulers and Civil Society, Development Partners, among others (MoFA, 2010, p. V). This provides the policy higher levels of public support, legitimacy, and a greater connection with real situations in the field.

It identifies the same constraints and problems in the agricultural sector: reliance on rain fed agriculture and low level and low performing irrigated agriculture; low level of mechanisation in production and processing; high post-harvest losses as a result of poor post-harvest management; low level and ineffective agricultural finance; poor extension services as a result of several institutional and structural inefficiencies; inadequate markets and processing facilities; low performing breeds of livestock; poor feeding of livestock; high cost of feed for poultry; poor livestock housing and husbandry management; competition from imports and poor post-production management of livestock products; over-fishing of natural water bodies; undeveloped fish value chain and inadequate skills in aquaculture (MoFA, 2010). METASIP takes the form of six programmes based on the FASDEP II objectives with each its specific components; all programmes and their components are inter-related (MoFA, 2010).

Table 7 METASIP programmes (MoFA, 2010)

Programmes	Components
<i>1. Food Security and Emergency Preparedness*</i>	<ol style="list-style-type: none"> 1. Productivity improvement 2. Support to improved nutrition 3. Support for diversification of livelihood options of the poor with off-farm activities linked to agriculture 4. Food storage and distribution 5. Early warning systems and emergency preparedness 6. Irrigation and water management 7. Mechanisation services
<i>2. Increased Growth in Incomes*</i>	<ol style="list-style-type: none"> 1. Promotion of Cash Crop, Livestock and Fish Production for Income in all Ecological Zones 2. Development of New Product 3. Development of Pilot Value Chains for Two Selected Commodities in each Agro-Ecological Zone 4. Intensification Of FBOs and Out-Grower Concept 5. Development of Rural Infrastructure 6. Support to Urban and Peri-Urban Agriculture
<i>3. Increased Competitiveness and Enhanced Integration into Domestic and International Markets**</i>	<ol style="list-style-type: none"> 1. Marketing of Ghanaian Produce in Domestic and International Markets
<i>4. Sustainable Management of Land and Environment**</i>	<ol style="list-style-type: none"> 1. Awareness Creation and use of SLM Technologies by Men and Women Farmers
<i>5. Science and Technology Applied in Food and Agriculture Development**</i>	<ol style="list-style-type: none"> 1. Uptake of Technology along the Value Chain and Application of Biotechnology in Agriculture 2. Agricultural Research Funding and Management of Agricultural Research Information
<i>6. Improved Institutional Coordination**</i>	<ol style="list-style-type: none"> 1. Institutional Strengthening and Intra-ministerial Coordination 2. Inter-Ministerial Coordination 3. Partnership With Private Sector and Civil Society Organizations 4. Coordination with Development Partners

*promote selected commodities. **support value chain issues for the promotion of the commodities.

These programmes show, again, the influence of both the neoliberal and SD discourse and the fact that SD is made explicit in the policy. This has resulted in a focus on poverty reduction, food security, SLM, and sustainable environmental management, which furthermore underlines the importance of this research that combines both the issues of food security and land degradation.

In addition to these programmes, the plan has proposed to spend significant amounts on PPPs because the agricultural sector is dominated by the private sector, which can lead much of the investment in the sector in order that government investment can be recovered and to stimulate market-oriented investments (MoFA, 2010). “The investments concerned would include development of facilities for agribusiness in storage and processing and equipment for mechanization services to be operated by entrepreneurs and FBOs [farmer based organisations].” (MoFA, 2010, p. xii) This is based on the national decentralisation policy which can facilitate more private sector participation (MoFA, 2010).

Furthermore, the plan emphasises the dominant role of cocoa and oil palm in the industrial crop sub-sector, in contrast to FASDEP II which does not (MoFA, 2010).

METASIP assesses most of its programmes annually and finds that results per indicator per component shows overall progress. For example, they found reduced post-harvest losses along the maize rice, sorghum, cassava, yam and fish value chains with a fluctuation of 20-50% decrease from the baseline (MoFA, 2010, p. 53). In addition, in 2008 the first and second objectives of FASDEP II had been tackled, according to MoFA (2010). However, the rest of the objectives are still a work in progress.

Finally, METASIP elaborates on SD and the environment and how these are incorporated within the policy because agriculture and the environment are strongly interrelated. Land degradation is preferably averted to prevent lower land productivity and increased poverty (MoFA, 2010). Therefore, METASIP states that “an effective policy would enhance the positive influences through carbon sequestration, contribution of tree cover for conservation and improved quality of soil, protection of watersheds, and enhancement of the beauty of natural landscapes.” (MoFA, 2010, p. 70) These are examples of both mitigation and adaptation strategies on a national level.

This has further resulted in METASIP mainstreaming environmental issues in policies through the implementation of strategic environmental assessments (SEAs) to address the impacts of such policies on the environment. A SEA has also been carried out in the case of FASDEP II in which it focused on sustainability. Several of the outcomes of this assessment have already been incorporated in METASIP to address them (MoFA, 2010). Several key findings are:

- “Policy objectives inconsistencies;
- Importance of SLM;
- Need to mainstream environmental issues across all policy objectives;
- Take climate change as an developmental issue and adopt serious and adequate adaptation and mitigation measures, and

- Specify enhancement of competitiveness capacity to benefit the poor specifically.”
(MoFA, 2010, pp. 70-72)

4.3.1.3 Conclusion

The Ghanaian government acknowledges the importance of the agricultural sector for development and focuses on large scale foreign investments and the modernisation of the sector. In contrast to Dutch policy, Ghanaian policies mainstream the idea of SD. However, the problem is that there exists a difference between the agricultural policies and practices. As described in the first part of the chapter, many challenges these policies try to combat still exist on the ground.

4.4 CONCLUSION

Although Ghana has experienced relatively high economic growth rates in recent years, it still faces many developmental challenges such as food insecurity, poverty, and negative consequences of climate change. Several adaptation and mitigation strategies have been adopted on various scales to combat and adapt to climate change. Furthermore, DODA in the agricultural sector in Ghana and Ghanaian agricultural policies aim to reduce poverty and food insecurity in a sustainable manner. These policies reflect both the neoliberal and SD discourse, but Ghanaian policies explicitly adopt SD strategies, in contrast to the Dutch policy.

5 ANALYSIS AND RESULTS

In this chapter the interviews are analysed per topic and between and within the four categories in order to answer the main research question.

5.1 SUSTAINABLE DEVELOPMENT

SD is viewed by most interviewed actors as an important concept and is in general incorporated in development/private sector programmes such as apparent in DODA. However, SD is a very broad concept and much can be done in the name of SD while the effects may differ (Soeters, 2015). Betsema (2015) of LANDac, in addition, stressed the essential role good land governance plays in SD.

Dutch companies and programmes do take into account the idea of SD (Lammers, 2015). However, the concept itself is not explicitly woven into DODA's policy. According to Lammers, it is implicitly taken into account because prior to financing programmes, the embassy evaluates the proposals on the basis of several criteria which fit the ideas of SD and promote CSR. They look at the sustainability of value chains based on the three P's (people, planet, profit). Also, the Ghanaian EPA carries out an environmental impact assessment of projects the Dutch are involved in (Antwi-Bediako, 2015).

The non-profit sector, specifically, stresses the importance of SD in its projects in collaboration with the Dutch Embassy and view that Dutch financed Dutch businesses also take this into account when working with the non-profit sector. Measures need to be taken to mitigate agriculture's environmental negative impacts (Buo, 2015; Agyare, 2015). Agyare (2015) stresses the importance of the three P's in SD as well. He stated that one needs to take into consideration the entire value chains to improve those chains in a sustainable manner. CSR is also important here and where standards are available, they should be applied to various commodities, to help building capacities of companies and farmers.

As from a business perspective, SD seems to be quite important as well, although different interviewees gave different responses. The NABC, which organises Dutch Trade Missions (DTM) with the Dutch Embassy, states on their website that it pursues sustainable economic development (NABC, 2014-2016). Rijk (2015) explained that SD is not explicitly incorporated in their work, but has been so in their perspective. She found that most Dutch companies going to Ghana adopted a SD perspective. However, the view of Aarnink (2015), who participated in a DTM, does not comply with most of the above views. This is due to the fact that Amatrex is an agro-mechanic company which trades in second hand agro-machines. He explained that Amatrex as a potential Dutch investor is not really thinking about SD. In part because he does not feel stimulated to take this into account and to distinguish themselves by it from others. Of course, he considers economic sustainability, but he does so mainly out of self-interest. In addition, Amatrex also trades in second hand machines which often fall short of recent standards. These machines being sent to Ghana, most often will use more fossil fuel and produce more CO₂, and are, thus, less environmental friendly than the newest machines.

