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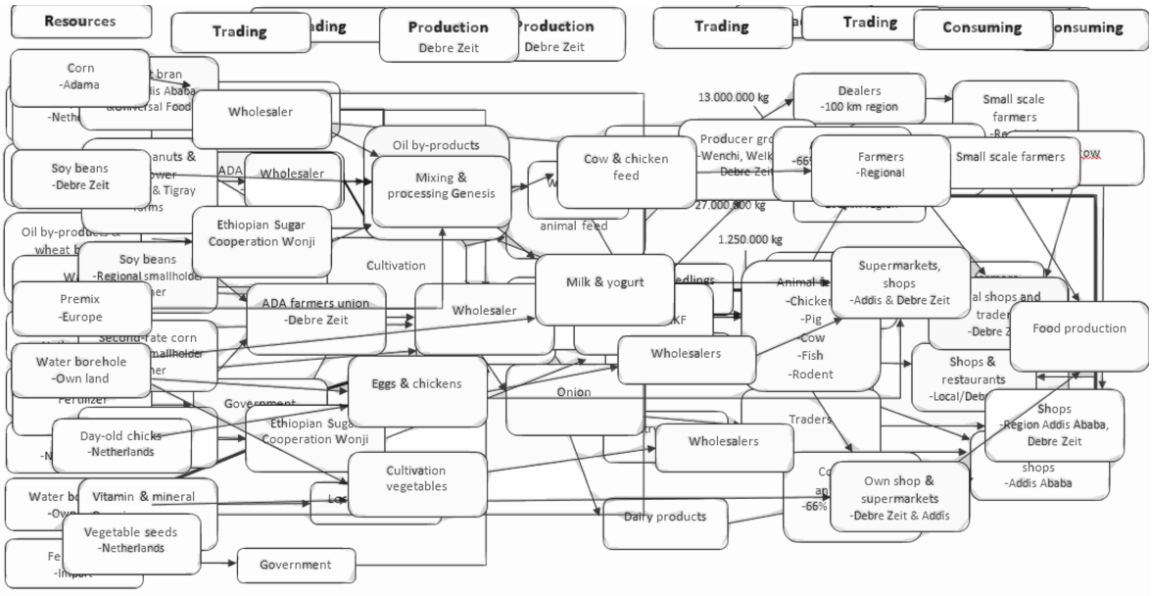

DUTCH BLIGHT OR BLESSING?

Analysis of the food security effects of the Dutch cluster in Debre Zeit, Ethiopia

Lenard Hofland

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Name: Lenard Hofland
Student number: 4161718
Supervisor: Dr. Guus van Westen

Photography: 2SCALE (edited by author)

Utrecht University

Abstract

The rapid population growth and economic growth in Africa has attracted many foreign investments, especially in the African agribusiness. Nevertheless, it remains unclear how these foreign direct investments affected local food security. The purpose of this study is to investigate the effects of Dutch companies on resource use and local food security in Debre Zeit, Ethiopia. The study generates in-depth and specific knowledge on Dutch induced business models, to what extent they contribute to local food security and how locally embedded the companies can be.

This study was conducted in and around Debre Zeit, 50 kilometers south from the capital city Addis Ababa. The empirical part of this study was conducted from February until May 2018. Thirteen companies were selected for this investigation. Ten companies participated in the study by interviews that have been conducted at the compounds of the companies. The interviews were recorded on audiotape. During investigating this, specific focus is put on resource use to detect potential food security bottlenecks in the Dutch induced chains.

The results of the research showed that several food related companies are operating in the Dutch cluster of Debre Zeit. Most enterprises are driven by a social mission which the entrepreneurs consider as a way to improve the country and relevant sector. The cluster itself revealed many relations and mutual integration. Different Dutch businesses have a formal and informal relationship with the other Dutch companies.

At its core, this study showed that there are three big developments to detect: supplier areas are outside the Dutch cluster, transformations happen within the cluster and the final consumption is in the capital Addis Ababa. The supplier areas are outside the cluster but inside the Ethiopian borders. The cluster uses specific imports but this is limited, because most of the materials are obtained from the region. After its production most of the food is consumed in Addis Ababa. This domestic production is largely destined for the urban high end of the market, the sections of the Ethiopian populations that are usually already food secure. Strong urbanization causes a population concentration which needs to be fed with food from other locations. Striking is that this cluster does not export its products at all and so the food supply is increased. Meanwhile, the chain analysis exposed several potential bottleneck locations where it is possible that the Dutch cluster competes with local food production and access to food.

The Dutch enterprises create permanent local jobs with additional services for their employees. The companies perform significantly better than local Ethiopian companies in terms of wages. But compared to the Ethiopian living wage the Dutch cluster does not perform properly. On the basis of the results of this research, it can be concluded that the Dutch companies in Debre Zeit are partially locally embedded and do transfer knowledge, but this can be broadened. Furthermore, the Dutch investments have also implications on land and water. There are new and more inclusive business approaches applied that take care of land and local people. But the results also show that some companies are unaware of the land acquisition effects on local people. In most cases it is still vague how the former land owners are compensated for the loss of land due to interference by the Ethiopian government. This research illustrated a paradox of sector development, where there is a cluster that has some characteristics of a business enclave but at the same time characteristics of local embedding. To conclude, the results of this research support the idea that foreign companies are able to create a positive impact on local food security by supplying food, generating employment opportunities and including farmers in value chains, but it cannot be expected that these entrepreneurs resolve all food insecurity challenges.

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List of Abbreviations

ADLI	Agricultural Development-led Industrialization
AKF	Alema Koudijs Feed
DairyBISS	Dairy Business Information Service and Support
ECA	United Nations Economic Commission for Africa
EPRDF	Ethiopian People's Revolutionary Democratic Front
ESSP	Ethiopia Strategy Support Program
FAO	Food and Agriculture Organization of the United Nations
FDI	Foreign Direct Investment
FVC	Food Value Chains
GDP	Gross Domestic Product
GRIPS	National Graduate Institute for Policy Studies
GTP	Growth and Transformation Plan
IDFC	International Fertilizer Development Center
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
OECD	Organization for Economic Co-operation and Development
IIED	International Institute for Environment and Development
JICA	Japan International Cooperation Agency
NWO	Nederlandse Organisatie voor Wetenschappelijk Onderzoek
PASDEP	Plan of Action for Sustainable Development and Eradication of Poverty
PLC	Private Limited Companies
PR	Public Relations
PSI	Private Sector Investeringenprogramma
SDPRP	Sustainable Development and Poverty Reduction Program
SFVCD	Sustainable Food Value Chain Development
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
VAT	Value Added Tax
WFP	World Food Programme

1. Introduction

The challenge of doubling global food supplies to feed a forecasted 9 billion people by 2050 has generated a sizeable influx of foreign investments in African agribusiness (NWO, 2015). Major transformations occur in global agricultural and food markets and in particular in developing countries (Minten, Tamru, Engida and Kuma, 2013). Besides a western demand, there is an increased need for high-value food products in developing countries. This is caused by rapid urbanization and rising living standards. The growing number of urban, middle class consumers prefer higher levels of food quality, food safety, diversity and convenience (Joosten, Dijkxhoorn, Sertse and Ruben, 2015). To fulfill this demand, modern value chains in developing countries invest in logistics and value adding activities and adopt increased vertical supply chain coordination. Reardon et al. (2013) call this the 'Quiet Revolution' in the African food supply chains.

The Dutch government aims at contributing to improved food security through bilateral cooperation and through multilateral organizations. They launched the new agenda "A world to gain" in April 2013, focused on the economic growth in developing countries. The ministry states that "It is our aim to encourage investment and trade activities which are good for people and planet, create employment opportunities, and, preferably, are accompanied by the transfer of knowledge and skills" (Ministry of Foreign Affairs of the Netherlands, 2013).

In Ethiopia, the Netherlands has found a particularly receptive partner for contributing to food security. The business and development relationship between these countries has grown considerably over the last years (Ethiopian Embassy, 2016). The latest Foreign Affairs policy paper "Investing in Perspective" of the Dutch ministry states that agricultural investments deliver a boost to local employment with positive effects on prosperity and stability. The investments would even contribute to the sustainable eradication of hunger (Ministry of Foreign Affairs of the Netherlands, 2018).

The natural conditions for agricultural production in Ethiopia are deemed favorable, with fertile soils and high average rainfall. Yet at the same time, food security is constantly threatened by highly erratic weather conditions and a growing population that requires more food to feed the people. Consequently, the country has a long history of food crises triggered by natural calamities, and at times aggravated by policy and market failures (Braun and Olofinbiyi, 2007). Despite little progress in improving national food access, Ethiopia remains a food deficit country (Compact2025, 2016).

On the one hand seen as a solution, and on the other as a threat, it is disputable what the role of foreign direct investment (FDI) is in developing countries. FDI can promote food security, but at the same time it can impede it (Kugelman, 2012; Melese & Helmsing, 2010). Minten et al. (2013) argue that despite the large potential for improvement in agricultural productivity and market performance in Africa, the evidence on changes in domestic food value chains in Africa is still limited. The same applies to the impact of Dutch agribusiness in Africa. Van Westen et al. (2013) conclude that it is difficult to appraise the Dutch agribusiness impact on food security, in fact, there is no direct connection between food security and foreign investment. In this study the impact of the Dutch businesses on local food availability and accessibility in recipient countries remains unclear. Therefore, the question stands whether the neoliberal policy of the government, by means of the private sector, truly creates local employment and whether the investments are good for both people and planet. A study on the fruit and vegetable sector in developing countries showed that sector development had positive effects on the food security of involved people as well as consumers (Joosten, Dijkxhoorn, Sertse, & Ruben, 2015). It

was recommended to conduct similar research in other sectors in order to support future government interventions, policies and development agencies. An example of such study, focusing on these different sectors, is The Follow the Food program. This Program, founded in 2015, investigates the direct impact of FDI on production, productivity, jobs and income, impacts on natural resource use and impacts on local food markets. Current results indicate that, firstly the focus in this research field should not only be on food security but also on nutrition security. Secondly, agriculture investments in Africa vary in business models and are shaped by local circumstances. Lastly, the researchers need to be more aware of the dynamics of local food security that are not directly related with foreign agricultural investments (Knoweledge4food, n.d.; NWO, 2015). At the request of the Follow the Food Program this thesis study will further contribute to the examination of the effects of private company investments on local food security in Africa.

The following exploratory research links abstract processes of globalization to local developments and will contribute to a better understanding of the impact of foreign value chains and business clusters on resource use, local food supply and access. The thesis draws on qualitative data, generated during the fieldwork conducted between March 2018 and May 2018. As part of The Follow the Food Program the current study focuses not only on one sector but on a unique cluster of various companies in Debre Zeit, a location in Ethiopia with the highest density of Dutch companies. The main question that guided the research was:

- *How does the Dutch business cluster in Debre Zeit affect local resource use, food supply and access?*

2. Theoretical framework

Central to this research are the concepts of food security and commodity chains. The existing knowledge on these concepts and related theories are outlined. This theoretical conceptualization will form the basis of this research.

2.1 Food security

Food security is a multidimensional concept and originally it referred to the supply and deficits compared to the need for food, measured on a local, national or worldwide scale. (Klennert, 2005). The term itself arose halfway the 1970s, where the World Food Conference described food security as the supply of food. The very influential World Bank Report on Poverty and Hunger (World Bank, 1986) emphasized the temporary dynamics of food (in)security and demonstrated the contrast between chronic food insecurity and transitory food insecurity. This was supplemented by the famine theory of Amartya Sen (1981) which stresses the impact of individual entitlements on food accessibility (Food and Agriculture organization of the United Nations, 2006).

In the narrowest definition, food security entails that enough food is available, either at the global, national, communal, or household level. However, the availability of food does not assure access, and sufficient calories do not guarantee a healthy and nutritional diet (Pinstrup-Andersen, 2009, pp. 5-7). The most widely used definition of this concept was put forward by the World Summit on Food Security in 1996: "food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (FAO, 2006). The different definitions of food security have volved over time but are all characterized by four pillars: availability, access, utilization, and stability (FAO, 2008). According to the FAO (2008) it is needed to fulfill all four food security pillars simultaneously in order to achieve food security. The essential needs are a combination of income progression; supported by direct nutrition operations and investments in education, water and health care.

Not fulfilling these pillars results in hunger, malnutrition and poverty and interrelate deeply with each other. Hunger is usually considered as an unpleasant and painful feeling caused by inadequate food energy intake. In scientific literature hunger is denoted as food deprivation (FAO, 2008). Malnutrition stems from shortcomings, excesses or disparities in the intake of micro- and/or macronutrients. While poverty is obviously causing hunger, absence of proper and diverse nutrition itself is an underlying poverty causer. The poverty definition of the Organization for Economic Co-operation and Development (OECD) that is widely used reads: "Poverty encompasses different dimensions of deprivation that relate to human capabilities including consumption and food security, health, education, rights, voice, security, dignity and decent work" (FAO, 2008).

2.1.1 Availability

The physical 'availability' of food contains the supply side of food security and is defined by the availability of adequate volumes of produced food of suitable quality, provided by domestic or import channels (FAO, 2006). Foreign trade influences the domestic food availability by its involvement on agriculture and food production. A relevant debate on the topic of importing food and the effects on the availability questions whether or not foreign food chains affect the host country's production positively or negatively (FAO, 2015). When foreign trade displaces the domestic food production there may,

generally, be less food available. However, foreign companies or imported goods can also complement the food availability without superseding the domestic production, through increasing salaries and introducing additional food which is not obtainable in the country (FAO, 2015).

2.1.2 Access

Sufficient food in a country is not an assurance of food security at the household level. This means that food 'access' addresses the personal access to appropriate resources (entitlements) for obtaining the right food needed. These entitlements are best described as the collection of resource bundles over which people 'can establish command given the legal, political, economic and social arrangements of the community in which they live' (FAO, 2006, pp. 1). Steady access can be investigated at national level, regional level, household level and individual level. The relationship between income and prices of minimum household requirements and food plays a vital role in defining the food access (FAO, 2015).

2.1.3 Utilization

Food 'utilization' is generally understood as the way a person's body makes optimal use of nutrients in food (FAO, 2008). This healthy living style can be achieved by a proper (prepared) and diverse diet, hygiene, clean water, medical care in order to accomplish a state of nutritional well-being in which all physiological necessities are fulfilled. These inputs highlight the importance of non-food elements in the concept of food security (FAO, 2006). According to the FAO (2015), several empirical studies showed that foreign trade has contributed to a larger availability and more diversity in average food supply which is available for human consumption. Imported materials can enlarge the risk of infected food that enters the domestic markets. However, the FAO (2015) argues that foreign companies also offer crucial spillover effects by improved manufacturing and distribution processes and stricter food quality and safety inspections.

2.1.3 Stability

The last and sometimes underestimated dimension of food security is 'stability'. Even if an individual's food intake is sufficient nowadays, it can still be considered as being food insecure if there is not enough access to food at all times (FAO, 2008). Food stability is attained when a population or household has continuous access to decent food. This stability can be affected by sudden factors like natural disasters, economic crises, political instability, conflicts or cyclical events such as seasonal food unavailability or inaccessibility (FAO, 2006).

2.2 Commodity chains

Next to food security this research is centered around foreign company chains. The 'commodity chain' or 'filière approach' are two classical designations that revolve around the processes of commodities. The term commodity chain derives from the world systems theory of Wallerstein (1974) as a continuation of the dependency theory and Braudelian history (Raikes, Friis-Jensen, & Ponte, 2000). Thereafter, Hopkins and Wallerstein (1986) introduced the term commodity chain and defined it as "a network of labor and production processes whose end result is a finished commodity". The term was used for describing the diversity of global agricultural products (Raikes et al., 2000, pp. 3). The filière approach traditionally maps and quantifies physical commodity flows from the first actor to the next actor. The filière approach originates from the French colonies where it was used to enhance their export

channels. In the course of time the concept has been widened by including income generation and distribution, market power, chain governance and spillover effects (FAO, 2015) .

The French research institutions[1] introduced a method to analyze commodity chains, the Commodity Chain Analysis (CCA) concept (Tallec & Bockel, 2005). The CCA was designed as an impartial, value-free method for analyzing commodity chains in the agricultural market and assess how local production systems are affected by investments and institutions. The method includes analysis of the full order of operations, starting with raw materials, intermediate goods and ending with the final product for the end consumer (after several stages). This process includes the 'chain of production' which describes the direct contribution of manufacturing, processing and distribution of the product to the final markets by agricultural agents (Tallec & Bockel, 2005).

2.3 Sustainable Food Value Chain framework

A concept that shows similarities with the commodity chains and the filière approach is the 'food value chain'. During the past decades, the concept of value chain as a whole has proven itself as one of the major paradigms in development thinking and practice[2]. The diversity in definitions and approaches of value chains complicates the understanding of the big volume of literature on this topic[3]. Value chain development departs from the presupposition that a value chain is a system in which everything, every actor and activity is linked directly or indirectly. Mapping these chains is a fundamental aspect of the value chain analysis performance (FAO, 2014).

Value chains are changing quickly in the global South, due to population and income growth, urbanization, and the global and national increase of new food wholesaling, distribution and retailing of firms (Gomez et al., 2011). Even though the triple-bottom-line strategy to sustainability – mixing social, economic and environmental aspects - emerged as an important topic, it has not received in-depth systematic analysis in the literature for a long time (FAO, 2014). Against this background the Food and Agriculture Organization of the United Nations developed the Sustainable Food Value Chain Development (SFVCD) framework, see figure 2.1. In essence, this framework presents a system "in which the behavior and performance of farms and other agricultural-food companies are determined by a complex environment" (FAO, 2014).

The actors and support providers in the (sustainable food) value chain function in a certain enabling environment with societal and natural environmental characteristics. The societal characteristics include the informal sociocultural component (preferences and religious guidelines), formal institutional component (legislations and policies), organizational component (research and education facilities) and the infrastructural component (roads, networks and energy grids). The natural component consists of natural resources like lands, air, water and biodiversity. The enabling environment is divided into a national environment and an international environment that enables through national food-safety laws and international standards. Parallel along these economical, societal and environmental dimensions sustainability plays an important role. Sustainability is by definition a

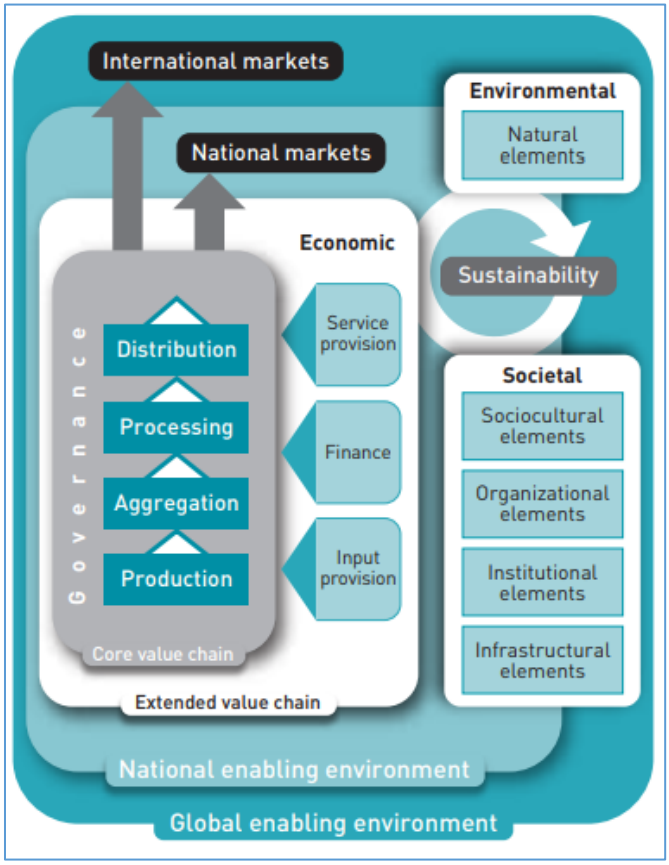
[1] Centre de coopération internationale en recherche agronomique pour le développement (CIRAD) and Institut National de la Recherche Agronomique (INRA) (Tallec & Bockel, 2005).

[2] See, for example, Donovan et al. (2013) for a comparative review, da Silva and de Souza Filho (2007) for a specific example from the FAO or Gomez et al. (2011) who present a framework for giving a better scientific foundation to assessments of the performance of food value chains

[3] There are several concepts that are related to the value chain concept; the filière commodity chain, supply chain, net-chain, subsector, inclusive business model, Porter's value chain, global commodity chain, food system and landscape system (FAO, 2014).

vibrant concept due to its cyclical and path-dependent nature. The current sustainable performances are strongly influenced by performances in earlier periods (FAO, 2014).

Figure 2.1 The Sustainable Food Value Chain framework

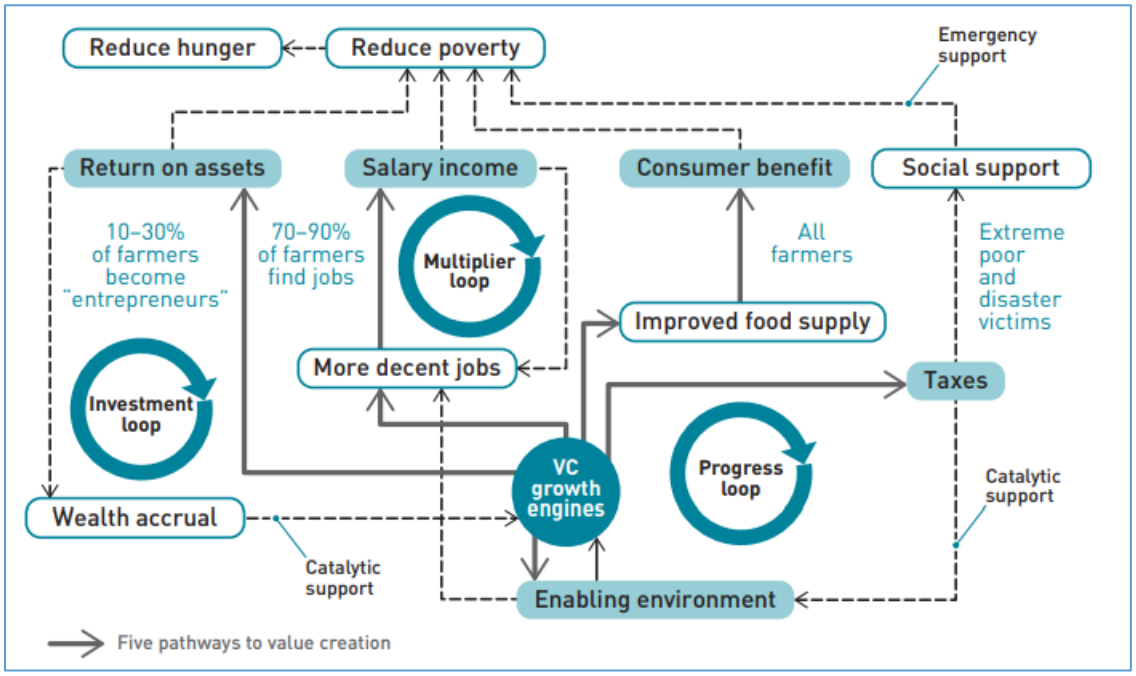


Source: FAO (2014)

The starting point, that food insecurity is a symptom of poverty, is essential for the sustainable food value chain paradigm. Sufficient financial means (i.e. income, assets) will lead to a stronger demand for food, stimulating the availability of food (FAO, 2014). Enhancement in the national or global food system due to competition can decrease food costs for the consumers or enlarge the nutritional value without a growth in price. Diminishing food costs can have a substantial impact when the food expenditures account for a significant part of the total household costs, which is the case in many global South countries. Therefore, tackling hunger in a sustainable manner not only applies for the food system but also the (underperforming) economic system (FAO, 2014).

Companies can trigger three growth loops; the investment loop, the multiplier loop and the progress loop. These loops affect economical, societal and environmental sustainability in different ways and immediately influence poverty and hunger (see figure 2.2). Although infinite growth on a finite planet is unrealistic, technological discoveries together with institutional enhancement can allow mankind to keep creating more or higher quality food with lesser resources. In any case, combining growth with fair distribution of the related added value is required for lifting the poor out of poverty (FAO, 2014).

Figure 2.2 The sustainable food value chain development paradigm



Source: FAO (2014)

2.4 Value creation pathways

According to the sustainable food value chain framework, there are different ways in which foreign companies can contribute to food security. Primarily, it can be done by improving the (local) food supply. This increases the 'availability' aspect of food security. Secondarily, more decent jobs and salary income are crucial effects of the contribution of foreign companies to enhance food 'access'.

This sets in motion a 'multiplier loop' wherein companies and workers will spend their increased incomes on products and services. Foreign businesses create new jobs and provide wage labor. Instead of a precarious farm life that depends on external factors, people get with the establishing of foreign companies the opportunity to generate a stable income. According to Barrett, Reardon and Webb (2001) this diversification of jobs is the norm. For instance, very few households gather all their income from a single source, keep all their capital in one asset, or deploy their assets in just one operation. This is complemented by Chang and Mishra (2008), who argue that income diversification via off-farm work is a risk management strategy that is linked with higher incomes and food consumption. Subsequently, the research of Joosten et al. (2015) conclude that there is a clear correlation between growing levels of income and the demand for and intake of vegetables. Promoting off-farm economic activities in rural environments of developing countries is viewed as a key move towards a structural shift in the economies from subsistence farming towards commercial agriculture, and ever more to a nonagricultural based economy. Specifically, the progression of a well-functioning rural employment market is more and more considered as essential for economic development and for providing livelihood prospects for many people (Fox, Haines, Munoz, & Thomas, 2013). Household survey research of the Ethiopia Strategy Support Program (ESSP) demonstrates that off-farm income and salaries have become more important for the poorest, females and youth families (Bachewe, Berhane, Minten, & Tafesse, 2016). In the early stages of this economic metamorphosis labor markets were crucial for reducing poverty as well

as for providing jobs for the (rural) youth who, due to a quickly increasing population and 'youth bulb', have become a rising concern in Africa (Bachewe et al., 2016).

Next to the multiplier loop, the 'investment loop' also contributes to food security through the wealth accrual that is generated for the smallholder farmers that act as supplier for foreign companies. This investment loop is powered by reinvested savings and profits. The FAO (2014) recognizes that commercial farming is a kind of entrepreneurship. It shows that just a small share of the small-scale farmers (circa 10% to 30%) is able to be a successful entrepreneur in the competitive food sector.

The last value chain effect is the social support contribution, driven by the 'progress loop' of public expenditures in the social and natural environment. When value chains evolve, value chains become bigger, more remunerative and more formal. This process enhances the tax base and thereby upgrades the enabling environment. As tax gains are predominantly derived from added value within value chains, trade and development also contribute considerably to funding safety nets for extremely poor people and disaster victims. What is not outlined within the framework of the FAO, but nevertheless is relevant, is that foreign companies themselves can also act as providers of social support. There are companies known who provide medical care (Joosten et al., 2015) or who provide maternity leave and sickness pay (Keane, 2013). Besides these positive examples, does the sustainability of food value chains largely depends on introduction of institutional mechanisms that ensures a fairer allocation of the net income (added value). Systems to attain a fair distribution of the benefits of value chains include policies on, for example, wage labor or environmental standards (FAO, 2014). Van Westen and Zoomers (2016) emphasize the influence of the public sector on this topic. They argue that companies perform better in regard to environmental standards and employment conditions when this is encouraged by the public sector.

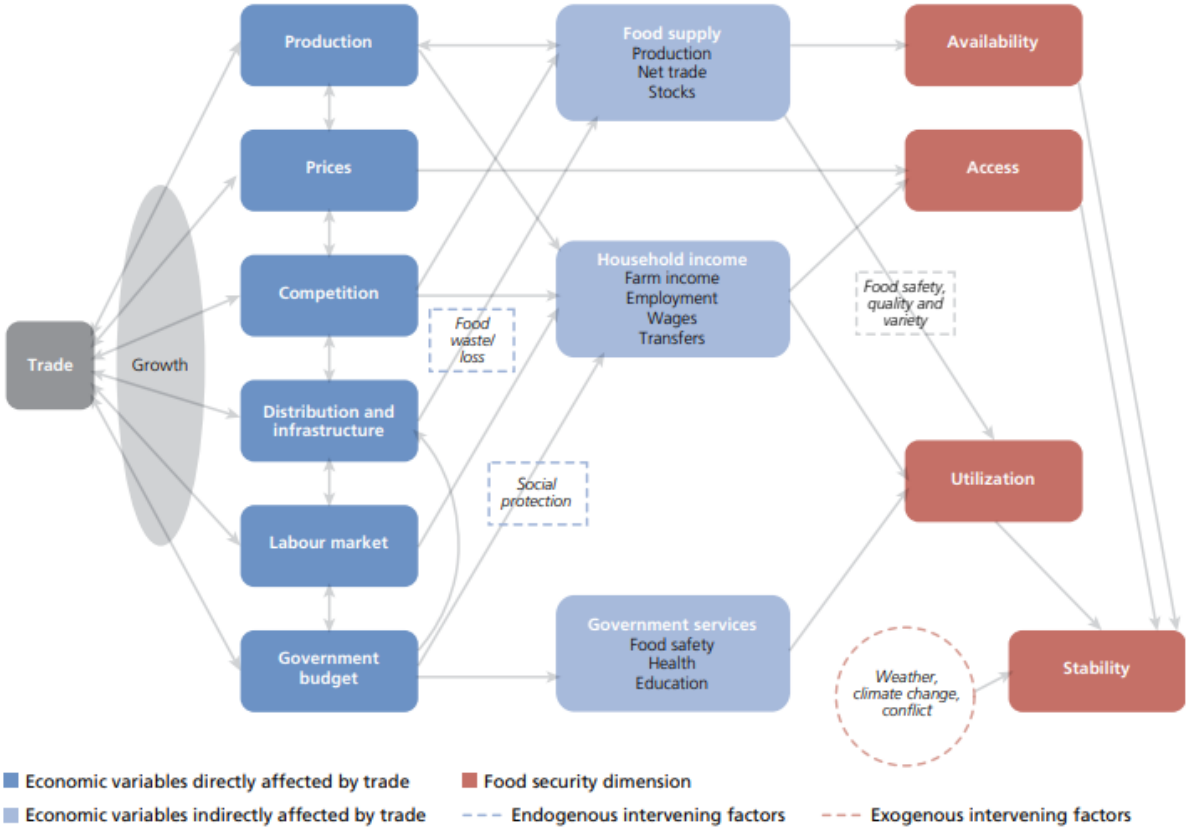
The FAO (2014) concludes that food value chains may not resolve all food insecurity problems and cannot take care of sufficient income for everyone. Hence, they are not able to completely avoid detrimental environmental impacts. Public programs, policies and national development strategies are also necessary to address these constraints. But, as explained above, these policies and approaches are mostly financed by tax gains derived through (formal) value chains. Thus, food chain development also aims to include food security and poverty reduction.

2.5 Trade and food security

The International Food Policy Research Institute (IFPRI) established a concept which represents the channels through which trade can affect food security (see figure 2.3). The connection between food security and trade is a subject that has often led to an intense and polarized debate on international level. Some consider trade as a threat while others perceive trade as a golden opportunity. The 'trade as opportunity' approach has its origin in neoclassical economics. It relies on the thinking of gains from trade foreseen by trade theory, based on the comparative advantage concept. This rationale argues that food security can be achieved by market forces that cause a more efficient distribution of resources. This increases an efficient food production and generates economic growth with improved incomes and more employment. As a consequence, both food availability and food access increases (FAO, 2015). The 'trade as threat' approach has its origin in the social scientific field and agro-ecological academia. The rationale is founded on the premise that agriculture is, next to an economic industry, also a supplier of public goods that the 'market' in itself will fail to deliver. This perspective is a different view on food security that is based on the multifunctional character of agriculture in contemporary society and leads

to a consideration of costs of trade liberalization. The consequence of this is a firm focus on more 'local' agriculture, small-scale farmers and biodiverse farming mechanisms. The proponents of this approach argue for a radical decrease in dependency on, but not the eradication of, global trade and consequently for a more powerful role of the state in developing food policies (FAO, 2015).

Figure 2.3 Trade and four pillars of food security: channels of interaction



Source: FAO (2015)

2.6 Employment effects

In order to assess the effects of Dutch companies for laborers and suppliers it is, according to Keane (2013) required to distinguish between direct effects and indirect effects. The most important and obvious direct effect on food security is an increase in wage-earning opportunities. However, this has less effect when food prices also increase, and more generally when the cost of living rises. Despite these factors, the direct benefits of expanded formal labor opportunities (e.g. sickness pay and maternity leave) are unquestionable. Besides, it is noteworthy that entry-level positions like harvesters and graders are often fulfilled by both men and women who come straight from high school or after obtaining appropriate experience. This means that the entry barriers to these positions are low (Keane, 2013).