In contrast, Niekus (2015) stressed that the Rabobank, when investing in African countries, always considers SD. Rabobank's partners hold the same attitude. The Rabobank only discusses plans in which sustainability is clearly positioned and considered, especially in collaboration with the Netherlands and the Dutch Good Growth Fund that finances Dutch companies which have plans to invest in, inter alia, Ghana.

So, it seems that most experts and actors involved attach great importance to the idea of SD in relation to DODA in the agricultural sector. However, it also seems that there is quite a gap between theory and practice because Amatrex indicated that they actually do not take SD into account. Furthermore, like Soeters (2015) stressed, the concept of SD has become so broad and vague that anything can be put under the guise of SD while impacts vary widely.

This means that the Dutch government needs to define clearly what SD actually includes; which aspects (economic/social/environmental/cultural) should receive most attention? If the idea of SD is significantly important to their vision, the Dutch Embassy should adopt it explicitly in their policy and not just in relation to the non-profit sector. For example, promoting it during DTMs.

5.2 AGRICULTURAL INVESTMENTS IN GHANA

In general, agricultural investments are regarded as important for Ghana by all interviewees because they help improve economic growth and food security within the country. But, as Betsema (2015) indicates, the positive local impact agricultural investments can have on the development of a country can only be achieved under certain conditions, such as the adoption of good land governance.

In the case of DODA and investments in the agricultural sector in Ghana, Soeters (2015) argues that it stimulates economic growth and impacts food security, but that it is also mainly carried out of Dutch self-interest. This becomes clear when looking at the different sectors Dutch policy lays its focus on: cocoa, palm oil, and horticulture. He argues that if the Netherlands intends to increase their developmental impact, it should increase collaboration with smallholder farmers in Northern Ghana through, for example, irrigation projects.

Lammers (2015) indicates that the Dutch Embassy does see agricultural investments as also beneficial to Dutch businesses and that, when taking into account the entire value chain, it has the ability to eradicate poverty, next to increasing food security and economic growth. The involvement of the private sector is an important factor for this. Ghanaveg is an example of a Dutch initiative which includes the private sector to enhance food security and investment in the horticulture sector. The Dutch embassy is currently also looking into the aquaculture and poultry sector (Lammers, 2015). With this, it is refocusing on food security.

The non-profit sector, likewise, views agricultural investments as having a potential positive impact. For example, Buo (2015) stresses that it can increase the productivity and enhance the quality of products and can turn agriculture into a profitable venture. In addition, Agyare (2015) stresses agriculture's link to increased food security and GDP growth. However, Buo (2015) further argues that one has to distinguish between farming for the local market on the one hand

and the export market on the other, depending on the capacity of the farmer. As Ghana's agricultural sector consists of mainly smallholder farmers, this is an interesting point to consider. To what extent are smallholders able to produce for the Dutch export market and to what extent are the demands of the local markets supplied for as Ghana still depends on food imports?

According to Agyare (2015), it is important for the sector to link the raw produces with the industry and to combat post-harvest losses. Currently, many commodities are sold in their raw forms, however, by extending their shelf-lives through the processing of commodities, their value will go up and farmers' incomes are increased. By improving agricultural practices of local farmers, post-harvest losses can be circumvented and yield will be higher. As a side note Agyare (2015) mentions that not all investments are sustainably done (Agyare, 2015).

From a business perspective, Rijk (2015) regards agricultural investments as a basis for the economic development of a country, because the income of many people depends on the sector. By investing in this sector one can have a great impact on people's livelihoods. Doing this, actors need to look at the different steps in the entire value chain. Vegetables, for example, can be produced for the export market and increase farmers' incomes and thereby indirectly food security, but staple crops should also be produced in order to directly enhance food security within the country (Rijk, 2015).

The Rabobank likewise views agricultural investments as a tool for development and stresses the fact that the entire value chain should be taken into consideration. Their statement 'Banking for Food' shows their commitment to food security. However, the Rabobank only functions as a financing body and a knowledge provider in this process (Niekus, 2015).

For Amatrex, by contrast, the main reasons to invest in Ghana are their own business perspectives and goals (Aarnink, 2015). Aarnink (2015) finds it important that agricultural investments focus on the modernisation and mechanisation of the sector in order for it to be more attractive to young people, who then would not have to do as much physical work as under the prevailing traditional farming conditions. Dutch businesses going to Ghana play a role of knowledge provider in this development (Aarnink, 2015).

Several problems exist for investors, according to Aarnink (2015). First, water is a problem; it is a scarce commodity for farmers and, besides, they do not have access to water bodies for irrigation during the dry season. Second, because farming takes place at such a small scale it is less professional, although he sees it as a growing market with potential. Third, most smallholder farmers are not part of a collective, which makes it cost intensive for an investor to process their demands for machines. Finally, considering other Dutch investments in Ghana he stated that the DTM is really focused on export and the South of the country (Aarnink, 2015).

Ghana is, on a scale of 1-10, at 3 regarding agricultural investments which play a huge role according to Assibey-Yeboah (2015); Ghana still has a long way to go. First, the land tenure system requires investments to be improved. Second, Ghana needs investments in (road) infrastructure to provide for a suitable environment for potential investors. In addition, improved water management, like irrigation technologies, is necessary because the majority of

Ghana's agriculture is still solely rain fed. Finally, there is a need for value addition in the sector, like Aarnink (2015) also mentioned, because selling commodities in raw form does not yield much in return (Assibey-Yeboah, 2015).

Thus, the interviewees agree upon the fact that, from both an economic and developmental perspective, the agricultural sector in Ghana opens up many opportunities for possible investors in the sector. However, they also indicate that there are still a lot of barriers to break down.

5.3 CLIMATE CHANGE

The interviewees acknowledge that human induced climate change encompasses several complications for Ghana's agricultural sector. This is visible in the form of droughts and irregular rainfall. Especially because most of Ghana's agriculture is still rain fed, climate change causes problems (Assibey-Yeboah, 2015). In Northern Ghana its consequences are apparent and observable to a greater extent than in the South (Soeters, 2015). Betsema (2015) came up with an additional perspective; climate change puts pressure on land not only because some lots may become less suitable for farming, but also because mitigation measures such as reforestation projects require land and heighten the demand for it.

Lammers (2015) shares this perspective on climate change challenges for agriculture. Particularly cocoa is vulnerable to climate change. Therefore, both adaptation and mitigation measures are taken in Dutch financed projects. In the case of cocoa, a new variety is developed which is extra resistant to climate variability. Also, farmers are trained in new agricultural methods and in the usage of agrochemicals. The training of farmers can be regarded as both a mitigation and adaptive measure. Moreover, it also should prevent further deforestation in the palm oil sector, in contrast to situations in South-East Asia (Lammers, 2015).

From a non-profit perspective, climate change challenges are also recognised and sustainability is underlined. Solidaridad works with a certification that emphasises good agronomic practices, good social practices (including female engagement, sustainable labour practices, and child labour minimisation, and good environmental practices. For example, adaptation measures are endorsed through their productivity programme: "the companies, whilst providing the services to the farmers, emphasise this [good environmental practices, good social practices]" (Agyare, 2015).

Buo (2015) added that productivity needs to be improved to prevent agricultural expansion, as a good environmental practice. He believes policies are needed which enable the government to regulate practices of farming near water bodies and the use of organic and chemical fertilizers. "We must see alternative measures than just the chemical applications [...] all this needs to be regulated in order to reduce the impact of agricultural production on the environment".