Beyond the direct benefits of wage-earning opportunities, the work itself may also have impact on food security, through learning-by-doing and spillover effects. Knowledge obtained by working in high-value agriculture could subsequently be applied and shared elsewhere. It is also important for themselves, because most of them have a farm at home. This can boost their food security even more (Keane, 2013; Fox, 2015). These indirect effects are harder to assess and examine, but can still be substantial (Keane, 2013).

Where high-value export labor initially was concentrated on unskilled rural employment, nowadays there is a demand for skilled laborers because of the complex requirements of international purchasers and private and public standards (Joosten et al., 2015). The current export economy can be a significant (additional) employment source for developing countries. In particular, the export industries are often more labor-intensive. Nowadays, processing and packing services like washing, chopping, mixing, bagging and branding, are for instance increasingly carried out in source countries instead of the developed end-market countries (Fernandez-Stark, Bamber, & Gereffi, 2011).

Literature study of horticultural and other commodity chains (Chan, 2013) disclosed that informal labor conditions are the standard in the export sector. Different types of informal employees proved vulnerable to market conditions changes. In formal companies the biggest concern for employees is the inequality between circumstances and terms of formal employees compared to informal employees and the poor legal protection (Joosten et al., 2015).

2.7 Cluster, enclaves and translocality

Much has been written about clusters (Porter, 2000), industrial zones or districts (Van Dijk & Sverrisson, 2010) and enclave economies (Melese & Helmsing, 2010). According to Ellison and Glaeser (1997) a cluster is a non-random geographical agglomeration of businesses with similar complementary capabilities. In other words, it is a system of interconnected firms and institutions of which the whole is more than the sum of the separate parts (Lang, 2014). Porter (2000) defines a cluster as a geographic concentration of competitive and collaborating businesses, linked suppliers, service providers and associated institutions with specialized skills and knowledge. Steiner (1998) adds that chains in clusters are connected but not necessarily through what we generally understand by economic transactions. Also, the fact that companies are concentrated geographically does not automatically mean that enterprises cooperate in any concrete sense of the word neither that this is the main source of economic dynamism (Van Dijk & Sverrisson, 2010).

In practical terms, companies help each other by making big orders (Sverrisson, 1990), creating components for others (Knorringa, 1994), collaborating in marketing (Visser, 2000) and sharing machineries and technical information (Meyer-Stamer, 2000). However, after thorough research, van Dijk and Sverrisson (2010) found that there does not exists a single type of cluster and looking for the 'paradigmatic cluster' probably works counterproductive. According to Sverrisson and Van Dijk (2000), clusters in the Global South do shape, in particular, what elsewhere is called 'local economies'. However, a cluster can also be embedded in an international production chain and is usually traversed by input and output linkages of which the scope can be local, regional, national or global (Van Dijk & Sverrrisson, 2010). Therefore, while investigating clusters it is important not to lose sight of the versatile connections between clusters and economic activities in other places (Van Dijk & Sverrisson, 2010).

This dovetails well with the 'translocal' development concept. This theory links abstract processes in the globalized world with the developments of different local contexts (Zoomers, Van Westen, & Terlouw, 2011). Simply put, what occurs in community or sector A will largely depend on what is occurring in communities or sectors B and C (Zoomers et al., 2011; Zoomers & Van Westen 2011). Translocal relations and 'development chains' are able to produce knock-on effects for the development of other localities (Zoomers et al., 2011). The translocal development concept has been commonly used in research on migration or translocal ethnographies (Zoomers & Van Westen 2011; Benz 2014). However, it can also be useful to apply this concept to FDI and to the effect on food security of the specific investment location and other localities like the source locations.

Melese and Helmsing (2010) use the concept of 'enclave'. An enclave economy is described as an economic system wherein a specific sector is dominated by non-local capital (FDI). It is very dependent on specific import materials (UNCTAD, 2005). In contrast to the cluster concept, the enclave theory focuses more on the less developed world. The concept of enclaves was widely employed, as part of the dependency theory, to characterize the postcolonial dependency relations in the Global South, especially in South America (Singer, 1950). Generally, enclave formation refers to 'the increasing exclusion and loss of local control over the export base of a region or country' (Melese & Helmsing, 2010). It is an extractive development by foreign companies which has low reinvestments rates; its economy advantages are generally exclusive to the foreigners, with little space for linkages and learning spillovers for the local companies (Helmsing, 2005).

Melese & Helmsing (2010) argue that the view has emerged that the developmental significance of FDI is determined by the type of behavior of FDI but also by the capabilities of local companies in the relevant countries. Particularly, in low-income countries a paradox frequently appears: on the one hand there is a strong need for investment and innovation, job creation and export and on the other hand FDI seems to become an enclave in a specific industry in the absence of local capabilities. The companies generate direct jobs but with limited positive and sustainable effects that are spilling over onto local enterprises. Melese and Helmsing (2010) pose the question to what extent the growth of FDI in an industry also leads to a process of developing local capabilities. This process is called 'endogenisation', characterized as the increased building of local capabilities and local control of a new export base that originally has been shaped by foreign capital. Besides this, it is also essential to recognize that not only foreign companies are responsible for the endogenisation process. Governments, international development cooperation and NGO's also play a fundamental or assisting role in financing, technical assistance, capacity building and regulation improvements. In its zeal to seduce foreign investors and create jobs, the enterprises are sometimes able to influence governments to allow exploitative labor practices (Weisskof & Wolff, 1977).

The question arises: to what extent do the Dutch companies create a foreign business enclave and how much is the local society embedded and benefitting from the Dutch businesses? Van Westen and Zoomers (2016) question the same, especially when firms produce for export. They even add that the use of local natural resources may actually compete with livelihood means of local communities.

2.8 Land governance

During the past years several authors have expressed concerns about a 'neo-colonial land grab' that impedes livelihood and food security of farmers in the South (Scoones 2018; Nally 2015; Kaag & Zoomers 2014; Lavers 2013). Investments in individual and common land poses substantial risks for previous owners (Lavers, 2013). Platteau (2005) states that the loss of land might not result in displacement but can deteriorate local livelihoods, in particular for the poorest people. Foreign investments cause land owners to alter the way they collect their income. However, advocates of large-scale agriculture investments (e.g. World Bank) allege that this generates new opportunities for development. Including: tackling the food crisis (Collier, 2008), creating jobs, earning foreign exchange (Lavers, 2013), boosting small-scale farmers productivity and enhancing local livelihoods (Deininger & Byerlee, 2011). Cotula et al. (2009) define large-scale land acquisitions as deals of land areas over 1000 ha.

Ensuring food security is an important driver of investments backed by the governments. Nevertheless, a lot of the government-backed transactions are driven by investment opportunities instead

of ensuring food security. The collaboration study of the FAO, International Fund for Agricultural Development (IFAD) and International Institute for Environment and Development (IIED) argues that the motives of land acquisitions in Africa are: the worldwide growing demand for non-food agricultural commodities and the attractive outlook of increasing return in agricultural lands (Cotula et al., 2009). According to Cotula et al. (2009), the most crucial area of concern (in plans and realization of large agricultural investments) in land acquisitions is the degree and depth of involvement with directly affected locals. In various countries the government makes plots available for foreign investments, instead of foreign investors closing land deals directly with the local communities (Van Westen & Zoomers, 2016). Cotula et al. (2009) argue that although it is not the main task of foreign investors to solve local governance issues, there are few signs that companies make specific efforts to include important social groups like pastoralist or women. The case study of Rahmato (2011) has also showed that large-scale land acquisitions, in the woreda Bako Tibee and Gambella region, induced land displacement and deterioration of access to crucial common land-based resources for local communities. Against this background of questionable investments Van Westen and Zoomers (2016) are calling for more inclusive business models that facilitate agricultural investments without endangering existing land rights. Contract farming is one example of a more inclusive business model. Eaton and Shepherd (2001) define contract farming as an agreement between processing companies and farmers (outgrowers) for creation of agricultural products under certain agreements (Holtland, 2017).

3. Regional context

In the theoretical framework it is mentioned that food security and foreign investments are very context specific, on national, regional and local level. Dorosh and Rashid (2013) conclude that Ethiopia's reality of food security and agriculture situation is complicated due to discrepancies across space inside Ethiopia as well as variations over time because of fluctuations in policies, climate conditions, and other factors. Therefore, it is important for the present study to provide a clear picture of the studied research area and the Dutch businesses through describing geographical and demographic facets, human development, political and economic factors.

3.1 Geographical and demographic context

The Federal Democratic Republic of Ethiopia is located in East Africa and neighboring Somalia, Sudan, Eritrea, Djibouti, Kenya and South Sudan. The nation has been landlocked since 1993 when Eritrea became independent. In the center of the country lies the capital Addis Ababa, which is the base of the African Union and the United Nations Economic Commission for Africa. The history of Ethiopia dates back to a biblical account (10th century BC) of the visit by the queen of Sheba to King Solomon of Israel.

In 2017 the total population of Ethiopia was 105.5 million people, what makes it the biggest East African country and second biggest country of the African continent. The number of inhabitants has increased rapidly over the last decades. It was merely 48.1 million in 1990 (UNDP, 2018). The biggest East African nation is administratively divided into four structures; regions, zones, woredas and kebeles. The official language in Ethiopia is Amharic, but Oromiffa is the most spoken language. Somali and Tigrinya are also widely spoken (Central Statistical Agency, 2010). Ethiopia is in geographical terms often described as 'Three Ethiopia's'. This refers to the dry, semi-arid lowlands that rule the eastern third of the territory; the wet, particularly highland fields in the western third of the nation, and the dry highlands in the northern and central part of the country. The majority of the inhabitants lives in the latter two regions. Although in general most of them live along big road networks, the largest part of the population still lives in remote areas. According to Schmidt and Kedir (2009), 45% of the people resides more than five hours from a city of 50.000 inhabitants.

The diversity in geography and climate zones entails consequences for Ethiopia's food economy. The rough terrain in the highlands makes communication and transport challenging. Precipitation varies considerably between valleys and mountains. This results in a variety of cropping patterns and in the absence of dominant crop in the food consumption of Ethiopia, like rice in Asia or maize in Latin America. On a wide scale five cereals are cultivated: the indigenous Ethiopian and Eritrean crop teff, maize, wheat, barley and sorghum. The major export crop of Ethiopia is coffee, which grows in the rainy southern highlands. Livestock, primarily sheep's and cattle, are the main sources of meat and livelihood of the (agro)pastoralist community (Dorosh & Rashid, 2013).

3.2 Human development

Ethiopia is often considered as a nation of pervasive poverty, severe droughts and economic stagnation. In fact, the country experienced serious famines between 1970 and 1990 that caused exhaustion of household assets and a high mortality rate (De Waal, 1991). Even in normal years Ethiopia has a high level of food insecurity according to the Global Hunger Index. Of the Ethiopian population 44% is estimated to be undernourished, 35% of children under five years old are underweight and 11% of the

children pass away before they reach the age of five (Von Grebmer et al., 2010). Dorosh and Rashid (2013) indicate that more recent data, that is nationally available, suggest that food produce and thus availability increased due to growth in cultivated areas and yields between 2005 and 2009. Beyond the food sector, tremendous investments in infrastructure (roads and communication technology) have improved the access to services, city centers, markets and information for tens of millions of rural Ethiopians.

Despite positive trends in reducing hunger, the IFPRI initiative Compact2025 (2016) indicates that food insecurity and malnutrition remain significant problems. Based on data of the OECD, Ethiopia belongs to the lowest category of the Human Development Index, with place 173 out of 189 countries (UNDP, 2018). Of the children under five years old (5.8 million) suffer 38% from chronic malnutrition and 24% of the below five year old children are underweight (USAID, 2018). Measured in 2011, only 19% of the women of reproductive age had anemia, which is far below the African prevalence of 38%. However, according to Stevens et al. (2015), vitamin A shortage is very high; 50% of children had a shortage in 2013. Obesity and overweight are therefore not prominent in Ethiopia (Compact2025, 2016).

3.3 Political context

Before the 19th century the population of Ethiopia, as we know it today, consisted of a collection of different small subnational groups. During the 19th century, a chain of emperors (Tewodros II, Yohannes IV and Menelik II) progressively connected different groups. Despite the interest of several European powers during the 'Scramble of Africa', Ethiopia avoided colonization as one of the few African countries (Pakenham, 2015). Only during World War II the country was occupied by the Italian army, but the nation remained independent under the long reign of Haile Selassie. This emperor began modernizing the country, but rural Ethiopia remained poor and isolated. Under Marxist Derg's regime (committee of armed forces) Ethiopia embraced socialist economic strategies. This resulted in nationalizing private companies, controlling markets and prices and investments in agriculture centered around large state farms (Dorosh & Rashid, 2013). Since the downfall of the Derg regime in 1991 Meles Zenawi and the Ethiopian People's Revolutionary Democratic Front (EPRDF) dominated Ethiopian politics (Hackenesch, 2015).

Since 2014 the Ethiopian people witnessed widespread protest, mainly of the Oromo folk. These protests were triggered by the Masterplan of the federal government: the Addis Ababa Integrated Regional Development Plan (Ararssa, 2015; Tura, 2018). It was feared that this plan would cause the removal of many Oromo smallholders without a fair compensation and new location (Carboni, 2017; Ararssa 2015). While this plan has been the immediate trigger of the Oromo protests, the real reason originates from the constant marginalization and suppression by the Ethiopian government (Allo, 2016). According to Human Rights Watch, the protests started peacefully but the Ethiopian government was accused for more than 1000 killings, gross violations of human rights, arbitrary detentions and tortures (Carboni, 2017; Horne, 2016). On the 9th of October 2016 the government of Ethiopia also announced a state of emergency for six months (Human Rights Watch, 2016).

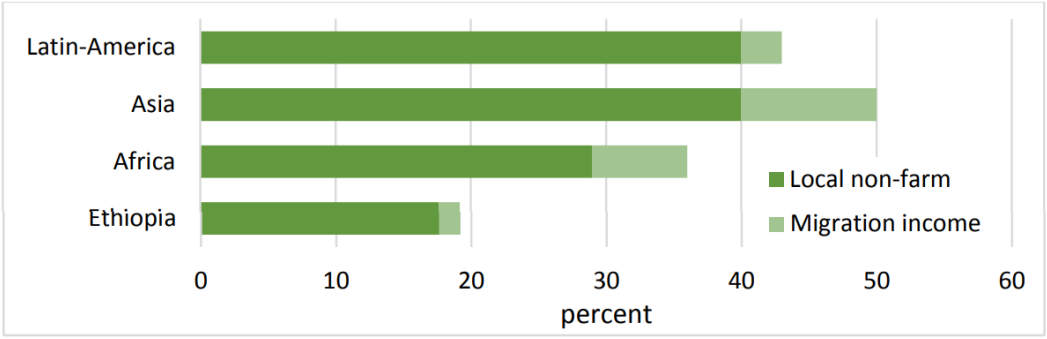
3.4 Economic context

The main sector of the Ethiopian economy is agriculture. It employs circa 68% of the population (UNDP, 2018) and consists of small-scale, mixed crop and livestock production with often a very low productivity. This can be ascribed to outdated farming methods, ground degradation triggered by

overgrazing and logging, recurring periods of droughts or heavy rainfall, but also defective supplementary services like financial infrastructure (Deressa, Hassan, & Ringler, 2015). The aforementioned undernutrition can lead to serious social and economic costs. The study Cost of Hunger in Ethiopia indicated that the total loss related to child undernutrition is projected at 55.5 billion Ethiopian birr, which is equal to 16.5% of the 2009 GDP (ECA & WFP, 2013). Additionally, from 2004 to 2009 undernutrition was linked to 24% of the total of child mortalities. The highest costs due to undernutrition associated mortalities are loss of working hours (Compact2025, 2016).

Over the period of 2011 until 2017, the skilled labor force, as share of the total labor force in Ethiopia, was just 7.8% (UNDP, 2018). Of the total population 68% works in agriculture and 22% in services (UNDP, 2018). Reardon et al. (2007) found that off-farm income made up 36% of total income in Africa, 50% in Asia, and 43% in Latin America (figure 3.1). For Ethiopia they found that the off-farm sector accounts for 18% of total rural household income. Currently this share is significantly smaller compared to the African average. As shown in Figure 3.1 the share of this off-farm sector is expected to increase with anticipated growth in Ethiopia's economy.