From a business point of view, the extent to which it responds to climate change challenges, is ambiguous. The NABC is just a facilitator of the DTM and, thus, does not incorporate any projects on climate change within its policies (Rijk, 2015). In addition, Amatrex does not incorporate climate change either, except for the fact that it can respond to several challenges

by advising which machine to use for which purpose (Aarnink, 2015). The Rabobank, in contrast, attaches importance to climate change. Niekus (2015) wrote that when investing in African countries is being discussed, sustainability is always part of the assessment. Finally, several Dutch financed businesses or businesses part of a Solidaridad/IFDC programme do take into account climate change challenges and respond to it with specific measures. For example, through certification in the CORIP programme, sustainable practices are upheld (Agyare, 2015; Buo, 2015) and in the sustainable maize project SD is central, too (Dutch Embassy, 2014).

Ghanaveg does not have a specific component that deals with climate change issues either, except indirectly. Similar to the Dutch Embassy and the Rabobank, it demands businesses it funds to come up with a sustainability programme (Assibey-Yeboah, 2015).

So, most interviewees explicitly consider climate change challenges in relation to agriculture. However, in the private sector sustainable practices are of ambiguous nature. Furthermore, there is no consensus on what mitigation or adaptation measures should be taken. Different forms of irrigation projects have been mentioned as adaptation projects to uphold the farming climate in Ghana. Additionally, Soeters (2015) does not think mitigation measures are necessary to consider in this case, because, as he argues, Ghana emits way less GHGs and has a smaller ecological footprint than many other countries.

5.4 FOOD SECURITY

One has to distinguish between direct and indirect food security. Direct food security means that farmers' food security improves because of their own increased productivity in food crops and that of other farmers. Indirect food security refers to the idea that the income of farmers increases through, for example, the export of their cocoa production, and that farmers are able to access more (nutritious) food with their higher incomes (Lammers, 2015).

Soeters (2015) also mentions this distinction and emphasises that if projects and investments would really focus on enhancing food security, they should rather focus on the yield gaps that exist for most agricultural products, than focusing on export production. Because if all farmers would only produce for the export market, there would not be any agricultural land left for the production of the food needed to feed the Ghanaian population (Soeters, 2015).

Ghana already imports a lot of food for consumption; Antwi-Bediako (2015), too, questioned the current focus on export for farmers. He emphasises that the local context and market should be taken into account and regards staple crops as a good subsector to invest in considering the Ghanaian market and food security. Gemma (2015) brings in another perspective by stating that next to indirect enhancement of food security, farmers should preserve a part of their land to produce food crops for their own consumption to build resilience. In this way the indirect benefits of cash/industrial crops could be combined with the direct benefits of food/staple crops. In addition, when more people farm such industrial crops, the food demand on the local market will increase because people can spend more money on food. A last point she touched upon was that good land governance can also increase food security but that it is not the only requisite to get farmers to invest more in their land.

Lammers (2015) mentioned Ghanaveg as an example through which the Dutch Embassy tries to directly enhance food security and to increase the use of healthy food in Ghana. For example, the Dutch Embassy is supporting the creation of a TV-show in which the use of vegetables is promoted.

Buo (2015) emphasises that one of the main pillars of the 2SCALE project, supported by the Dutch Embassy, is the enhancement of food security. Increased productivity helps to provide more food for the local population. Moreover, there also needs to be examined if a household's diet is sufficiently nutritious. He argues that there should be more invested in all year round production through micro irrigation technologies, staple crops, vegetables, and different crop varieties to improve food security. Agyare (2015) shares the idea that increased productivity will directly enhance food security and that food security encompasses three pillars: access, availability, and nutrition. Solidaridad contributes to this indirectly through their Rural Service Centres which facilitate access to knowledge and agricultural tools.

From a business perspective, food security is regarded to improve because of Dutch investments which cause an increase in productivity and intercropping, combining the benefits of a direct and indirect contribution to food security (Rijk, 2015). In contrast, Amatrex, for example, is not explicitly looking at food security, although, of course, it indirectly contributes to the productivity of farmers and thus to food security (Aarnink, 2015). The Rabobank takes on a broader perspective than the above. Niekus (2015) mentions that the Rabobank focuses on food security by looking at the entire value chain. For example, only improving the knowledge of farmers is not enough; trade and logistics should be sufficiently adapted as well. The Rabobank foundation finances the necessary new partnerships.

Ghanaveg is involved in the horticulture sector and, thus, Assibey-Yeboah (2015) argues that investments in seeds are needed and that the quality and the storage life of vegetables need to be increased to be able to compete with the ones coming from Burkina Faso and Niger. Despite several difficulties in the vegetable sector (e.g. vegetables are very perishable), the sector also involves advantages that contribute to increased food security. For example, most vegetables are short season crops, which means that in a matter of weeks the crops can be yielded and sown anew. Moreover, the market for vegetables is huge.

To conclude, food security is deemed important by all categories and is explicitly focused on by nearly all interviewees. It is specifically linked to productivity and incomes, the export and local market, and direct and indirect contributions.

5.5 DUTCH POLICY

In general, the change in Dutch development cooperation in the agricultural sector of Ghana is viewed in a positive light. However, it is not regarded as a perfect solution. For example, Soeters (2015) thinks that the change *from aid to trade* has rather become an ideology than just a policy. He considers this as dangerous because when policy becomes an ideology, it becomes extra difficult to discuss and critique it. He mentions that the government even stopped financing researches that highlighted the negative side of such a policy.

Other critiques relate to the (economic) situation of Ghana. First, the Ghanaian government has made it relatively expensive for a foreign company to start up as a fully foreign owned enterprise in Ghana. Especially for relatively small Dutch companies this can be a barrier to invest in Ghana (Soeters, 2015). This is different for businesses that desire a joint-venture with Ghanaian companies or search for a trade partner solely (Lammers, 2015).

Second, although Ghana is politically relatively stable, the same cannot be said about its economic situation. GDP growth in 2011 had been very high due to high cocoa and oil prices (World Bank, 2007; Soeters, 2015). However, last year Ghana took a loan from the IMF because the country went bankrupt (Soeters, 2015). This brings along other barriers to the Dutch policy because the question arises whether or not companies will still be interested in investing in Ghana. And will other projects continue to be profitable and effective in the boosting of GDP and the increasing farmers' incomes?

All these factors, especially the unstable economic situation and its joint inflation, create a risky environment for Dutch companies to invest in Ghana.

Antwi-Bediako (2015) views that Dutch policy should have significant effects on the livelihoods of local people and, for example, should also consider staple foods for the local market. For him, it is mainly about doing responsible business and taking into consideration the local content and market in evaluating if the policy is effective or not.

Lammers (2015) acknowledges that the private sector is not always interested in achieving specific development goals, but when investments are done in a responsible way it can be very profitable, for the companies as well as the locals. So, exploitation and tax evasion problems should be tackled and prevented. Finally, she mentions that Ghana is considered being a middle income country, which is one of the reasons the transition *from aid to trade* takes place in Ghana. However, she questions the significance of this label. Even though Ghana is considered as such, many people still live in poverty and inequality is very prevalent.

The non-profit sector, supported in projects by the Dutch Embassy, has a very positive opinion on the new policy. The Dutch Embassy provides them financial assistance and advise. Buo (2015) states that in the 2SCALE programme, they take into account the entire value chain. Addressing constraints in the value chain also has a positive effect for Dutch investors which are often end users of the market. In addition, it has a positive effect on job creation and on long term aid. Agyare (2015) focuses especially on the cocoa sector through the CORIP programme and says that trade in development has a positive effect on the GDP of and employment in Ghana and that it provides mutual benefits. As Ghana produces a lot of raw materials, it has a good prospect here, specifically in the significantly important cocoa sector.

From a business perspective, much less is said about the change in Dutch policy, even though the private sector experiences the effects of this: e.g. organising DTMs to Ghana (NABC) and participating in those (Amatrex). Niekus (2015) mentions, for example, that the Rabobank already supported clients in developing countries before the change took place. Because the Dutch policy changed, their clients really profit from it and the Rabobank has a 'very open' relation with the government.

Assibey-Yeboah (2015) views the new development cooperation model of the Dutch government as a more sustainable model than just ‘giving aid’. It means more accountability and commitment on both sides. However, it is not going as fast as the Dutch would like. She mentions one major constraint. The procedures following such a new model are very formal and require specific types of structures. Unfortunately, this is not necessarily in place in Ghana. Many businesses are often up and running before they start doing all the paperwork, register, paying taxes and other commitments. This makes it difficult for businesses which are fully running but not yet registered, to be eligible for funds, for example.