Figure 3.1 Off-farm income as share of total income in rural areas



Source: Bachewe et al. (2016)

The total economic growth of Ethiopia is highly dependent on the achievements of the agricultural sector, which in 2017 accounted for 34.1% of the national GDP (World Bank Group, 2018). For over more than 10 years the economy of Ethiopia has experienced a significant increase. The annual GDP growth has always been between the 7.6% and 12.6% in the last decade (World Bank Group, 2018). Notwithstanding this economic growth, compared to all other countries in the world the GDP per capita of Ethiopia is very low, positioned at 166 out of 182 nations (World Bank Group, 2018).

3.4.1 Agricultural development-led industrialization

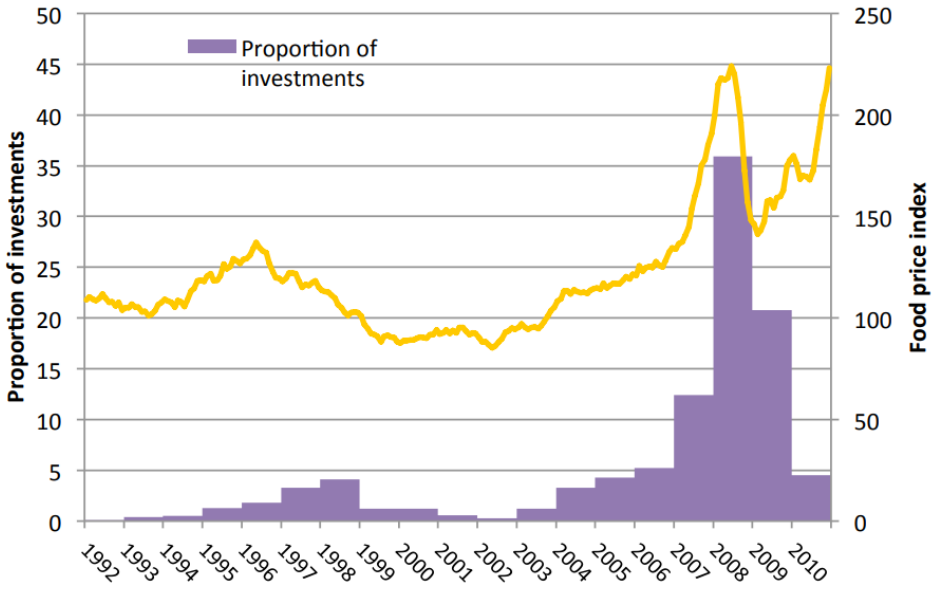
The overarching Ethiopian policy response to the agricultural productivity challenge and food security dates back to the 1990s. When the EPRDF seized power in the early 1990s, it was determined to build a developmental state. During 1992, the Economic Policy for the Transitional Period was proclaimed as the key policy thrust for national progression. This encompassed a move towards market orientation, liberalization and reforms in investment and public enterprise laws, and elimination of restrictions on business operations. In the same period, the new government maintained some older properties of the former regime like the state ownership of land and a development strategy targeted on agriculture (JICA & GRIPS, 2011).

Because Ethiopia has been recognized as an agrarian society wherein the vast majority of the population earns a living from agriculture, 89% in 1995 (UNDP, 2018), the government introduced the

Agricultural Development Led Industrialization (ADLI) strategy (JICA & GRIPS, 2011). It claims that, as a capital-poor but labor-rich nation, non-mechanized labor-intensive agriculture is necessary in combination with technologies like fertilizers, irrigation, upgraded seeds and rural roads, which enhance yields but do not substitute labor. The improved productivity will result in nationwide food security and foster industry through forward links like a grown supply of industrial products and wage food (Lavers, 2013). The ADLI policy is centered around the bulk of people active in settled agriculture. And the minister of agriculture Dr. Abera Deressa puts it this way: *"We are not really appreciating pastoralists remaining as they are. We have to improve their livelihood by creating job opportunities. Pastoralism, as it is, is not sustainable. We want to change the environment*" (Butler, 2010). The next concrete ADLI policy was the Sustainable Development and Poverty Reduction Program (SDPRP) of 2002 until 2005. SDPRP supported agricultural development and poverty alleviation in rural spheres by several measures. During the preparation for the next development plan, A Plan for Accelerated and Sustained Development to End Poverty (PASDEP) of 2005 until 2010, plenty of recognition came for the issues linked with a development policy exclusively focused on small-scale agriculture in rural areas. This PASDEP policy made relevant corrections to SDPRP from 2002 until 2005 by widening the strategy scope from small-scale agriculture to other sectors, particularly the industrial and urban sector. It placed great emphasis on growth acceleration, which had to be achieved though agriculture commercialization and private sector development (JICA & GRIPS, 2011).

Through this liberalization of the government and the presence of fertile lands, Ethiopia attracted foreign investors and became one of the most popular investment destinations in Sub-Sahara Africa (Schoneveld, 2011). During the peak of energy and food price crises between 2007 and 2009, over 1.6 million hectares of land were made available for commercial large-scale agriculture investments. This corresponds with nearly two-thirds of the land that is commercially repurposed over the previous two decennia. This investment trend is explicable by the high global food prices as prime driver of land acquisitions, as substantiated by a significant correlation among the FAO Food Price Index and investment magnitude (see figure 3.2).

Figure 3.2 Food price index vs investment proportion in Ethiopia 1992-2010



Source: Schoneveld & Shete (2014)

Undoubtedly, the adjustments in focus of the agricultural strategies since 2005 also contributed substantially to increasing interest by investors (Schoneveld & Shete, 2014). In 2010, the government of Ethiopia put large-scale commercial agriculture as one of its core crucial targets with the five year Growth and Transformation Plan (GTP). This industrialization development is based on the principle that the commercial direction will contribute both to macro-economic development as well as rural progress. From a macro-economic point of view, the Ethiopian administration longs to enlarge foreign exchange revenue, bolster food and energy security, create fiscal earnings and supply inputs for import substituting sectors. From a local point of view, big commercial agricultural enterprises are expected to contribute to poverty reduction by means of technology transfer, increased salaries, market distribution channels for smallholders, social and physical infrastructure investments and off-farm labor (Schoneveld & Shete, 2014).

3.5 Research area

There is no secondary data set available about the Dutch companies and background information in Ethiopia. Personal correspondence with Gertjan Becx, expert on Dutch-Ethiopian relations, did not provide official data. Becx was not allowed to share information about Dutch companies in respect to the privacy of the Dutch investors. However, wat he could guarantee was that of all Dutch companies around 80% are concentrated in the Oromia region, and mainly in Debre Zeit (see figure 3.3). Therefore, this research mainly collected data about Dutch companies in this region.

The regional state Oromia is the biggest state of Ethiopia in terms of area coverage and population number (Central Statistics Agency, 2007). This highland region has fertile farmland and different natural resources such as minerals, coffee, livestock and plenty of underground and surface water resources (Tura, 2018). Over 90% of the Oromo folk reside in the rural areas and earn a living with small-scale agriculture. According to the Central Statistics Agency (2007), the Oromo district generates 51.2% of the total crop production and contributes 44% of the total livestock amount of Ethiopia. In the Oromia region alone, approximately 1.319.214 hectares of lands have been allocated to investors for leasing, primarily for food and agro fuel manufacturing with a foreign end destination (Horne & Mousseau, 2011).

Figure 3.3 Map of Ethiopia, Debre Zeit

Source: Parisotto (nd)

4. Research methodology

This section presents the steps of the research methodology. This presentation starts with the main and sub research questions, the conceptual model but also includes the research design, methods of data collection, as well as a clarification of the research population and area, data analysis methods and the research limitations.

4.1 Research question

The literature made clear that foreign businesses and their product chains are affecting food security on national scale and local scale. However, it is still little understood how and where the foreign businesses are impacting the source locations and how this relates to resource competition. This thesis is a step towards filling this gap in knowledge. Furthermore, can the cluster of companies also offer a useful image into the debate whether foreign companies form an enclave or are local embedded and how this subculture behaves. This research is guided by the main research question:

> *How does the Dutch business cluster in Debre Zeit affect local resource use, food supply and access?*

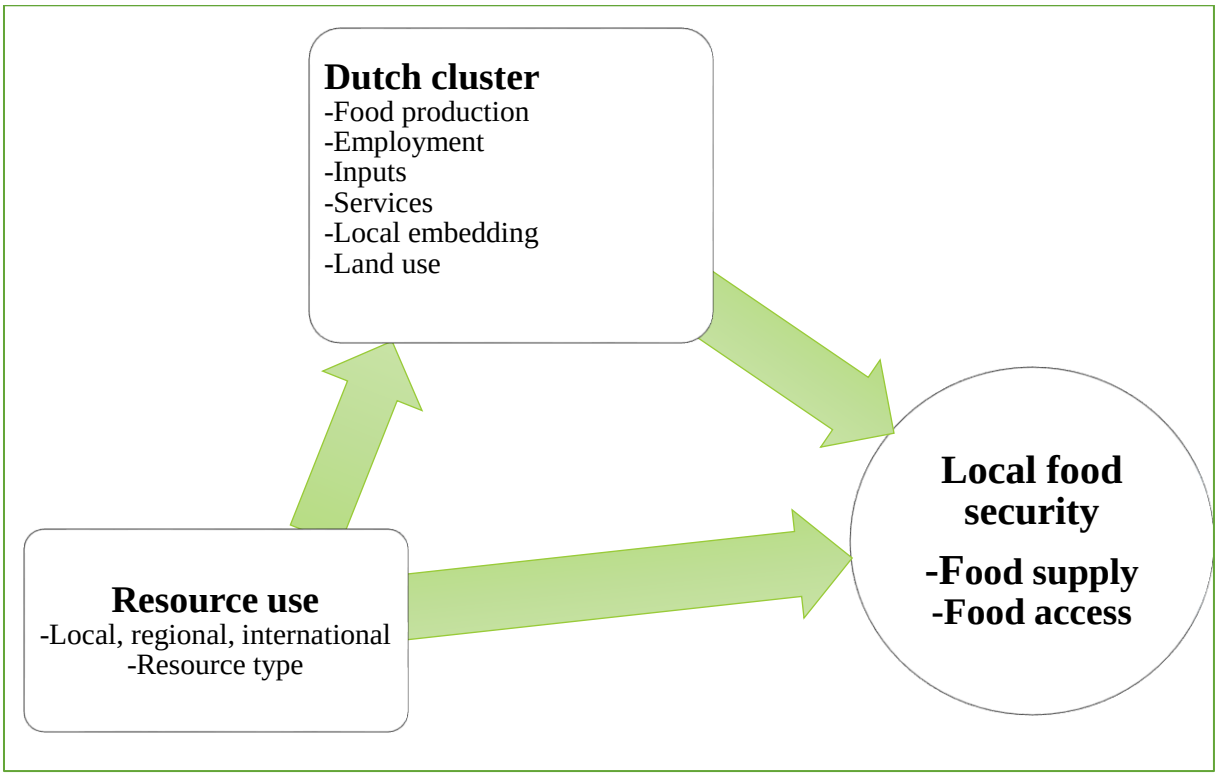
To address this main question, the research is divided in six sub-questions:

1. What are the activities and characteristics of the Dutch businesses in Debre Zeit?
2. What is the composition of the Dutch company cluster and their mutual relations?
3. In what ways are the Dutch companies locally embedded?
4. Where do the Dutch companies extract their raw materials?
5. Who are consuming the food produced by Dutch companies
6. How do the Dutch businesses affect the food availability and access?

4.2 Conceptual model

The conceptual model, see figure 4.1, reflects the relevant factors and variables of the theoretical framework, the applicable background from the regional overview as well as the research areas of the sub-questions. These main concepts are visualized and presented in the conceptual model. The model delineates the relationships and relevant determinants of Dutch companies in Debre Zeit on local food supply, access and resource use.

Figure 4.1: Conceptual model



4.3 Operationalization of concepts

The theoretical framework described several important concepts. Some concepts can be confusing or unclear and are, therefore, defined below.

Cluster

In this study the concept of cluster implies the geographical concentration of Dutch (affiliated) businesses in Debre Zeit.

Dutch companies

This research maintains a wide view of categories that are included into the population as Dutch. This includes companies that are owned by Dutch people and organizations, and are managed by Dutch people; companies that are in majority or minority owned by Dutch citizens but have an Ethiopian management; enterprises that were owned in the past by Dutch people but are currently run by Ethiopians; firms that have a Dutch or an Ethiopian management but are founded or still linked to a Dutch foundation and companies that are Ethiopian but have a Dutch management. The general rule is that the businesses need to have a certain, but not necessarily complete, connection with the Netherlands and are active in the Debre Zeit cluster.

Local

In this research local stands for within the city boundaries of Debre Zeit. If it is outside Debre Zeit but approximately within 100 km it is regional.

Local embedding

This concept illustrates to what extent the companies maintain relations with the local community. This becomes visible through, for example the use of local employees, local sourcing, local sales, local partners and transfer of knowledge with local people.

Endogenisation

The concept of endogenisation shows similarities with the local embedding concept, nevertheless, it is fundamentally different. While local embedding shows which local relations are sustained, endogenisation describes how the presence of foreign companies contributes to the building of local capabilities and local control of businesses that were originally established by foreign capital.

Commodity chain

Although the concept of value chain is more evolved and sophisticated, this research chose the concept of commodity chain as the leading analysis concept. The value chain is also mentioned because it is conceptually more developed, but this research focuses more on commodity chains, the network of resources, labor and production processes whose end result is a finished product. The value chain describes the total paradigm in which companies act but this research focuses more on resource flows using the CCA analysis (see paragraph 4.3) and not all value chain factors.

4.4 Research outline

This research operates in line with the Research of the Follow the Food program; it looks into the Dutch agribusiness investments in Africa. In Ethiopia there are a several Dutch companies that produce agricultural products for export or for the domestic Ethiopian market. The Ethiopian region, where most of the Dutch companies are active is Debre Zeit (G. Becx, personal communication, Dec 14, 2017).

Because there is little known about the effects of foreign investments on local food security in recipient countries (NWO, 2015), this research has an explorative nature and makes use of descriptive analysis. At first, the plan was to take into account all the steps of food security (availability, access, nutrition and stability), because the theoretical framework showed that it is important to take these into account. But due to limited time and the current political unrest, the choice was made to focus on the Dutch companies and their impact on the resource chains and food availability. Researching the Dutch companies and chains was achievable and generates useful insights for the academic debate considering the effect foreign (agricultural) investors have on food security.

To answer the main question, it is important to examine the Dutch companies and their resource flows but also the Dutch cluster as a unique community. Therefore, two kind of research designs were applied , which are both of a qualitative nature. To investigate the Dutch companies and their resource flows which have an impact on the food security, the case study approach is the most appropriate design. This approach examines a case in-depth as well as providing a general view in the wider context (Baarda et al., 2013). This is useful for gaining new insights in the details and context of Dutch companies in Ethiopia and thus forms the best fit for this research. All Dutch businesses were studied as separate cases. From these cases, three cases with substantial wider impact will be further elaborated and presented as case studies.

Besides this, the Dutch business cluster and the mutual relations are described, which requires a second research design: the ethnographic approach, because this is useful for gaining insight into the specific culture of the Dutch companies in Debre Zeit (Scheepers, Tobi, & Boeije, 2016). This research

explores a cultural phenomenon, a group of Dutch companies that are clustering together in the region of Debre Zeit. This group of businesses has so much in common that it can be classified as a subculture[4]. The researcher will participate and immerse in the real-life environment and culture of the companies and their managers.

These two designs make it possible to identify the food chain bottlenecks and outline the overall picture of a phenomena in its context (Baarda et al., 2013).

4.5 Data collection

The data collection process consists of three components. The first phase of the research mainly involves desk research done primarily while still in the Netherlands and partly while staying in Ethiopia. The desk research findings are given by means of a literature review in chapter two, the theoretical framework, as well as a regional thematic overview presented in chapter three. During the first phase a start was made in making an inventory of the active Dutch companies in Ethiopia. Unfortunately, there is little information available that can help answering this research question. The best method of gathering case study information is interviewing, while observing is beneficial for the ethnographic part. To obtain information considering the companies cases and their effects on food security, interviewing is the only convenient collection method. The interviewing part consists of two rounds, as will be explained below. Besides the two interviewing rounds, introductory interviews were held in Addis Ababa with G. Becx, a key figure in the Dutch-Ethiopian business and J.W. Nibbering, food security advisor at the Dutch embassy. These interviews were helpful for getting to know the Dutch businesses and gaining insights in the national and local circumstances.

First, all the managers of the food related companies have been interviewed. After this first round the impact cases were selected and interviewed in depth about the resource chains. The first round of interviews were semi-structured, which started with an introduction of the research (see appendix 1 for the interview guide). The first topics dealt with the characteristics of the enterprise like for example their products, legal structure, the market, sales and land governance including survey-like questions. This was followed by questions about their supply chain, resources, suppliers, customers, contracts, risks, local embedding, Dutch relations, governmental policies, food availability, prices and future plans. Subsequently, questions were asked on the topics of employee features and services, wages, community services, job creation, food access and ended with questions regarding food nutrition of employees.