Finally, Assibey-Yeboah (2015) also urges companies that are willing to invest to come along with DTMs. Until now, businesses joining the DTMs are primarily companies looking for partners and money. However, the partners they are looking for are not financially strong enough to work with them. She calls those “themselves begging for money”.

Thus, Dutch policy is, in general, viewed in a positive light. However, constraints such as Ghana’s economic situation and official procedures remain (Soeters, 2015; Assibey-Yeboah, 2015). It is essential that the policy takes the local content into account (Antwi-Bediako, 2015; Soeters, 2015).

5.6 GHANA’S GOVERNMENT

The Ghanaian government focuses on the modernisation of the agricultural sector (Antwi-Bediako, 2015; Soeters, 2015). FASDEP II and METASIP are Ghana’s policies regarding the sector. The government is encouraging large scale investments, especially in the mango and vegetable subsector, and in cocoa on a smaller scale. Additionally, there is more to the government than its agricultural policies. For example, the EPA looks at land acquisition and projects and carries out SEAs (Antwi-Bediako, 2015).

Antwi-Bediako (2015), furthermore, mentions that a focus on large scale investments has its own flaws; smallholder farmers are alienated from their lands, for example, and different business models that are more beneficial to the local population should be considered, resulting in the empowerment of the local population. For instance, by holding power in a foreign company, rather than being reduced to labour force. Although the local population partly benefits from FDIs, it is the Ghanaian government which ultimately benefits because of taxes and increased employment.

To encourage large scale investments, the government provides incentives to large scale businesses. For example, the government makes special agricultural subsidies available, e.g. five years of tax exemptions, and the ones that the local farmers also enjoy, such as fertilizer subsidies. However, because of the complex land tenure system in Ghana, these five years are not sufficient for a company to settle in. The fact that it already takes up to two years for companies to negotiate about land illustrates this point (Antwi-Bediako, 2015).

So, Antwi-Bediako (2015) argues that the government’s policies are very good. However, a difference should be made between coming out with good policies and promoting them on the ground. The latter is not done sufficiently. This is similar to what Assibey-Yeboah (2015) came

up with in the interview. According to her, the government has good policies but lacks budget for adequate implementation.

The Dutch Embassy directly deals with the Ghanaian government. It tries to influence Ghanaian policies through dialogue and capacity building. Lammers (2015) mentions another constraint regarding the Ghanaian government; considering the insufficient evaluation and monitoring of the horticulture sector. The EU put a ban on the import of vegetables from Ghana because the quality did not comply with European standards.

The non-profit sector also cooperates with the Ghanaian government. In the CORIP programme, for example, it works together with the governmental Ghana Cocoa Board which arranges all the Ltd.'s. However, he also brought up that there are policy inconsistencies which can negatively impact the private sector (Agyare, 2015).

Buo (2015) adds to this that there are several actions the government should take in order to create a suitable environment for the private sector and farmers. First, there is a great need for good infrastructure. Second, all government agencies need to come together to create national policies and regulations that “will guide investments and cooperation in agriculture as against its effects on the climate” (Buo, 2015). A third constraint he identifies is that the government is taking its hand off agriculture and reduces budget support for the sector. Finally, large scale foreign investments are often knowledgeable and it is easier to regulate their activities than the activities of dispersed smallholder farmers. In addition, they can have a positive effect on local people.

The business sector does not directly deal with the Ghanaian government. However, it does act within the environment the government provides. For example, if infrastructure is below a certain level, businesses might decide not to invest in Ghana because it is extremely difficult or costs them a lot (Aarnink, 2015). The Rabobank does not deal with the Ghanaian government either, unless indirectly through PPP arrangements (Niekus, 2015).

Assibey-Yeboah's (2015) critiques comply with the above. The government does not provide adequate infrastructure to create a suitable investment environment for the agricultural sector. She adds that the government infrastructures themselves are not doing well enough. Their inspections are not carried out accordingly, which results in a low quality of vegetables. Another major constraint she mentions is that the government does not have the resources to achieve the objectives it desires to achieve.

So, the Ghanaian government is viewed as a specific actor in the agricultural sector that needs to play a guiding role in enhance the sector's impact on food security. The MoFA created adequate policies, however, the government does not have sufficient resources to implement those.

5.7 LAND DEGRADATION

Land degradation is especially apparent in the North of Ghana. According to Soeters (2015), its main cause is population pressure. He advises to have less farmers, the use of fertilizers, and soil fertility management (SFM) as adaptation strategies (Soeters, 2015). Betsema (2015), further, mentions the strategies of land use planning and management and CSR, and Antwi-Bediako (2015) adds the use of irrigation systems and SEAs.

The Dutch Embassy does not incorporate the issue of land degradation explicitly in their policies. However, like climate change, the idea is interwoven in it. Adaptive measures are training in the use of fertilizers and land use, for example (Lammers, 2015).

From the non-profit perspective, the issue of land degradation is certainly considered to be a priority. Buo (2015) explains that mitigation measures need to be taken and that land degradation should be prevented through law enforcement by the government. Integrated SFM is again mentioned as an adaptation measure (Buo, 2015). Agyare (2015) states that on this subject they work together with the IFDC, providing training to prevent land degradation. He adds that certification can also be seen as a mitigation measure.

From the business perspective, land degradation is not necessarily considered important. For example, the NABC is not directly related to the activities of companies on the ground (Rijk, 2015). Amatrex does not give advice to farmers to such an extent that it can be regarded a mitigation measure. Machinery advice is in the end about selling products (Aarnink, 2015). In contrast, land degradation is one of the priorities of the Rabobank. At least, not explicitly but it becomes clear from their sustainability policy and from the fact that the Rabobank only finances business ideas which comply to the idea of SD (Niekus, 2015).

Other adaptation and mitigation strategies are referred to by Assibey-Yeboah (2015): tackling the complex land tenure system of Ghana, updating soil information and making it accessible to farmers, and investing in irrigation techniques so that farmers need not to depend on rainfall only.

To conclude, land degradation is especially important to the experts and the non-profit sector, but not necessarily to the other two categories. The interviewees did not link this issue directly to food insecurity. Many types of adaptation and mitigation strategies are specified to combat the issue of land degradation. However, these are not necessarily integrated as the theory suggests, but seen as separate measures.

5.8 PPPs

Regarding PPPs, experts agree that they are potentially beneficial to the development of a country. This is why the Ghanaian government is also actively promoting the establishment of PPPs (Antwi-Bediako, 2015). PPPs can be helpful for economic growth and food security, but, according to Soeters (2015), the Netherlands promotes PPPs mostly out of self-interest. In addition, PPPs need to take into account the needs of the local population and to include CSR before they can be considered effective (Antwi-Bediako, 2015).

According to Lammers (2015), the Dutch Embassy is not that much involved in PPPs; depending on one's definition of what a PPP encompasses. There are more PPPs in the water and sanitation programmes of the Dutch Embassy than in the agricultural sector. She mentions the contributions of companies like Cargill and Wience to the CORIP programme as a form of a PPP where the initiative still lies with the Dutch Embassy. The hope is, though, that these companies will continue the work in the future when the programme has come to an end. Lammers did not explicitly mention Ghanaveg as a PPP, although Rijk (2015) did. This can be explained by their different views on the definition and use of PPPs in development.

The non-profit sector has a relatively positive perspective on the role of PPPs in development. Buo (2015) called it 'necessary' and Agyare (2015) 'the way to go' because only aid cannot build a country. Agyare further argues that NGOs should also be involved in such partnerships. Solidaridad, in a way, is already part of a PPP through the CORIP programme. Buo (2015) sees PPPs as a necessity because one actor alone is not enough to compete effectively on the global market in a specific value chain. 2SCALE works through PPP arrangements to improve the competitiveness of the value chains of selected commodities and overcome its constraints.

The private sector does not necessarily relate PPPs and development. Amatrex, for example, is solely working from a private sector perspective (Aarnink, 2015). Niekus (2015) does not deem it necessary to include development in PPPs either. This can also be done through private partnerships. However, Rijk (2015) mentions that she finds the role of PPPs in development important and names Ghanaveg as an example.

PPPs need to be explored more and increased because it improves development, Assibey-Yeboah (2015) argues. However, PPPs should not outbalance but go hand in hand with traditional development cooperation, as not all sectors are ready to include the private sector in that manner (Assibey-Yeboah, 2015).

So, the danger of PPPs functioning as 'Trojan Horses' exists but does not have the upper hand. PPPs are viewed by many interviewees as necessary or enhancing development. However, the local content and CSR should be taken into consideration in such arrangements.

5.9 CONCLUSION

This analysis shows the different viewpoint of the four categories on the eight topics related to DODA, land degradation, and food security. It demonstrates that most views are influenced by both the idea of SD and the neoliberal discourse. The idea of SD is specifically important in the non-profit sector but is also visible, yet less explicit, throughout the other categories through adaptation and mitigation measures. Neoliberal ideas, such as PPP creation, a focus on economic growth, and increased trade, come to the fore in all four categories. The growing adoption of sustainability strategies and visions indicate that the SD discourse is becoming more important.

The results demonstrate, furthermore, that food security is explicitly important when looking at development strategies for all categories. In contrast, climate change and land degradation are only made explicit in strategies and programmes in the non-profit sector. The other categories

do take into account climate change challenges and land degradation through conducting, for example, environmental impact assessments and evaluating programmes by sustainability criteria. However, in Dutch policy it is not made explicit like the food security objective. It is neither taken into account by all actors in the private sector. Finally, the interviewees have not linked the topic of land degradation explicitly to the issue of food insecurity. This shows that an integration of the two problems does not exist yet.

6 CONCLUSION

This thesis has studied how DODA in Ghana's agricultural sector affects food security and land degradation. First, the theoretical framework provides the scientific background to the research and integrates different theories. Secondly, to establish the contextual framework regarding development in Ghana, a literary review has been carried out. Third, through the analysis of in-depth interviews with the most important stakeholders, the main research question can be given a more comprehensive understanding. Concluding from the literary review and the analysis, this thesis argues that DODA in the agricultural sector in Ghana affects land degradation and food security in several positive and negative ways.

Through the collaboration with non-profit organisations and the funding of Dutch businesses in Ghana, the Netherlands affects land degradation in several positive ways. By training farmers in sustainable agricultural practices, the use of fertilizers, and sustainable soil and water management, land degradation is counteracted. Furthermore, several adaptation and mitigation strategies have been adopted, for example, new cocoa varieties are being developed which are better adapted to the changing climate. Finally, through environmental impact assessments and evaluating projects by sustainability criteria, land degradation is reduced as well.

However, sustainability and climate change are two concepts that are not made explicit in Dutch policy. Instead, the focus lies on traditional modernised forms of agriculture, which often increase the risk of land degradation. Moreover, the Northern regions, which are most vulnerable to land degradation, are given relatively little attention as most projects are located in the South.

Food security, in contrast, is explicitly included in Dutch policy, demonstrating the government's commitment to the issue. Through a focus on economic growth it visions decreased poverty and increased food security. This is done directly through focusing on the vegetable subsector and indirectly through, for example, the cocoa programme. Both the non-profit sector and several individuals as well mentioned the significance of taking into account the entire value chain in order to increase, inter alia, food security and economic growth. Most interviewees stressed the importance of food security as a prime focus in their work. By bringing in expertise, technology, and practices, food security is improved. Furthermore, successful adaptation strategies and the combat of land degradation enhance food security. Actually, all the Dutch support to enlarge agricultural productivity will directly or indirectly improve the locals' food security. However, this may at the same time increase the likelihood of land degradation when the idea of sustainability is not sufficiently taken into account.

Furthermore, DODA affects food security in several negative ways. From a business and expert perspective, for example, it was mentioned that DODA and the DTMs were mainly focused on the export market and on cash/industrial crops. This decreases the likelihood of enhancing food security for the local population. Again, there is a discrepancy between the needs of the Netherlands and the needs of the Ghanaian population. By not focusing on important subsectors in the Northern regions and on adaptation strategies such as irrigation there, the likelihood of enhancing food security for the local population decreases.

Looking back at the theoretical framework presented at the beginning of this thesis, it can be concluded that the results of this research correspond highly with the conceptual model presented therein. DODA finances both industrial and sustainable agriculture and incorporates several mitigation and adaptation strategies. These lead to both in- and decreased land degradation and food insecurity. However, this conceptual model presents a simplified version of reality. In reality, industrial and sustainable agriculture are not two distinct categories but farms/businesses and projects contain aspects of both categories. Because of this, DODA at the same time affects land degradation and food insecurity in several positive and negative ways. This can be explained by the fact that DODA is strongly influenced by both the neoliberal and globalisation discourse and the idea of SD which has become more apparent and normative in recent years. An example of this is the adoption of the SDGs.

Considering land degradation, the influence of the neoliberal and globalisation discourse can be illustrated by the fact that the Dutch Embassy focuses its efforts on three subsectors, mainly in the Southern regions of Ghana. Efforts such as summarised in the Dutch strategy are modernisation, PPPs promotion, economic growth, private sector involvement, trade and investments, and enhancing food security. This does not necessarily correspond to Ghana's needs because the neediest Northern regions, where food insecurity and poverty is highest and which are most vulnerable to land degradation and other influences of climate change, are left out. This indicates a high level of Dutch self-interest in terms of trade benefits in times of increased globalisation.

In addition, several interviews showed that Dutch projects were to a high degree export focused on cash and industrial crops with a focus on traditional modernised forms of agriculture, including the use of agro-chemicals, which is also promoted in the Ghanaian agricultural policies. The idea of export and trade and a focus on cash and industrial crops is also strongly influenced by the neoliberal discourse.

The attention for PPPs follows from this discourse as well. The danger of PPPs functioning as 'Trojan Horses' exists but does not have the upper hand. PPPs are viewed by many interviewees as necessary for or helpful in enhancing development. However, the local content, CSR, and the environmental impacts should be taken into consideration in such arrangements.

As for the idea of SD, although sustainability and climate change are taken into account, these are not made explicit in Dutch policy. However, the idea is woven into it and taken into consideration during many processes, especially in the work of non-profits such as Solidaridad and the IFDC. As came to the fore in the interviews, most interviewees and many actors involved value the idea of sustainability and sustainable development and are committed to CSR. This helps increase food security and decrease land degradation. However, the business sector's commitment to the idea of SD is ambiguous.

Thus, food security and land degradation are both positively and negatively affected by DODA. DODA is highly affected by the idea of SD which is interwoven in many of the activities in the sector. However, it is still mostly influenced by neoliberal ideas, for example, the process of globalisation and ideas from the Green Revolution. So, both discourses have become visible in Dutch policy, providing a hybrid form. This is interesting because Gawor (2007) sees the idea

of SD as an alternative to neoliberalism. Further developments are dependent on which discourse will dominate and, thus, where the focus will lay in the future. The international adoption of the SDGs shows the growing importance of sustainability thinking, indicating that in the future this will be reflected in DODA as well.

As for adaptation and mitigation, the necessity remains that these two strategies will be adopted integratively on both the local/regional and international levels. Currently, through several projects adaptation and mitigation strategies have already been adopted. However, there has been no acknowledgement on the fact that these can nullify the effects of one another.

In all, these results provide an overview that can be used by the Dutch Embassy in Ghana. It is important to take on an integrated approach on the issues of land degradation (climate change) and food security and poverty as these have a high degree of interrelation.

6.1 DISCUSSION

These results have been gained by conducting empirical research using interviews. If given more time and resources, this research could have been expanded and made more comprehensive, particularly if fieldwork in Ghana had been possible. This would have given me the opportunity of interviewing many more people, especially Ghanaians and locals. However, as I have been to Ghana twice before and am in contact with several Ghanaians active in the development sector, I held sufficient knowledge which led me to understand the Ghanaian context well.

Furthermore, it would have been interesting to have conducted an interview with Bejo or another seed company that is investing in Ghana, in contrast to Amatrex, the NABC, and the Rabobank which are not companies that have directly invested in Ghana. I only learned later the different course Amatrex and Bejo took after both having participated in the DTM in September. However, time and resources were too little to interview more people.

Directions of further research should focus on including field work in Ghana and explore several subtopics more. For example, the specific role PPPs play or alternative sustainable farming methods such as agroforestry and permaculture (see e.g. Powel, 2009). It would also have been interesting to carry out surveys within a specific agricultural subsector. The quantitative data resulting from this could provide an extra dimension to the research. Also, an integrated research approach should be taken when looking at development cooperation in the agricultural sector in order to fully comprehend all the facets that come into play.