All the interviews were individual, oral and were held in offices of the companies, although most of the interviews started with a proud company tour. In a few cases, the respondents indicated that certain statements and information should not be included and published in the study. This was most fortunately only business-sensitive information which was of little interest for the research and thus hardly affected the outcomes.

The second round of interviews were held after completion of the first round and were only focused on the decomposition of the resource material chains. In one case the same manager as in the first round was interviewed, in the other case the interview was with the purchase manager who was more specialized in the resource chain. These interviews were shorter, because it concentrated only on the resource chains, but they were more in depth and contained more details. For the third company in

[4] Subculture is the behavior, values, habits and ideas of a particular group of people within a larger society that are different from the rest of that society (Cambridge Dictionary, 2018).

our selection a second interview as not necessary because the first interview already provided enough chain information.

In order to describe the unique functioning of the Dutch company cluster, observation is a useful method. In addition to the interview data, observation data provides real-life features of the environment. The researcher had a participating role in the researched community by means of social meetings and church visits. The advantage is that with this insider view things that otherwise would be unknown could be noticed, but did not disturb the daily processes. The researcher lived within the community and took notes whenever something research related was occurring. Due to the low complexity and the descriptive character, the observation was mainly free and unstructured (Baarda et al., 2013). As a consequence of this it is hard to determine how objective and representative the observations are. Hence, the observations only provide useful additional information, next to the interviews.

4.6 Research area

After defining the research methods, it must be determined where and with which persons the research must be conducted. On request, this research investigates the food security effects in Ethiopia of Dutch companies. Therefore, it is important to know where most of the Dutch businesses in Ethiopia are located. After researching existing data, news articles and consulting key Dutch-Ethiopian business figures, the decision was made to focus on the aforementioned region of Debre Zeit. This decision was made since this is the area with the highest concentration of Dutch companies. This generates research opportunities in the way that not only the self-contained companies are investigated, but also the culture of the cluster and their mutual relations in total. The Dutch embassy in Addis Ababa approved the decision for this research area and agreed that Debre Zeit is the best research area. (J.W. Nibbering, personal communication, Feb 23). The embassy also warned to be cautious with doing research, because of the dangerous political situation with unrest and strikes that took place at that time (see chapter 3.3). Upon arrival in Ethiopia, Debre Zeit proved inaccessible, since the roads were blocked due to protests of the Oromo people. The protest lasted about 2 weeks, after which the researcher could (safely) make his way into the research area.

4.7 Sampling strategy

According to different sources (Ministerie van Landbouw, Natuur en Voedselkwaliteit, 2016; Trouw, 2018, Financieele Dagblad, 2018) and personal communication there are about 130 Dutch companies active in Ethiopia. A publicly accessible, official list of all the Dutch companies active in Ethiopia and Debre Zeit does not exist (or is inaccessible because of privacy reasons (Becx, 2018).

Discovering which companies with Dutch roots are active in Ethiopia thus required different techniques. A logical party to cooperate with would be the Dutch embassy, but the embassy did not provide this research with a list of Dutch companies. The contact person of the St Mary University in Addis Ababa supplied an incomplete, but useful document of the Ethiopian Investment Commission. This was a list of Licensed Foreign Direct Investment Projects in Agriculture, since 1995. This document shows 741 foreign companies in Ethiopia, active in the area of agriculture. Their investments, in the areas in which they were active, had to be verified and if it was the case that it was in Debre Zeit they could be included to the population list. Because this list was missing the non-agricultural companies. Hence, other channels were deployed for the respective population list. The Ethiopian Netherlands

Business Association and Ethiopia Netherland Trade for Agricultural Growth were able to supply information on the Dutch enterprises in Debre Zeit.

Through these different ways, information on the target population could be triangulated which resulted in a research population, compiled from the list of Dutch investments in Debre Zeit. During the first days in the field it was checked whether these companies were still active as the documents and information are not updated regularly.

The businesses are divided in companies that are directly affecting the food chains and the companies that are not active in food chains but have indirect effects (because they employ people in this area and are part of the community cluster). The first group of companies is the target group of this research, while the second group of companies will be considered in the study, but not researched in depth.

The companies were contacted in real life or through telephone and asked whether it would be possible to have an interview about their company, products and supply chain. After establishing first contact with the Dutch company manager of ESPBC (also safety coordinator of the Dutch embassy) a snowball technique for sampling was used to ensure that all Dutch affiliated firms were included, this was done to make the sample as complete as possible. The first respondents pointed other potential respondents out and so on. This combination of techniques contributed to an adequate image of all the enterprises in Debre Zeit. Due most of the companies were poorly accessible by e-mail or phone in the first place, reaching out was done by introducing the researcher and the research in an informal way within the social context (at the church or social related event). This was very successful, because the researcher experienced during one interview that a company owner refused other investigators that came by the office.

In total are there fourteen Dutch affiliated companies active in Debre Zeit. The interviews were conducted with ten out of these fourteen firms. Two companies (active in steel and furniture) were not eligible for this research because they are not active in the food sector and do not extract natural resources in Ethiopia. Furthermore, there is the case of the rose nursery, which is not active in the food sector, but certainly affects the supply chain by using natural resources. Unfortunately, it proved not to be possible (despite several attempts) to interview somebody from this nursery. So, there is one respondent missing in the research population. The first round of interviews is followed by the second round. To investigate the resource chains and indicate bottlenecks it is important to make a distinction considering the interviewed companies. The sampling criteria for the second round of interviews were based on the size and impact of the company. This consist of the use of resources, number of employees and mainly what kind of function the business fulfills for the market. According to these criteria, three enterprises were selected for this round, and serve as impact cases. These companies are big in size, use a certain amount of natural resources and fulfill a regional distribution function.

The first company distributes animal feed, the second (next to animal feed nutrition) also distributes dairy, poultry, flowers and vegetables products and the third company distributes vegetable seeds. These businesses do not (or in limited amount) sell to end consumers but have regional customers. These regional customers are in most cases farmers or dealers, which give the business a pivotal role in the food supply chain. The third company was hard to investigate at the time of field work because it was uncertain in what kind of shape and size the company would continue due to hard financial and operational position. This case was, nevertheless, included because it met the sample requirements.

4.8 Data analysis

In total 12 useful interviews were conducted with the owners and managers of Dutch induced businesses. All the interviews were recorded and transcribed what resulted in the collection of data. This data has undergone two analyses, first the chain analysis and after that an in-depth coding analysis.

In order to create an overview of the upstream and downstream material flows, a commodity chain analysis is constructed. This is adapted from the principles of the commodity chain analysis or "approche filière" (FAO, 2005). This is a neutral and value free technique to analyze existing production chains, predominantly applied to agricultural commodities and assessing in what way public policies, institutions and investments influences local production systems. This research does not focus on the public policies, but the effects of Dutch investments on local systems. The first step of the analysis is chain mapping. This provides an overview of the chains, the operations, the products, the actors or 'agents' and the interaction between them. The next step is demarcating the borders of the commodity chain and the labeling of the flows, steps and actors between the boundaries. Usually this process starts with the step of agricultural production of the concerned commodity, but this research started at the place of the interviewed Dutch companies. Firstly, it started with following the products downstream via different processing and marketing channels to the end customers and locations. And secondly, with following upstream the most important suppliers of materials that make production possible. Only the main retailers, end consumers and principal providers are taken into account. In the next step of the analysis the previously gathered data is presented in a commodity flow chart. According the FAO (2005) this is an easier way to display the data because it highlights in a visual way the complexity of the chain and the cooperation between actors. Lastly, the quantification of the physical flows, is partially left out because the information was not in all cases available and the places are more important than the numbers. All cases were examined but for the three impact cases the exact places and flows in the commodity chain were researched more in depth and in detail.

The total collection of data from the interviews was analyzed systematically with Nvivo software. In this program all data was coded, to facilitate the in-depth deductive and inductive analysis. This hybrid analysis reveals the expected, deductive, as well as the unexpected, inductive, key themes in the interviews. The deductive codes are themes related to literature and are expected to appear. The inductive codes are build up during the analysis and are themes that were not present in the theoretical framework but turned out to be relevant for the research (Baarda et al., 2013).

The process of coding started with open coding as start of the exploration phase, followed by target coding which looks for statements that are relevant for the research questions. The second phase of coding is the specification phase where the codes have been critically reviewed, merged, sorted and put in a logic order. The axial coding method relates the separate codes to each other into concepts and an underlying structure. The cohesion between the codes is best visible with a code tree. This conceptual framework is build up from the codes and categories and supports the third analyzing phase where these concepts will be applied to describe the research object and its questions (Baarda et al., 2013). The code tree is provided in appendix 2.

4.9 Research quality

The quality of the research results is to a great extent determined by the quality of the collected data. For that reason, it is essential that the research data is trustworthy and valid (Flick, 2014).

It is important that the way of working enables the researcher to do truthful statements that correspond with reality (Baarda, 2013). Unfortunately, it was hardly possible to use different data sources, like existing data. But it certainly was an advantage that the researcher participated in the research group and was no stranger to most of the company managers due to previous contact in an unofficial atmosphere. Due to this, the respondents were less restrained, more open to share information and is it more likely that it reflects the reality. Sometimes, remarkable statements from one interview were discussed in other interviews with the goal to triangulate this information. This was for example the case considering a quote on local consuming habits, where one respondents said that the local people did not consume certain types of food while other respondents maintained that this was certainly the case.

Accordingly to Flick (2014), trustworthiness consists out of four elements: credibility, transferability, confirmability and dependability. To ensure the credibility, triangulations were done whilst interviewing and by doing additional observations. To check the credibility of certain statements, questions were repeated in the interviews, and double checked by repeating questions statements in other interviews. Well established analyzing methods were applied: a chain analysis, coding with Nvivo and literature as basis. It also helped that the researcher participated with the culture before the first data collection took place (Shenton, 2004). Despite the fact that it is hard to transfer the research findings to other contexts, this research provided a thick description of the situation and community to show that the results can be applicable to similar phenomena, situations, populations and contexts. Confirmability is the degree of neutrality in the research (Statistics Solutions, 2018). Of course the intrusion of the researcher's biases is inevitable (Shenton, 2004), but at the same time it is small because the questions about commodity chains are not so sensitive and the analysis is also value free. The observation of the Dutch cluster and its contexts are somewhat more colored by the researcher. But the observations are unobtrusive, because the measurement does not affect the behavior (Baarda, 2013). The last element of trustworthiness is dependability; the extent to which the study could be replicated by other researchers in the same context with same methods, the same participants and that the results would be similar (Shenton, 2004). This is why this chapter describes the research process as transparent as possible. The analysis is also replicable because all the interviews have been registered with an audio recording device and the recordings can be listened to at any time.

This qualitative research is exploratory of nature and uses a small amount of interviewed companies because the business cluster is also small. But the research delivered non-existing views on food resource chains, indicated food security bottlenecks and insights into a phenomenon of a cluster of foreign companies together.

5. Characterization of Dutch investments and company cluster

The investments of Dutch origin in Ethiopia are for a large part concentrated in the city of Debre Zeit. Thirteen Dutch companies are active in this area, with different business goals and in different sectors, but they also share similarities. To show a balanced overview of what is happening in Debre Zeit this first empirical chapter will describe the characteristics of the companies. This section answers the first research sub-question: W*hat are the activities and characteristics of the Dutch businesses in Debre Zeit?*

5.1.1 Company characteristics

Around 130 Dutch companies were active in Ethiopia as of 2016 (Ministerie van Landbouw, Natuur en Voedselkwaliteit, 2016). This number might have slightly decreased since the company attacks in 2016 and riots in following periods. Thirteen (10%) of these businesses are operating in Debre Zeit. In order to maintain the animosity of the companies, the names of the companies and the owners are not mentioned. Hence, the companies are described with numbers instead of names. Table 5.1 provides an overview of the characteristics of the Dutch investments in Debre Zeit.

Table 5.1 List of Dutch companies in Debre Zeit

Company	Sector	Ownership	Years of existence	Location	Land use
1	Poultry/processing	Dutch	1 year	Denkaka/Debre Zeit	1 ha
2	Dairy farming	Dutch	10 years	Debre Zeit	3 ha
3	Animal feed	Dutch/Ethiopian	9 years	Debre Zeit	2 ha
4	Dairy processing	Dutch	10 years	Debre Zeit	2 ha
5	Meat processing	Dutch	0,5 years	Debre Zeit	1 ha
6	Poultry	Dutch	9 years	Debre Zeit	2 ha
7	Animal feed/Dairy/ Agriculture	Ethiopian	18 years	Debre Zeit	35 ha
8	Food packaging	Dutch	7 years	Denkaka/ Debre Zeit	1 ha
9	Agriculture/Seed distribution	Dutch	11 years	Hidi	175 ha
10	Dairy farming	Dutch	9 years	Debre Zeit	3 ha
11	Steel	Dutch	15 years	Debre Zeit	2 ha
12	Furniture	Dutch	-	Denkaka/Debre Zeit	3 ha
13	Horticulture	Dutch	4 years	Denkaka/Debre Zeit	20 ha

Thirteen Dutch enterprises were identified in and around Debre Zeit. Table 5.1 shows that these firms are active in different industries with their own specialties. It is striking that 85% (11/13) of the companies are active in the agriculture and food sector. They cover different phases of the food sector chain. Beginning with the production phase: four companies raise livestock and grow crops. Following up is the manufacturing step: three companies are active in seed supply and providing animal feed. The next phases of processing the food are also present with (one) dairy and (two) meat processing businesses and one food packaging company. Company 12, primarily dedicated to furniture, also started with small-scale agriculture, with the intention to serve as a model farm which can be copied by the

local Ethiopian population. But the business license for farming was not renewed because the company (12) was deemed too small and now only focuses on wooden furniture. Besides these 13 companies, there is also a Dutch family active who give agricultural advice but also have their own foundation Addis Alem in Debre Zeit. This family is committed to the underprivileged through knowledge transfer and advice and a social center with community meals and spreading the Christian faith.

At first sight, it appears strange that there are no retailing businesses present in this area. However, through the interviews it became clear that it is prohibited by the government to fulfill retail activities as a foreign company. Although some companies had the intention and plans to sell directly to end consumers, this is only possible for Ethiopian companies.

All the companies except two are under (direct) Dutch ownership. Company 3 is a joint venture between a Dutch company and an Ethiopian company. Company 7, being a foundation project, started as a Dutch company. After it proved successful, the ownership was transferred to local businessmen in Debre Zeit and it is now fully Ethiopian. The same Dutch foundation (Double Harvest) also initiated companies 4 and 6. Company 4 had an Ethiopian manager but last year he was replaced for a Dutch manager. Most enterprises have been active for several years. But there are two relatively new businesses that only started in 2017. However, the manager of company 1, who started last year, was the manager of company 12 for several years. The average of years of existence is 8,6. Why the firms are of this age remains unclear, besides the fact that the influx of companies in Debre Zeit is triggered by the start of operations of the Double Harvest foundation in the early 2000s. A possible explanation is that during the financial crisis of 2007-2008 it became more attractive to set up a business abroad. Like other companies, most of the businesses have had multiple managers throughout the years.

All companies are active in or around the city of Debre Zeit. Four companies are operating in the smaller village Denkaka, a 20 minutes' drive from Debre Zeit. One company is located 50 minutes from Debre Zeit on the mountain of Egdu in the more remote place Hidi. Ten businesses use between one and three hectares of land. This corresponds with the 2012 national average farming size of 1.4 hectare (FAO, 2012). But these sizes are rather small when compared to the sizes of Dutch foreign investments in the flower sector in nearby Ziway and Koka (Kirigia et al., 2016), since these cover on average 36 hectares.

Company 7 and 9 stand out because of their size of 35 ha and 175 ha of land. Unfortunately, there is not much data available on company 13 but the estimated size, by google earth, is 20 hectares of land. Most companies are thus not really land intensive. This is perhaps the case because most of the Dutch companies do not have the intention to maximize the land and employment opportunities. This is reinforced by the answers that are given on the expansion question. This illustrated that most companies have expansion plans, but in several cases not only in sales growth but also that the businesses expands in width, i.e. other activities, training people, increasing quality and sharing knowledge (see paragraph 5.1.2 and 5.1.5).

Another item that characterizes the enterprises is the total revenue. Some data about the total revenues is known and sometimes managers did not want to reveal this confidential business information. It is not too difficult to trace back the companies of this research so this information was omitted and not shown in this empirical chapter.

5.1.2 Mission

All interviewed companies are Private Limited Companies (PLC) and have a commercial goal. The Dutch firms all have different reasons to work and diverse visions and missions they want to fulfill. But

the answers in the interviews show mostly similarities and indicate that most companies have a primary social goal next to profit-making. These can be classified into three overarching categories. First: creating direct and indirect employment in Ethiopia to help people. Second: develop and lift up the relevant sector with transferring (Dutch) knowledge and resources and applying higher quality standards. Most of the entrepreneurs called the sector in which they were operating: "underdeveloped" and see their work as "a way to help the country Ethiopia move forward". And the third category is: increasing the food security in Ethiopia.
A Dutch dairy farmer explained:

> *"We want to help Ethiopia by doing business in a healthy way, in an underdeveloped sector, from the belief that contributing to economic development is the best form of development aid" (Company 2).*

This is different from other Dutch examples in Ethiopia (Kirigia et al., 2015) whose investment motivation was driven by the need to change the production location, availability of land, cheap labor and tax incentives. This does not mean that the firms in Debre Zeit do not enjoy these benefits. But all the interviewed companies started the businesses here and did not move to Ethiopia because of favorable conditions. They rather came for fulfilling a 'social' mission, mentioned in the three points above. However, it makes sense that companies say that they have a societal goal, instead of saying that they are only there to maximize the benefits for the shareholders. Although this can also be used as marketing or public relations (PR) tool, the interviews and observations showed that most of the entrepreneurs are really sincere and passionate about contributing to Ethiopia. To achieve this, different business models have been used. Some companies fulfill one part of the chain and some perform different parts. Three companies use the concept of contract farming where farmers are linked to the buyer on the basis of an agreement.

5.1.3 Market focus

The enterprises produce and provide various products and services. This requires raw materials or semi-finished products and a market to trade this. Table 5.2 presents the products and services every firm produces, it also shows whether they import materials for this process and if they export to foreign markets.

Table 5.2 Market focus characteristics

Company	Products and services	Import	Export
1	Chicken meat	Yes	No
2	Milk, bulls, fodder and manure	Yes	No
3	Animal feed and farmers coaching	Yes	No
4	Yoghurt, pasteurized milk and cheese	Yes	No
5	Sausages, burgers and kebab meat	Yes	No
6	Eggs and rearing chickens	Yes	No
7	Animal feed, yoghurt, milk, eggs, vegetables and flowers	Yes	No
8	Plastic yoghurt cups	Yes	No

9	Crop seeds, potato seedlings, barley and model farming	Yes	No
10	Milk	Yes	No
11	Steel profiles	Yes	No
12	Wooden furniture	Yes	No
13	Roses	-	Yes

Table 5.2 provides meaningful insights in the character of the Dutch businesses in Debre Zeit. It is remarkable that all of the interviewed companies have the need to import materials from abroad, without exceptions. Of course the import share per company varies and some businesses only need little import, but there is no company that is able to produce with only Ethiopian materials. Three manufacturing firms, are heavily dependent on import. This is logical from an economic point of view, knowing that the world has become more globalized. Moreover, all the companies have a link with the Netherlands. Most managers emigrated from the Netherlands and some businesses were established by already existing Dutch firms. Using Dutch or Western European materials is not extraordinary in this sense. However, it is worth mentioning that importing is not that logical when taking into account that it is very expensive to import goods into Ethiopia. Since, next to the import tariffs, companies need to import goods with European euros or American dollars. And these foreign currencies are rather scarce in Ethiopia. Yet the firms import goods because materials that are crucial for their production process are not available, or not of acceptable quality, within the Ethiopian borders. This need for high quality products is partly explained by the aforementioned mission, that of developing the sector and higher national quality standards. Apparently, this requires also non-Ethiopian material inputs and the Dutch companies are thus financial capable to afford this.

Even more striking is the fact that none of interviewed businesses in Debre Zeit have an export focus. Only the rose nursery exports products, as was found in secondary data. All the companies have a sales focus within the Ethiopian market and not beyond the national borders. This shows that these enterprises actually have an Ethiopian objective. Which is one the one hand developing and upgrading the respective sector in which they are active, and on the other making food more broadly available within Ethiopia. Three companies even stated that they feel responsible for the market in which they operate. However, Ethiopia is also just a good market to generate money, since the market is large enough for others to join in. Eighty percent of the food companies mentioned that there is some competition, but none faced competitiveness from the same level. There are domestic competitors with the same products but generally not with the same quality. But even if it is assumed that money is easy to earn, it is still Ethiopian birr, which is not worth much outside of Ethiopia, so this is likely to be reinvested or spent in Ethiopia.

Two companies responded that maybe in the future they will also produce for export, because there is enough demand in the surrounding countries such as Djibouti and Somalia. Their products are of such high quality that other East-African countries also desire these goods. They indicated that the Ethiopian government also wants companies to export because this generates the desired foreign currency. The Dutch embassy pointed out in the interview that this is also active government policy. When the Ethiopian government grants permits for starting a business in Ethiopia, they give great preference to exporting, foreign currency generating, companies. One meat processing company experienced this very specifically:

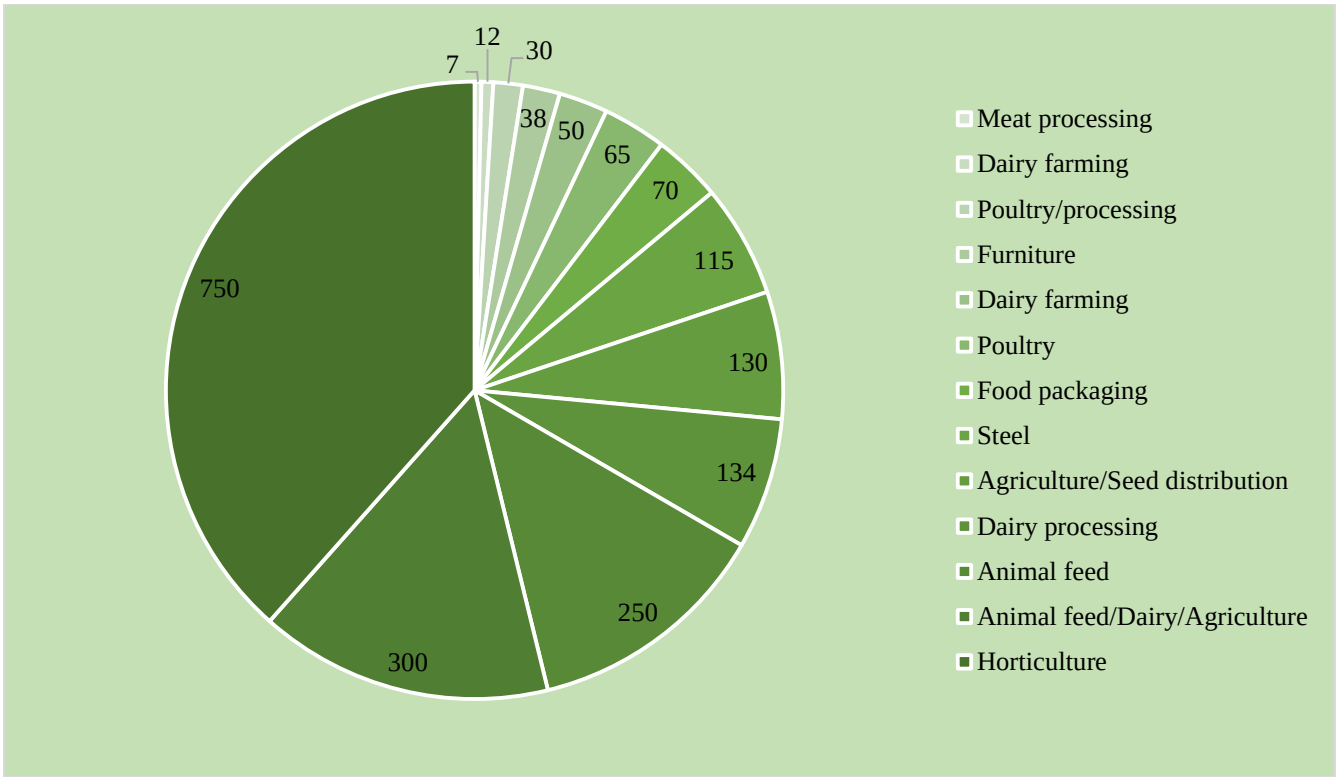
"Yes, once we did not have any electrical power here at the compound and then we told the government that we also wanted to export within 5 years and suddenly we got power" (Company 4).

Three businesses in Debre Zeit used subsidies granted by the Dutch government. The firms received financial support when they met certain conditions. These were all Private Sector Investeringenprogramma (PSI) grants. This is a subsidy program that stimulated innovative investment projects in developing countries, with the goals of stimulating financial growth, creating employment and generating income (Rijksdienst voor Ondernemend Nederland, n.d.). This corresponds reasonably with the goals that the Dutch embassy in Ethiopia mentioned in the interview: increasing wages and support households, improving agriculture chains and making ecological improvements. The subsidies are granted for making high quality animal feed available, introducing new crops, serve as demo farm and provide company visits, coaching and training in animal husbandry. One manager, however, stated that the company visits are noble, but results are low. He suggested that one-to-one holistic coaching is required in order to increase the profitability for the Ethiopian farmers.

5.1.4 Employment

To characterize the size of the companies, the number of employees is helpful. The numbers of jobs created are given in figure 5.1. The other employment characteristics and effects will be discussed in chapter 6.3.

Figure 5.1 Number of employees per company



The figure shows that there is a variety in how many people the companies employ. This ranges from 7 up to 750 people but are generally medium sized businesses. There are four small companies with 7, 12,

30 and 38 workers, six medium sized firms with 50, 65, 70, 115, 130 and 134 laborers in service and three bigger enterprises with 250, 300 and 750 employees. Company 13, which is a flower nursery, stands out with 750 people in service. This confirms the image of the floriculture as labor intensive. In total there are 1951 people employed by the Dutch firms in Debre Zeit. The companies also have an effect on indirect job creation in the chain. But these are difficult to measure and left out of this study.

5.1.5 Competition and expansion

The ten interviewed companies also gave insights into how much comparable businesses there are and what the expansion plans are, this is shown in table 5.3.

Table 5.3 Competition and expansion

Company	Sector	Comparable companies	Expansion strategy
1	Poultry/processing	No	Owning own land and have own hatchery
2	Dairy farming	Barely	Small expansion of current activities, also processing milk for better quality and training people
3	Animal feed	Yes	Currently doubling the factory capacity to meet the demand and more sales in North Ethiopia
4	Dairy processing	Yes	Doubling the sales of liters milk and establish collection points further away from the city in rural areas
5	Meat processing	Barely	Scale up production, product diversification and buying livestock from local farmers instead of big professional farms
6	Poultry	Yes	Become the East African poultry hub with own hatchery, feedlot and no import
7	Animal feed/Dairy/ Agriculture	Yes	-
8	Food packaging	No	Currently expanding factory, not only for food industry but also for providing all Ethiopian children with good educational material
9	Agriculture/Seed distribution	No	First surviving and thereafter expanding with outgrowers
10	Dairy farming	Barely	Stabilize milk production and thereafter supply cattle and establish feedlot for local farmers

There were four companies who stated that there are comparable companies and who experience serious competition with other enterprises. But three firms indicated that they barely have comparable businesses around them and stand out in the Ethiopian market. And three companies even claim that there are no companies at all who are comparable and feel little competition. Three companies claimed that they were the biggest player in the market and two enterprises said that they are almost the biggest player. Competition on the quality of products is almost out of question. But Ethiopian businesses can compete due to lower prices.

The interviews show that all companies have expansion plans, which vary per enterprise. The desire to expand is not so surprising, because growth is almost intertwined with doing business. Nevertheless, there are differences in the nature of the expansion plans. Some indicate that they just want to grow and expand current activities to obtain a better market position. While others have a bigger

ambition that corresponds with the previously mentioned social mission, mainly by developing the market and sector. There are also enterprises that have a diversification strategy by developing new products for new markets. In the expansion strategy only one company mentioned expansion outside of Ethiopia.

5.2 Dutch Cluster

All the companies that are described in the first paragraphs have their own unique characteristics, but also have one important characteristic in common: the fact that they are part of the Dutch company cluster in Debre Zeit. Because this spatial clustering of foreign businesses in one city is quite unique, this chapter will explain what this cluster looks like, how it started and how the relations between the companies are. This section answers the second research sub-question: *How can the Dutch company cluster and their mutual relations be portrayed?*

5.2.1 Clustering process

The group of Dutch enterprises that is now called a cluster all began with one investment in Debre Zeit. This was initiated by the Dutch businessmen Gert van Putten, who was inspired by the American Aart van Wingerden. The Dutchman came to Debre Zeit with a clear mission of 'double harvest'. This harvest means that next to running a successful company and helping the local population where necessary, he also wants to spread the Christian faith to the local people (Kemenade, 2012). The foundation Putten started is called Double Harvest and started in 2000 by establishing Genesis farms. This farm produced dairy, poultry and horticultural products. Over time the need for Genesis farms grew for a professional milk processer which resulted in a new Dutch milk processing factory in Debre Zeit. The foundation also initiated a new poultry farm with a Dutch manager. The foundation is still active, but also handed over several projects to the local community or (Dutch) businessmen. In the meantime, a steel plant was established by the Dutch foundation World Wide Employment. Due to a strong local demand for a professional animal feed supplier, the Dutch-Ethiopian joint venture Alema Koudijs Feed plc started.

The existence of a professional feed distributor on the supply side and a professional milk processor on the other side was the reason for another Dutchman to start the biggest fodder and dairy farm in Ethiopia. After some years the milk processing plant longed for better packaging of materials that are locally produced. The investors of this plant searched for well-willing entrepreneurs and after some time another Dutch company was established: a plastic food packaging factory. In geographical terms, company 9 and 10 do not belong to Debre Zeit, but they are located close to it and are both active members of the Dutch cluster. The manager of company 10 is the son of the manager of company 9 and so the second generation is already active in Debre Zeit.

It is striking that 100% of the businesses in Debre Zeit have a Christian background, mostly originating from conservative orthodox churches (Gereformeerde Gemeenten). Probably that is not a coincidence because people prefer a place where there are like-minded persons. And this attracts also other businesses that share the Christian belief. The family of company 3 already lived in Western Ethiopia but after their farm was destroyed in 2015 they moved to Debre Zeit, because of the already present Dutch community. Most of the entrepreneurs indicated that they went to Ethiopia to help, because of the Christian values like responsibility, mercifulness and compassion. A community of protestants arose, so also a church has been established: the International Christian Fellowship of Debre Zeit. The vast majority of this church is Dutch and most people are originating from the Dutch 'Bible

belt'. Although none of the Dutch migrated families originates from the same locality in the Netherlands, there is a clear link in this migration process. In the Netherlands there is no organization actively stimulating people to start a business in Debre Zeit. The main source of information and stimulation is word of mouth communication. The Dutch embassy pointed out in the interview that this group is also known as the 'Christian cluster'. Observations made it clear that the church is a community place where the Dutch businessmen can share their belief, but also their business issues.

5.2.2 Cluster relations

The Dutch cluster is a group of self-contained businesses, but they also have an ample web of internal relationships. Of the interviewed companies, 90% collaborates with at least one other Dutch enterprise in Debre Zeit, mostly on commercial basis. The businesses are active in the same supply chains, which in some cases also was the initial reason for establishment. Less than half (40%) of the companies stated that trade is mostly handled by employees but when issues arise, the Dutch managers call each other informally to solve the problem. During the fieldwork it was observed several times that this is not only the case for the mentioned 40%. More Dutch managers have informal contact with each other through cell phone, or even home visits. Two managers indicated that the certainty which other Dutch businesses provide is an important factor to do business together. It is easier to communicate with Dutch managers and make agreements. A Dutch company manager expressed:

> *"We like to work with foreigners, you can simply make agreements with them, also in terms of payments, and if you agree to deliver on Monday, they deliver on Monday. Then you have a little bit of certainty" (Company 5).*

But during informal conversations it also became clear that there were complaints about another Dutch company. Furthermore, some relations are really tight. One company even stated that they are so dependent on the other Dutch companies, that if one of the Dutch relations would disappear it would be almost impossible to continue. Other relations are not that crucial for business but exist because of the good personal relationship. There are also relations with the non-food firms, which share for example certain machineries and tools. Only one company does not work together with Dutch enterprises, which is the firm that is already managed by Ethiopians for several years. A statement by a Dutch manager typifies the cluster relations very well:

> *"And you may occasionally do something extra for each other, because you know each other as Dutch people"* (Company 3).