Finally, although this study has been carried out with the utmost integrity, it is possible that a Western perspective on development shines through.

7 BIBLIOGRAPHY

- Aarnink, A. (2015, October 29). Dutch Agricultural Investments in Ghana. (S. v. Hoeven, Interviewer)
- Agyare, E. (2015, November 6). Dutch Agricultural Investments in Ghana. (S. v. Hoeven, Interviewer)
- Antwi-Bediako, R. (2015, November 9). Dutch Agricultural Investments in Ghana. (S. v. Hoeven, Interviewer)
- Armah, F. A., Yawson, D. O., Yengoh, G. T., Odoi, J. O., & Afrifa, E. K. (2010). Impact of Floods on Livelihoods and Vulnerability of Natural Resource Dependent Communities in Northern Ghana. *Water*, 120-139.
- Assibey-Yeboah, S. (2015, November 13). Dutch Agricultural Investments in Ghana. (S. v. Hoeven, Interviewer)
- Betsema, G. (2015, November 9). Dutch Agricultural Investments in Ghana. (S. v. Hoeven, Interviewer)
- Blanco, E. c.-H.-L. (n.d., March-April). West African Textiles. *West African Textiles*. Georgia, United States of America: University of Georgia.
- Boko, M., Niang, I., Nyong, A., Vogel, C., Githeko, A., Medany, M., . . . Yanda, P. (2007). Africa. In M. Parry, O. Canziani, J. Palutikof, P. v. Linden, C. Hanson, & (Eds.), *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (pp. 433-467). Cambridge UK: Cambridge University Press.
- Bruijn, M. d., & Dijk, J. v. (2006). *African Studies Centre Leiden - infosheets*. Retrieved from Climate Change and Climatic Variability in West Africa: <http://www.ascleiden.nl/Pdf/infosheet2.pdf>
- Buo, D. J. (2015, November 10). Dutch Agricultural Investments in Ghana. (S. v. Hoeven, Interviewer)
- Dinse, K. (n.d.). *Climate Variability and Climate Change: what is the difference?* Retrieved from Michigan Sea Grant: <http://www.miseagrant.umich.edu/downloads/climate/11-703-Climate-Variability-and-Climate-Change.pdf>
- Douxchamps, S., Wijk, M. T., Silvestri, S., Moussa, A. S., Quiros, C., Ndour, N. Y., . . . Rufino, M. C. (2015). Linking agricultural adaptation strategies, food security and vulnerability: evidence from West Africa. *Regional Environmental Change*.
- Dutch Embassy. (2014). *Multi Annual Strategic Plan 2014-2017 Ghana*. Den Haag: Rijksoverheid.
- Ezilon.com. (2009). *Ghana Physical Map*. Retrieved from Ezilon.com: <http://www.ezilon.com/maps/images/africa/Ghana-physical-map.gif>
- FAO. (2015). *FAO's role in investment in agriculture* . Retrieved from Food and Agriculture Organization of the United Nations: <http://www.fao.org/investment-in-agriculture/en/>
- FAOSTAT. (2013). *Trade: Import and Export: Commodities by Country*. Retrieved from FAOSTAT: <http://faostat.fao.org/desktopdefault.aspx?pageid=342&lang=en&country=81>
- Fehling, M., Nelson, B. D., & Venkatapuram, S. (2013). Limitations of the Millennium Development Goals: a literature review. *Global Public Health.*, 1109–1122.
- Freeman, R. B. (2006). People Flows in Globalization. *Journal of Economic Perspectives*, 145-170.

- Gawor, L. (2007). Globalization and its alternatives: Antiglobalism, Alterglobalism and the Idea of Sustainable Development. *Sustainable Development*, 126-134.
- Ghana.gov.gh. (2016). *Regions*. Retrieved from Government of Ghana: <http://www.ghana.gov.gh/index.php/about-ghana/regions>
- Goklany, I. M. (2007). Integrated strategies to reduce vulnerability and advance adaptation, mitigation, and sustainable development. *Mitigation and Adaptation Strategies for Global Change*, 755–786.
- Gonzales, C. G. (2004). Trade Liberalization, Food Security, and the Environment: The Neoliberal Threat to Sustainable Rural Development. *Transnational Law & Contemporary Problems*, 419-498.
- Haque, M. S. (1999). The Fate of Sustainable Development Under Neo-liberal Regimes in Developing Countries. *International Political Science Review*, 197-218.
- Hjelm, L., & Dasori, W. (2012). *Ghana Comprehensive Food Security & Vulnerability Analysis*. Rome: World Food Programme.
- IS-Academy. (2015). *Ghana Factsheet - updated by Antwi-Bediako, Richmond 15 September 2015*. Retrieved from LANDac: http://www.landgovernance.org/resources_type/factsheets/
- Kemp, R., & Parto, S. (2005). Governance for sustainable development: moving from theory to practice. *Int. J. Sustainable Development*, 12-30.
- Lammers, M. (2015, October 23). Dutch Agricultural Investments in Ghana. (S. v. Hoeven, Interviewer)
- Laube, W., Schraven, B., & Awo, M. (2011). Smallholder adaptation to climate change: dynamics and limits in Northern Ghana. *Climatic Change*, 753-774.
- Martens, P., McEvoy, D., & Chang, C. (2009). The climate change challenge: linking vulnerability, adaptation, and mitigation. *Current Opinion in Environmental Sustainability*, 14-18.
- McSweeney, C., New, M., & Lizcano, G. (2012, February 16). *UNDP Climate Change Country Profiles: Ghana hires report*. Retrieved from School of Geography and the Environment: <http://www.geog.ox.ac.uk/research/climate/projects/undp-cp/index.html?country=Ghana&d1=Reports>
- Mensah, F., & Adanu, S. K. (2015). Remote Sensing and GIS Based Assessment of Land Degradation and Implications for Ghana's Ecological Zones. *Environmental Practice*, 1-13. doi:10.1017/S1466046614000465
- Miraftab, F. (2004). Public-Private Partnerships: The Trojan Horse of Neoliberal Development? *Journal of Planning Education and Research*, 89-101.
- MoFA, G. (2007). *Food and Agriculture Sector Development Policy*. Accra: Ministry of Food and Agriculture Ghana.
- MoFA, G. (2010). *Medium Term Agriculture Sector Investment Plan 2011-2015*. Accra: Ministry of Food and Agriculture Ghana.
- Moser, S. C. (2012). Adaptation, mitigation, and their disharmonious discontents: An essay. *Climatic Change*, 165-175. doi:DOI 10.1007/s10584-012-0398-4
- NABC. (2014-2016). *About Us*. Retrieved from NABC: <https://www.nabc.nl/en/who-we-are/about-us>
- Niekus, P. (2015, October 29). Dutch Agricultural Investments in Ghana. (S. v. Hoeven, Interviewer)