The fact that all the Dutch company managers are men is also remarkable. Family plays an important role in the cluster. Due to the spouses and their children, there is more social interaction between the Dutch companies as well. In this way business and social relations mix. On most Saturday nights a big part of the Dutch community comes together to dine with each other in a local restaurant. On the initiative of one Dutch women, an International school was established in Debre Zeit, were all Dutch children go to. During the fieldwork it turned out that most of the women are involved in local volunteering work like teaching at a school for the blind and that they are involved in food distribution for the poorest in the neighborhood. A company manager told that during the famines of the last years, the church community arranged and distributed food for the poorest. Not for people in Debre Zeit, but

in localities where the need was greater. The Dutch community is a little bit bigger than the managers and their families alone, because at the time of the field visit there were also eleven Dutch employees working for the companies.

At first sight, it appears that the Dutch people search for rapprochement and have stronger relationships with other Dutch people than with local people. But like any other community tensions arise, as do gossip and commotion. During the field work a conflict escalated between two Dutch families. On one company compound there lived two families who had several disagreements. An agency from outside was needed to investigate this Dutch drama in Debre Zeit.

5.3 Local embedding & knowledge transfer

The previous chapters lined out the characteristics per company and the Dutch cluster in which they are active. Some links with the local community were already mentioned, but the following section researches them in depth, as it answers the third research sub-question: *In what ways are the Dutch companies locally embedded?*

5.3.1 Local embedding

There are several ways in which the Dutch companies are embedded (or not) in the local community. In this research local is interchangeable for: Debre Zeit. Table 5.4 presents in which ways the companies are locally embedded.

Table 5.4 Local embedding Dutch companies Debre Zeit

Company	Sector	Local Ethiopian partner	Local employees	Local sourcing	Local sales
1	Poultry/processing	No	Yes	Average	Yes
2	Dairy farming	No	Yes	High	Yes
3	Animal feed	Yes	Yes	Average	Yes
4	Dairy processing	No	Yes	High	Yes
5	Meat processing	No	Yes	Nothing	Yes
6	Poultry	Yes	Yes	Average	Yes
7	Animal feed/Dairy/ Agriculture	No	-	Average	Yes
8	Food packaging	No	Yes	Nothing	Yes
9	Agriculture/Seed distribution	No	Yes	Average	Yes
10	Dairy farming	No	Yes	Low	Yes

Eight out of ten companies do not have an Ethiopian partner in the business. Company 3 is a joint venture where next to Dutch investors two local partners are involved. Company 6 was Dutch at first but was sold and taken over by local businessmen.

All the interviewed firms have mainly local employees. It frequently occurs that some higher positions are exerted by people from the bigger Ethiopian cities, such as Addis Ababa and Adama. But the vast majority of the employees are local people. This is a positive indication to what degree the businesses are locally embedded. This image does not correspond with the research of Kirigia et al.

(2016), which showed that most of the Dutch horticulture firms employ migrants from far away localities. The Debre Zeit cluster has a high local employee embedding, probably because the people of Debre Zeit like to work for the Dutch enterprises and also have the desired skills. The foreign investment promise of job creation for local people is in that sense fulfilled. Other employment characteristics and effects will be discussed in chapter 6.3.

The sourcing and sales channels will be discussed in depth in Chapter 6, but another local embedding indicator is whether the companies source and sell their products locally. Local sourcing can create linkages with local firms that provide spillover effects. There are two firms who do not source anything locally and one who purchases a little bit locally. Five companies acquire a considerable part of their inputs from the Debre Zeit region. Two businesses depend for the biggest part on local suppliers, but this includes the local Dutch companies as well. The lunch, mostly Ethiopian 'injera', that is provided by the companies for their employees is in all cases derived from the local market. Although these are small effects, these company meals are boosting the local food economy. The local sourcing linkages are existing, but sometimes limited, and widening this is difficult because many companies demand a certain quality of products that are not available locally.

All of the companies do sell locally. However, for the majority of the firms these sales are not the most important and crucial part of their business. Except for some unique cases, it is already clear that their products are not affordable to local people. But there are three firms that do sell a considerable part locally and increase in this way local food availability and build up local capabilities and boost the local economy.

The present but limited local sourcing, local sales and foreign dependency confirm to some extent the foreign enclave image where linkages with local firms are not impressive. But this must not be exaggerated because the linkages that do exist with local people are of high quality and goes beyond just the trade. The trade relations between local and foreign firms are an important channel for sharing knowledge and innovation. Since the Dutch cluster is highly developed, their operations could bring the local businesses more easily into contact with these more developed techniques and producing methods. Table 5.5 presents in which ways the Dutch businesses are sharing knowledge locally and if and how they provide services for the local community.

Table 5.5 Local knowledge transfer and local services of Dutch companies in Debre Zeit

Company	Local knowledge transfer	Local services
1	-Training and management of raising chickens on basis of contact farming	-Building a school and water wells -Lending money for basic needs -Supply electricity
2	-Dutch bull breeding -Teaching farmers the basics -Serve as model farm -Intensive farmer coaching to create multiplier effect -Sharing machineries	-Making animal feed available -Water borehole supply -Manure supply -Life lessons and lunch
3	-Company visits to advise and guide farmers -Veterinarian services -Training company for employees -Training of animal husbandry farmers	-Maintenance school for the blind

4	-Training and giving feeding advice to dairy farmers	-Microcredits -Education materials -Local supply of milk
5	-Plan to source local meat after educating farmers	-Microcredits
6	-Advice and management smallholders farmers	-Medical clinic -Water supply -Building school
7	-Training center for vaccinations, veterinarian services and training -Contract system with dairy farmers	-Water wells
8		-Building school and food distribution actions
9	-Serve as model farm -Outgrower/contract system -Educating and coaching in agriculture, water-saving techniques and irrigation knowledge -Technical assistance and machinery sharing	-Regional hospital clinic -Marketing of vegetables -Water supply -Supply electricity
10	-Dutch bull breeding	-Water supply -Collecting, marketing and transport of local smallholders milk -Credit system

5.3.2 Local knowledge transfer

The local linkage goes further than sourcing and selling alone. Table 5.5 shows that almost every firm (9 out of 10) deliberately transfers knowledge to the local community. Most of the times this knowledge is shared with the suppliers of the company or interested locals. There are various ways in which the expertise is shared but there are recurring themes, which are mostly agricultural related. The most common exchange is giving training and advice to local farmers. This consist of training the farmers in the basics and follow ups of animal husbandry. Topics about how to keep livestock, organize housing, how to feed, handle fertility, use water and administer vaccinations.

Two companies are so willing to share knowledge that it functions as a best practice model farm. They invite locals to visit the company compound in order to gain knowledge and copy what is useful. It is also positive that four companies indicated that they are actively pushing and helping the suppliers to produce higher quality inputs. This is realized by coaching, setting food quality standards and quality-based payments for example. The knowledge is also transferred through the employees. The manager of company 3 stated that he considers his firm as an educational training company and hopes that after some years the more experienced employees will apply this knowledge somewhere else. Incidentally, this employee outflow is not visible yet.

The transfer of knowledge made clear that the Dutch cluster is very benevolent in sharing the advantages that the Dutch companies have. The companies can benefit from the advantages that the Dutch companies have due to their network and capital. Three enterprises use an outgrower system where they teach hundreds of local smallholder farmers production methods, supply infrastructure and assure market access. The local businesses are also benefiting from the fact that the Dutch enterprises import materials, seeds and genetics that otherwise would be impossible to use.

Besides the local knowledge transfers, there is also cooperation between the Dutch enterprises and domestic partners. Two companies indicated that they cooperate and share knowledge with Ethiopian institutions, of which two are located in Addis Ababa and one locally in Debre Zeit. Two companies are also involved in the Dairy Business Information Service and Support (DairyBISS) project which aims to increase the number of profitable dairy farmers. These are examples of a wider sharing of knowledge within Ethiopia and contribute to building up domestic capabilities.

There are no specific figures on how many new Ethiopian businesses started since the entry of the Dutch enterprises in Debre Zeit. The indications are that not many new competitors or suppliers arose since the arrival of the Dutch cluster. One demonstration farm stated that he receives visitors at the farm on a weekly basis, but that he has not seen specific copies that results from those visits. The reason for this is that the Dutch farm is built with much more capital than would ever be possible for Ethiopians. Meanwhile, company 9 is very positive about the outgrower system, where hundreds of farmers pick up the Dutch cultivation knowledge and are very happy with this new knowledge. Due to the poultry activities of company 1, and this became known in the area, several small-scale farmers started operating as commercial poultry farmers.

All these knowledge transfers and best practices demonstrate that the FDI streams in Debre Zeit have positive and sustainable effects that to some extent are spilling over onto local firms. Instead of the foreign enclave character does this indicates more of an endogenisation process, where there is a progressive development of local capabilities. Besides, it ensures several companies stability by bringing the food sector to a higher level and reducing failure of farmers.

5.3.3 Local services

Besides business relations, local embedding is also visible in the provision of local services. Table 5.5 shows that all enterprises are involved in local community projects and services. There is a distinction between structural community development and ad hoc interventions. Most services are structural and the ad hoc interventions are often initiated by the church or foundations. Several Dutch people in Debre Zeit are also related to a foundation, that mostly has ties in the Netherlands.

Water supply is the most provided service to the local community and is also eagerly used by neighboring communities. Additionally, the firms build and support local primary and secondary schools and two companies supply electricity in remote places. Three companies are involved in lending money to local people and entrepreneurs. Furthermore, a medical clinic was built by two enterprises which have a great reputation in the region and ensure that the local, underprivileged, people have access to healthcare. Next to the training that is related to farming, there is also one company who offer courses in subjects that are not related to work. They organize ‘life groups’ for every local, where they offer free courses, and lunch, about how to save money or how to raise children. Most of the Dutch businesses provides these services without clear policies and guidelines. This is absolutely no sign of aversion, because most entrepreneurs have specific ideas for local embedding that are well outlined in the company missions. But the businesses are too small to design formal responsibility documents and policies.

6. Commodity chains & food availability

Now that the businesses and company cluster have been described, is it time to 'follow the food' and pay attention to how these firms acquire and use raw materials in order to make food available. This section answers the fourth research sub-question: *who are consuming the food produced by the Dutch companies?* And the fifth sub-question: *where do the companies extract their raw materials?* First, the impact cases will be shown and thereafter the commodity chains with the upstream and downstream flows will be discussed as well as the influence on land and water.

6.1 Impact cases

The first-round interviews revealed the scale and, hence, the impact of the companies. In order to review the resource use and indicate food security bottlenecks it is crucial to assess the companies that have a significant size and impact, because there are substantial differences between the Dutch enterprises. This sampling is based on resource use, the number of employees and the function the enterprise fulfills for the (local) market. These companies each have between 100 and 300 permanent employees, affect tens to hundreds of hectares of land and supply hundreds of regional farmers. These are the most resource-heavy enterprises of the Dutch cluster. Genesis Farms, Alema Koudijs Feed and Solagrow are selected as impact case and will be first described in detail and thereafter evaluated on the upstream flows.

Genesis Farms

Genesis Farms Ethiopia PLC was founded in 2003 by the Dutch foundation Double Harvest, owned by Gert van Putten. The farm is multifunctional and has several purposes. It includes a dairy farm and a processing plant, a hatchery, a chicken barn for 'mother animals', an animal feed mill, vegetable and flower fields, a supermarket and a training center. The goal of Double Harvest is to transfer the started projects to the local population. This has been achieved since the local business men Behailu Wolde took over the farm and now manages it. This enterprise is the only firm within the cluster that is not actively involved in the 'Dutch community', for the simple reason that the business is run by Ethiopian management.

The prominent farm of Genesis in Debre Zeit uses 35 hectares and employs 300 permanent people plus an unknown number of seasonal workers. The manager indicated that they also rent extra land from neighboring farmers. But due to urbanization there is shortage of land and the government takes land of farmers for building houses.

According to the manager of Genesis, the dairy, poultry and vegetable activities are the most essential. The Genesis milk processing plant can process 10.000 liters per day. According to the study of Wassink (2016) 25% of the milk is collected from circa 200 small-scale farmers in and around Debre Zeit. The hatchery delivers 4.500 chicks a week and about 12.000 eggs on a daily basis. The farm grows about 20 different kind of vegetables and harvests approximately 150.000 pounds of products weekly (Double Harvest, 2018). Genesis also functions as a demonstration farm and offers several services and training programs to farmers in dairy, horticulture and poultry. The compound has four water wells, which are freely accessible to the local population.

Alema Koudijs Feed

Alema Koudijs Feed (AKF) PLC was founded in 2009 and is a joint venture between Alema Farms PLC and De Heus Animal Nutrition BV. Alema Farms is an integrated poultry farm in Debre Zeit and De Heus is a Dutch international producer and exporter of animal nutrition. The two enterprises combine the knowledge of feed milling and animal husbandry with the local knowledge of Alema Farms. They were established with the Dutch PSI subsidy and became the first professional animal feed mill in Ethiopia. AKF provides high quality animal nutrition to increase production and health of animals, resulting in better profits for farmers. AKF offers on average four types of nutrition per animal species but focuses on poultry and dairy sectors. Besides this, the firm also offers company visits and advice, training and veterinarian services to the farmers. The goal of the business is to develop and lift up the animal nutrition sector on a knowledge level and a small-scale farmer level.

There is a little bit of competition but there are no other animal feed providers with the quality that AKF ensures and the demand is much higher than AKF can supply. The existence of a high quality animal nutrition distributor is important to increase the incomes of farmers and the food safety for human consumption. AKF guarantees this by analyzing the incoming and outgoing materials in the laboratory and sets higher quality standards than the Ethiopian state prescribes. The biggest difference with other domestic animal feed suppliers is that AKF uses a vitamin and mineral premix and has a constant composition based on 60 parameters.

AKF employs 250 people and, besides these, uses dealers throughout the country. These dealers ensure that also the small-scale farmers have access to quality animal feed. Often these farmers are not officially registered and thus AKF is not allowed by Ethiopian law to sell to these farmers, but with the dealers in between this becomes possible. However, the current situation is that small-farmers buy low quality feed at 'grey' dealers who do not pay any taxes, enabling them to offer lower prices. The manager estimates that the average cattle farmer client keeps 10 cows and the biggest farm has 300 cows. The average poultry farm has 200 chickens, the biggest 35.000.

AKF is also involved in boosting innovative business models. They already started with the third (after Etete Milk and Family Milk) milk processing company on a 'triangle project'. This is a triangle where AKF supplies the cattle feed to the milk processor, which in turn distributes the feed to the hundreds of client farmers. The threshold for the farmers to buy quality feed is lower because the costs are deducted from the milk yields. Besides this, NGOs (2SCALE and Woord en Daad) are involved who pay an introduction discount on the animal feed, provide trainings and coordinate these projects. To reward the farmers for improvements in milk quality and to compensate the costs of the feed, Etete Milk has given their farmers 11% more for their milk. On average, the milk revenues have increased by four liters per cow per day (IDFC, 2018). This alternative business model is a good example of how the companies develop the food sector and include farmers that generate more income for the families.

Solagrow PLC

The third case concerns the company Solagrow PLC. This firm was founded by Jan van de Haar and started operating in 2007. The compound is located 15 km east of Debre Zeit (Solagrow, 2016). The enterprise started its business with potato seed production and marketing, but also got involved in vegetable production, seed production, machinery and tool rental, medical health care and the breeding and selection of dairy cows. The Cowgrow sister company has in the meantime been sold to the second generation van de Haar. The business uses an inclusive approach: it gives farmers the chance to enjoy access to inputs, skills, financial services, technology, logistics and markets (Holtland, 2017).

The activities of Solagrow are hard to define because the business has undergone some serious changes due to the company attacks and destruction since September 2015. The main potato seed farm (100 ha) in Haro Wenchi was completely burned down by protestors, who continued to destroy all assets, seedlings, seeds and even the medical clinic. In 2016 a second and third farm in Koga, Bahir Dar were looted or burned down by demonstrators (Solagrow, 2016). In addition, the woreda (local government) dissolved a 15 years lease contract at Filtino that was paid in advance. All these negative developments make the business situation and their impact complicated. Before these developments the firm possessed 475 ha of land and offered employment to 450 people, at the moment the enterprise does the enterprise only possess 175 ha of land and has 130 workers.