- Oppong-Anane, K. (2001, August). *Country Pasture/Forage Resource Profiles - Ghana*. Retrieved from FAO: <http://www.fao.org/ag/AGP/AGPC/doc/Counprof/Ghana.htm>
- Osei-Assibey, E., & Grey, S. K. (2013). *Millennium Development Goals in Ghana*. Ghana Statistical Service.
- Potter, C., & Tilzey, M. (2007). Agricultural multifunctionality, environmental sustainability and the WTO: Resistance or accommodation to the neoliberal project for agriculture? *Geoforum*, 1290-1303.
- Powell, G. W. (2009, July 15). *Agroforestry and Permaculture Explained*. Retrieved from AgForInsight.com: <http://www.agforinsight.com/?p=118>
- Raco, M. (2005). Sustainable Development, Rolled-out Neoliberalism and Sustainable Communities. *Antipode*, 324-347.
- Rees, W. E. (2006). Globalization, trade and migration: Undermining Sustainability. *Ecological Economics*, 220-225.
- Rijk, M. (2015, October 27). Dutch Agricultural Investments in Ghana. (S. v. Hoeven, Interviewer)
- Rijksoverheid. (2012, September 18). *Hervorming ontwikkelingssamenwerking in volle gang*. Retrieved from Rijksoverheid Actueel: <https://www.rijksoverheid.nl/actueel/nieuws/2012/09/18/hervorming-ontwikkelingssamenwerking-in-volle-gang>
- Sew, Y. (2016, January 7). *Stunning African Kente Print Cloth Wax Dyed Cotton Fabric Orange Green Black*. Retrieved from ebay: http://www.ebay.com/itm/Stunning-African-Kente-Print-Cloth-Wax-Dyed-Cotton-Fabric-Orange-Green-Black/400891564069?_trksid=p2047675.c100005.m1851&_trkparms=aid%3D222007%26alg%3DSIC.MBE%26ao%3D1%26asc%3D20131003132420%26meid%3D7d17dd0895c44e03b50caec91246c
- Siaw, D. E. (2001, December). *Socio-economic and Ecological Characteristics*. Retrieved from FAO Corporate Document Repository: <http://www.fao.org/docrep/004/ab388e/ab388e02.htm>
- Soeters, S. (2015, October 23). Dutch Agricultural Investments in Ghana. (S. v. Hoeven, Interviewer)
- SRID. (2010). *Agriculture in Ghana: Facts and Figures (2009)*. Accra: Ministry of Food and Agriculture - Statistics, Research, and Information Directorate.
- Termeer, C., Dewulf, A., Rijswick, H. v., Buuren, A. v., Huitema, D., Meijerink, S., . . . Wiering, M. (2011). The regional governance of climate adaptation: A framework for developing legitimate, effective, and resilient governance arrangements. *Climate Law*, 159-179.
- The Six Ecological Zones of Ghana*. (n.d.). Retrieved from ehs.cdu.edu.au: <http://www.ehs.cdu.edu.au/chromolaena/proceedings/third/3tim1b.html>
- UN. (2015). *Sustainable Development Goals*. Retrieved from Sustainable Development Knowledge Platform: <https://sustainabledevelopment.un.org/?menu=1300>
- UNFCCC. (2006, September 28). *Kyoto Protocol Status of Ratification*. Retrieved from UNFCCC: http://unfccc.int/files/essential_background/kyoto_protocol/status_of_ratification/application/pdf/kpstats.pdf
- UNFCCC. (2014). *Glossary of climate change acronyms*. Retrieved from United Nations Framework Convention on Climate Change: http://unfccc.int/essential_background/glossary/items/3666.php

- UNISDR. (2009). *UNISDR Terminology on Disaster Risk Reduction*. Geneva: the United Nations International Strategy for Disaster Reduction. Retrieved from The United Nations Office for Disaster Risk Reduction: http://www.unisdr.org/files/7817_UNISDRTerminologyEnglish.pdf
- University of Kentucky. (2014, April 28). Sustainable Agriculture. College of Agriculture, Kentucky. Retrieved from <https://www.uky.edu/Ag/CCD/introsheets/sustainableag.pdf>
- WHO. (2016). *Washington Consensus*. Retrieved from World Health Organisation: <http://www.who.int/trade/glossary/story094/en/>
- World Bank. (2007). *World Development Report 2008: Agriculture for Development*. Washington DC: The World Bank.
- World Bank. (2014). *Ghana*. Retrieved from The World Bank Data: <http://data.worldbank.org/country/ghana>
- World Bank. (2015). *Overview*. Retrieved from Ghana Dashboard: http://sdwebx.worldbank.org/climateportalb/home.cfm?page=country_profile&CCode=GHA
- World Bank. (2015a). *Agriculture, value added (% of GDP)*. Retrieved from The World Bank - Data: <http://data.worldbank.org/indicator/NV.AGR.TOTL.ZS/countries/1W-GH?display=graph>

8 ANNEX

8.1 TOPIC LISTS

Formalities; general questions and information
Introduce myself and the thesis: Utrecht University – Purpose of the thesis
<i>To what extent do Dutch agricultural investments (Business and NGO) in Ghana affect land degradation and food insecurity?</i> Purpose:
Structure: semi-structured.
Thanking people for making time for the interview.
The interview will take approximately 1 hour.
How would you describe your profession within the organisation? Can I use your name and status within the organisation in my thesis or would you like to remain anonymous?
Can I record the interview, to make it easier to make a written version of it for my analysis? The information gained by the interviews will solely be used for the data analysis in this thesis and will not be shared with third parties.
After the interview you can get in contact with me through e-mail: s.e.vanderhoeven@students.uu.nl The same e-mail address I used to get in contact with you.
Before we start the interview, do you have any further questions?

Private sector

Topics	Guideline questions
Agricultural investments in Ghana	<ul style="list-style-type: none"> ▪ What broader vision does [name of org] have in mind? ▪ How and why did [name of organisation] decide to invest in Ghana? ▪ What role does [name of org] have as an agricultural investor in Ghana? ▪ Which different aims does [name of org] have, in developmental terms? ▪ What do you think is the role of agricultural investments in Ghana? ▪ What do you think is the role of PPPs in development in Ghana? ▪ Which different aims does [name of org] have with investing in Ghana, in developmental terms?

	<ul style="list-style-type: none"> ▪ Which type of agricultural investments do you find the most important? Why? ▪ What type of agricultural investments has [name of organisation] made in recent years? ▪ What type of agriculture would you promote? Permanent tree crops/mixed/livestock/rotational/cash crops/horticulture?
Sustainable Development	<ul style="list-style-type: none"> ▪ How is the idea of sustainable development incorporated within [name of organisation] policy? ▪ What value does [name of org] attach to the idea of sustainable development? How important is this value to your organisation? ▪ Do you have a specific definition? How would you define sustainable development? ▪ (Why) do you think the idea of sustainable development is important? ▪ Do you think Dutch agricultural investments in Ghana take into account the idea of sustainability? (especially from an ecological point of view)
Agriculture and climate change	<ul style="list-style-type: none"> ▪ How do you see the relation between agriculture and climate change? ▪ Does [name of organisation] take into account climate change challenges in relation to agricultural projects? ▪ Does/What adaptation measures does [name of org] incorporate within their programmes? ▪ Does/What mitigation measures does [name of org] incorporate within their programmes? ▪ Are there other specific actions taken to counter climate change?
Agriculture and food security	<ul style="list-style-type: none"> ▪ How do you see the relation between agriculture and food security? ▪ Are there specific actions taken to enhance food security? ▪ Do you find that [name of org] helps to increase food security?
Dutch development cooperation in Ghana	<ul style="list-style-type: none"> ▪ What role did the change in Dutch DC policy play in your decision to invest in Ghana? ▪ Were you aware of this change in Dutch DC? ▪ How did you get/find the opportunity to invest in Ghana's agricultural sector? ▪ What is your view on the Dutch Trade Mission in Ghana? ▪ How did [name of organisation] experience their participation in a Dutch Trade Mission to Ghana? (Which one?) ▪ Do you also work together with CBO's/NGO's? ▪ In general, what is your view on Dutch development policy considering agriculture in Ghana?
Ghana's agricultural policy	<ul style="list-style-type: none"> ▪ How are you limited/encouraged by the Ghanaian government (e.g. through their policy) to invest in Ghana? ▪ In what manner do you cooperate with Ghanaian governmental institutions?

	<ul style="list-style-type: none"> ▪ In what manner do you cooperate with Ghanaian business organisations?
Land degradation	<ul style="list-style-type: none"> ▪ Is the issue of land degradation incorporated in [name of org] policy? ▪ How do you see the relation between land degradation and agricultural investments? ▪ Any mitigation measures? ▪ Any adaptation measures? ▪ Are you aware of land degradation taking place in Ghana as a result of climate change? ▪ Are you aware of land degradation taking place in Ghana as a result of some forms of agriculture?
Furthermore	<ul style="list-style-type: none"> ▪ Do you have anything left that you would like to say but did not come up in the interview?

Expert

Topics	Guideline questions
Sustainable Development	<ul style="list-style-type: none"> ▪ Do you have a specific definition? How would you define sustainable development? ▪ (Why) do you think the idea of sustainable development is important? ▪ Do you think Dutch agricultural investments in Ghana take into account the idea of sustainable development? (especially from an ecological point of view) ▪ Can you tell me something about the research project you are currently engaged in?
Agricultural investments in Ghana	<ul style="list-style-type: none"> ▪ What do you think is the role of agricultural investments in Ghana? ▪ What do you think is the role of PPPs in development in Ghana? ▪ Which type of agricultural investments do you find the most important? Why? ▪ What type of agriculture would you promote? Permanent tree crops/mixed/livestock/rotational/cash crops/horticulture?
Agriculture and climate change	<ul style="list-style-type: none"> ▪ How do you see the relation between agriculture and climate change? ▪ What are in your view adaptation measures that are needed to be taken in relation to agriculture and climate change? ▪ What are in your view mitigation measures that are needed to be taken in relation to agriculture and climate change? ▪ How is this incorporated in your research project?
Agriculture and food security	<ul style="list-style-type: none"> ▪ How do you see the relation between agriculture and food security? ▪ What measures or actions should in your view be taken to enhance food security?

Dutch development cooperation in Ghana	<ul style="list-style-type: none"> ▪ What is your view on the change in Dutch development cooperation in recent years? ▪ What is your view on Dutch development cooperation considering agriculture in Ghana? ▪ What are important aspects? ▪ What aspects do you critique?
Ghana's agricultural policy	<ul style="list-style-type: none"> ▪ How do you think should be the cooperation between the Ghanaian government and Dutch actors? ▪ How do you think should be the cooperation between Ghanaian businesses and Dutch actors? ▪ How do you think should be the cooperation between local Ghanaians and Dutch actors?
Land degradation	<ul style="list-style-type: none"> ▪ How do you see the relation between land degradation and agricultural investments? ▪ Are you aware of land degradation taking place in Ghana as a result of climate change? ▪ Are you aware of land degradation taking place in Ghana as a result of some forms of agriculture? ▪ Any mitigation measures that should be taken? ▪ Any adaptation measures that should be taken?
Furthermore	<ul style="list-style-type: none"> ▪ Do you have anything left that you would like to say but did not come up in the interview?

Non-profits

Topics	Guideline questions
Agricultural investments in Ghana	<ul style="list-style-type: none"> ▪ What broader vision does [name of org] have in mind? ▪ How and why did [name of organisation] decide to start up in Ghana? ▪ What role does [name of org] have as an organisation in Ghana considering agriculture? ▪ Which different aims does [name of org] have, in developmental terms? ▪ What do you think is the role of agricultural investments in Ghana? ▪ What do you think is the role of PPPs in development in Ghana? ▪ Which type of agricultural investments do you find the most important? Why? ▪ What type of agricultural investments has [name of organisation] made in recent years? ▪ What type of agriculture would you promote? Permanent tree crops/mixed/livestock/rotational/cash crops/horticulture?
Sustainable Development	<ul style="list-style-type: none"> ▪ How is the idea of sustainable development incorporated within [name of organisation] policy? ▪ What value does [name of org] attach to the idea of sustainable development? How important is this value to your organisation?

	<ul style="list-style-type: none"> ▪ Do you have a specific definition? How would you define sustainable development? ▪ (Why) do you think the idea of sustainable development is important? ▪ Do you think Dutch agricultural investments in Ghana take into account the idea of sustainable development? (especially from an ecological point of view)
Agriculture and climate change	<ul style="list-style-type: none"> ▪ How do you see the relation between agriculture and climate change? ▪ Does [name of organisation] take into account climate change challenges in relation to agricultural projects? ▪ Does/What adaptation measures does [name of org] incorporate within their programmes? ▪ Does/What mitigation measures does [name of org] incorporate within their programmes?
Agriculture and food security	<ul style="list-style-type: none"> ▪ How do you see the relation between agriculture and food security? ▪ Do you find that Dutch agricultural investments helps to increase food security? ▪ What actions would you recommend to be taken to enhance food security? ▪ What role does [name of org] play in the enhancement of food security?
Dutch development cooperation in Ghana	<ul style="list-style-type: none"> ▪ What is your view on Dutch development cooperation considering agriculture in Ghana? ▪ Were you aware of the change in Dutch DC? What role did this play in [name of org] policy? ▪ What is [name of org] view on the use of Dutch agricultural Trade Missions to Ghana? ▪ How do you experience this?
Ghana's agricultural policy	<ul style="list-style-type: none"> ▪ How are you limited/encouraged by the Ghanaian government in your work? ▪ In what manner do you cooperate with Ghanaian governmental institutions? ▪ In what manner do you cooperate with Dutch governmental institutions? ▪ In what manner do you cooperate with Ghanaian businesses? ▪ In what manner do you cooperate with Dutch businesses?
Land degradation	<ul style="list-style-type: none"> ▪ How do you see the relation between land degradation and agricultural investments? ▪ Is the issue of land degradation incorporated in [name of org] policy? ▪ Any mitigation measures? ▪ Any adaptation measures? ▪ Are you aware of land degradation taking place in Ghana as a result of climate change? ▪ Are you aware of land degradation taking place in Ghana as a result of some forms of agriculture?

Furthermore	<ul style="list-style-type: none"> ▪ Do you have anything left that you would like to say but did not come up in the interview?
-------------	--

Government

Topics	Guideline questions
Agricultural investments in Ghana	<ul style="list-style-type: none"> ▪ What do you think is the role of agricultural investments in Ghana? ▪ What do you think is the role of PPPs in development in Ghana? ▪ Which type of agricultural investments do you find the most important? Why? ▪ Which different aims does [name of org] have, in developmental terms, with organising Trade Missions in Ghana? ▪ What broader vision does [name of org] have in mind? ▪ What type of agricultural businesses in the Dutch Trade Mission to Ghana? Do you invite them or they can subscribe themselves? ▪ What type of agriculture would you promote? Permanent tree crops/mixed/livestock/rotational/cash crops/horticulture?
Sustainable Development	<ul style="list-style-type: none"> ▪ How is the idea of sustainable development incorporated within [name of organisation] policy? ▪ What value does [name of org] attach to the idea of sustainable development? How important is this value to your organisation? ▪ Do you have a specific definition? How would you define sustainable development? ▪ (Why) do you think the idea of sustainable development is important? ▪ Do you think Dutch agricultural investments in Ghana take into account the idea of sustainable development? (especially from an ecological point of view)
Agriculture and climate change	<ul style="list-style-type: none"> ▪ Does [name of organisation] take into account climate change challenges in relation to agricultural projects? ▪ Any mitigation measures? ▪ Any adaptation measures? ▪ How do you see the relation between agriculture and climate change? ▪ Does/What adaptation measures does [name of org] incorporate within their programmes? ▪ Does/What mitigation measures does [name of org] incorporate within their programmes?
Agriculture and food security	<ul style="list-style-type: none"> ▪ The broader vision we have talked about before: is this also related to food security? ▪ How do you see the relation between agriculture and food security?

	<ul style="list-style-type: none"> ▪ Do find that [name of org] helps to increase food security? ▪ Are there specific actions taken to enhance food security?
Dutch development cooperation in Ghana	<ul style="list-style-type: none"> ▪ Were you aware of this change in Dutch DC? What role did this play in [name of org] policy? ▪ What is your view on Dutch development cooperation considering agriculture in Ghana? ▪ How do organisations who participate in Dutch Trade Missions in general experience these missions? ▪ What is your personal view on the use of such Trade Missions? ▪ How many of the participating organisation eventually invest in the agricultural sector of Ghana? ▪ Do you know about the outcomes and experiences of such investments? ▪ Do you also work together with CBO's/NGO's? ▪ How did you get/find the opportunity to invest in Ghana's agricultural sector? ▪ How did [name of organisation] experience their participation in a Dutch Trade Mission to Ghana?
Ghana's agricultural policy	<ul style="list-style-type: none"> ▪ How are you limited/encouraged by the Ghanaian government to organise Trade Missions? ▪ In what manner do you cooperate with Ghanaian governmental institutions? ▪ What type of Ghanaian businesses/projects are included in the Trade Mission?
Land degradation	<ul style="list-style-type: none"> ▪ Is the issue of land degradation incorporated in [name of org] policy? ▪ How do you see the relation between land degradation and agricultural investments? ▪ Any mitigation measures? ▪ Any adaptation measures? ▪ Are you aware of land degradation taking place in Ghana as a result of climate change? ▪ Are you aware of land degradation taking place in Ghana as a result of some forms of agriculture?
Furthermore	<ul style="list-style-type: none"> ▪ Do you have anything left that you would like to say but did not come up in the interview?

8.2 WRITTEN INTERVIEWS

Contact the author if interested in the interview transcripts.