Solagrow produces potato seedlings and barley seed. The firm also imports onion seeds and cabbage crop seeds, which they sell to local farmer groups. The innovative company has experimental and demonstration fields and outgrower contract farmers for large-scale production of seeds and consumption potatoes. The enterprise provides inputs such as improved seeds, pesticides and fertilizers and also offers periodic training and technical guidance on site. The inputs are provided to the farmers on credit base with the assurance to sell the products to Solagrow, based on their specific contract agreement. To encourage and help farmers, Solagrow guarantees farmers a premium of USD 0.04-0.11 per kg compared to the local market price (Alemu, 2015). With their own logistics channels the food finds its way to domestic markets, like supermarkets, shops, hotels, restaurants around Debre Zeit and Addis Ababa. In addition, Holtland (2017) indicates that Solagrow is willing to purchase the potatoes that not meet the quality standards at the normal market price. Through cooperation Solagrow supplies small-scale farmers with potato seedlings and barley seed. With the improved seeds and methods the annual yields per hectare of the potatoes now amount 5000 kilo (instead of 2000) and with the barley 5000 (instead of 3000).

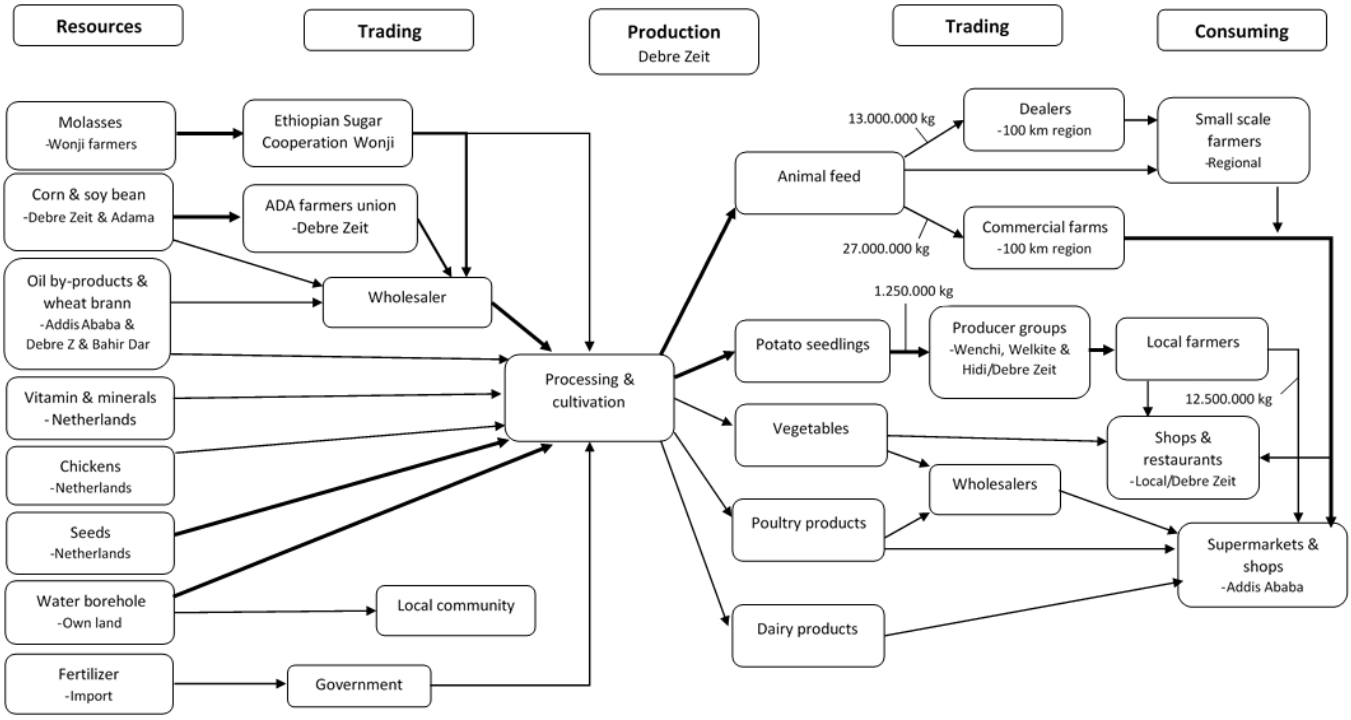
Besides this, the enterprise focusses on ensuring basic needs. The firm constructed water wells, provides healthcare and provides other community services for employees and the population of the surrounding area, which created trust among contract farmers to work with the enterprise (Alemu, 2015). The medical clinic offers basic healthcare, first aid and pregnancy care for 11.000 people around Hidi. The philosophy of the manager is that you have to live very close to the community for a long time. In order to create long-lasting effects ‘you have to be there, and you have to stay there’. According to the study of Alemu (2015), Solagrow improved the local farmers poverty status by 11% over the last 5 years. This company shows that it is possible to reduce the high transaction costs and include small-scale farmers in a profitable chain.

6.2 Commodity chain

Now that the businesses with a substantial impact have been described in the case studies, the next step is to analyze the commodity chains of these three companies. And especially, the effects on local and regional resource use. In order to review the effects of the Dutch cluster on resource use and food availability, the food must be followed. This food quest starts with the Dutch businesses in Debre Zeit and its place between downstream and upstream flows within a specific supply chain. The commodity analysis started with the identification of the core functions and processes of the companies. These are: resources, trading, production, processing, again trading and finally consuming. These steps are recurring in all the cases. The commodity chain of each company, also the non-impact companies, of the cluster, can be found in appendix 3. This chain mapping, centered on the commodities, provides an overview of the required resources, operations, products, actors and the locations. These show per

enterprise all the material streams that are required for doing business and the actors and locations where the food flows to. For this analysis are the commodity chains of the three impact cases merged into one general commodity flow. This is displayed below in figure 6.1. The companies use dozens of resources and have different outputs. Hence, in the analysis only the most important materials have been included. The thickness of the lines provides a rough indication of the level of significance. The exact numbers of the flows are mostly unknown, but the flows that are known are displayed with the annual size.

Figure 6.1 General commodity flow



6.2.1 Upstream commodity chain

Most of the resources are used by two out of the three businesses. These are molasses, soybean, corn and the vitamin mineral premix for the animal feed of AKF and Genesis farms and seeds and water both are both used for the crops cultivation of Genesis farms and Solagrow.

On the upstream side of the three enterprises it is visible that all the domestic supply is, sometimes with reluctance, fulfilled by wholesalers. All firms have a big need to import, generally from the Netherlands. The vitamins and mineral premix is the key ingredient for animal feed. This premix is not available in Ethiopia but ensures higher farmer yields and is, therefore, imported with great effort. While imports are crucial for AKF and Genesis farms but limited in volume, Solagrow imports most of its necessary materials. This is for Solagrow one product: vegetable seeds, but this is also the only raw material they need for cultivation (next to land and water). According to the managers is it difficult to import anything at all due to the lack of foreign capital available in Ethiopia. The need for import supplements production and enhances the total food availability.

Unlike Solagrow, AKF and Genesis farms depend on many more different raw materials, which are extracted from the domestic markets. While Solagrow actually creates raw materials for the domestic market. AKF purchases their raw materials by dozens of suppliers, it is unknown how much it purchases at which locations. But the total required amount of raw materials is for AKF 5.000.000 kg every month.

AKF uses several by-products like wheat bran from the flour industry, neug cake, peanut cakes, sunflower cakes and rapeseed cake from the edible oil industry. The products that are required by the oil factories are: sunflower, peanuts, neug (i.e. guizotia abyssinica) and rapeseed. Most of the oil factories are located in Addis Ababa but acquire these materials via wholesalers predominantly from farmers in the Wollega and Tigray regions. These are represented by wholesalers from Bahir Dar. AKF and Genesis farms both obtain molasses from the Wonji sugar factory.

The upstream chain of figure 6.1 is shown geographically in figure 6.2. This figure, with in the right corner the map of Ethiopia, is centered around Debre Zeit and shows with lines from which places the commodities flow to Debre Zeit.

Figure 6.2: Geographic upstream flows

Adapted from Google Earth, 2018

The commodity flow also shows that most of the domestic resources are either derived from the region (Addis Ababa, Adama or Wonji) or locally from Debre Zeit, with the exception of further away oil by-products from Bahir Dar. Figure 6.2 uncovers clearly the size and landscape change of the sugar cane activities around Wonji. It created such a big green area next to the village Wonji and the close by city Adama which is visible on the map. The products that are locally extracted from Debre Zeit are soybean and corn. The soybeans and corn that AKF uses are, through wholesales, acquired from the ADA farmers union of Debre Zeit. This farmers union consist of minimally 100 farmers. The soybeans of Genesis farms are obtained from the Indian soy factory in Debre Zeit and the corn from Adama.

The commodity flows show that the Dutch investments in Debre Zeit have effects on local and regional scale. Not only the community of Debre Zeit feels the impact of the Dutch businesses, but the effects are translocal. The globalized operations are linked with different local places. The local gets connected with the global by interaction with foreign companies. This produces development effects for the food security of different local places.

6.2.2 Bottlenecks

The investments can also cause food security bottlenecks; places where the Dutch cluster competes with local food production. This competition is diminished because the animal feed companies use a lot of industry by-products. So, they do not directly purchase from the food sector and so compete less with food consumption. These by-products are in the cases of sugar cane and corn the residuals of producing biomass. Both AKF and Genesis farms use molasses from the Ethiopian Sugar cooperation in Wonji. Molasses is the by-product of refining sugarcane. This plantation produces sugar but also ethanol as biofuel. This ethanol factory has a capacity of producing per year 12.800 meter cube and contributes 31 megawatt to the national grid (Ethiopian Sugar Cooperation, 2017). The two animal feed producers both use corn. AKF uses second rate corn, but it is unknown if this is also a product of biomass. Other by-products are coming from edible oil factories who refine neug, peanuts, sunflower and rapeseed. This oil processing produces edible oil and oil cakes, which are usable for the animal feed industry. Oil cakes for cattle feed, for instance, are a substitute for a mixture of cereals, leguminous crops and oilseeds (Wijnands, Biersteker, & Van Loo, 2009). Soy beans are also suitable for oil processing. But AKF purchases soy beans (and corn) from the ADA farmers union, which is not an industry by-product but the normal soy bean, which also can be used for human consumption.

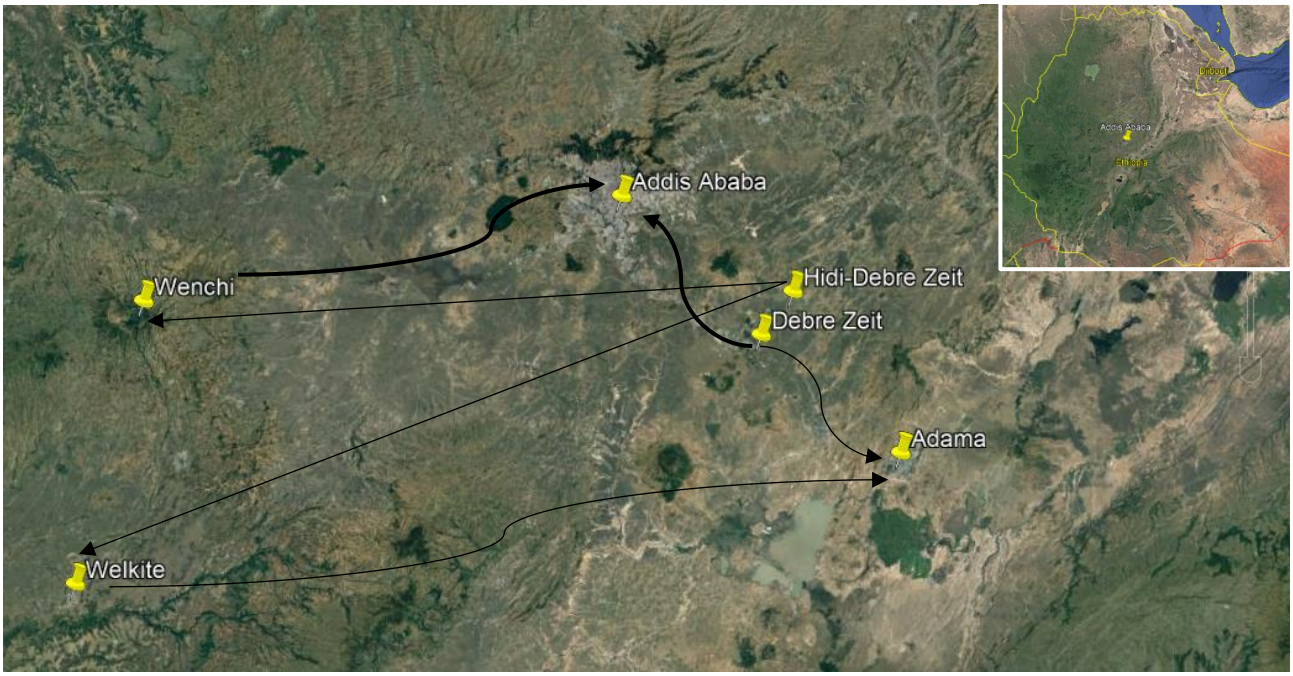
The chain analysis exposes several potential bottleneck locations. These bottlenecks are defined as places where bigger groups of farmers are producing in the Dutch commodity chains. They could form bottleneck points for local food security when they have become less food secure than before the Dutch investments. These are locations where a substantial share of raw materials is extracted from land that was probably used before for subsistence farming and is now used for commercial farming and animal feed. Here a deviation can arise when these places were producing food for the local market earlier and are now commercially producing for other locations. The potential bottleneck locations are Ethiopian Sugar Cooperation in Wonji, the ADA farmers Union in Debre Zeit and the producer groups in Wenchi, Welkite, and Hidi/Debre Zeit. At each of these locations there are at least hundreds of farmers producing in the Dutch chains. The farmers at Wenchi, Welkite and Hidi/Debre Zeit do not produce resources but produce vegetables for Solagrow. It remains unclear how the food security of these farmers and surrounded area is changed due to their involvement in the Dutch chain. This study expects that at these locations the involvement in Dutch chains can cause problems for local food security. Further research should investigate how the life and food security of these farmers has changed since the Dutch involvement. And whether the change from subsistence to commercial farming ensures less or more nutritious food for the local community, because it is possible that the Dutch cluster competes at these locations with local food production.

During this research it became clear that the Wonji sugar cooperation farmers have already been investigated. The study *Sugarcane Outgrowers in Ethiopia: ''Forced" to Remain Poor?* of Wendimu, Henningsen and Gibbon (2016) argued that the earnings which the farmers receive from the sugarcane production (which takes up most of the land and labor) are insufficient to pay for basic (food) household consumption items and would be better off with producing other high value crops on their lands.

6.2.3 Downstream commodity chain

The products that the three impact cases made available the most are: animal feed and potato seedlings. AKF annually produces 60.000.000 kg of animal feed, 40.000.000 kg for commercial farms and 20.000.00 kg for affiliated dealers. And this number is still increasing every year. About 66% is sold within a 100 km radius of Debre Zeit, between Adama and Addis Ababa and 33% is sold outside that region. It is unknown how much feed is supplied by Genesis but together with AKF hundreds of regional big and small-scale farmers are provided with animal feed, mainly poultry and dairy farms. The end destination of these farmers outputs is most likely to be in Addis Ababa. The potato seedlings are sold locally through producer groups to surrounding farmers at the farms of Debre Zeit, Welkite and Wenchi. Through cooperation's Solagrow supplies circa 2500 small-scale farmers with 100 kilo barley seed, enough to produce ¾ ha barley and 500 kilo seedlings for ¼ ha. The total amount of potatoes that are produced by the farmers is 12.500.000 kg per year. In most cases these end up in shops, supermarkets and restaurants in Addis Ababa, Adama and locally in Debre Zeit. The downstream chain is geographically shown in figure 6.2. This figure, with in the right corner the map of Ethiopia, is centered around Debre Zeit and shows with lines from which places the commodities flow to Debre Zeit.

Figure 6.3 Geographic downstream flows



Adapted from Google Earth, 2018

A striking finding in the analysis of these chains is that the products are not exported but sold regionally. In most cases the animal feed and vegetable seedlings are sold to farmers locally or regionally to animal husbandry farmers and agriculture farmers. Where the outputs of all these hundreds of farmers ends is in most cases unknown. The farmers are located locally or regionally, but it is hard to say if what they produce is also consumed locally. Probably in most cases this does not happen, because the market of Addis demands these products. The biggest clients are known, and they produce for Addis as well. Only a small portion of the end products is sold locally in shops and restaurants in Debre Zeit. That the products are not exported but are sold at the local market is a positive contribution to food security.

The data about the downstream commodity chains was already available from the first interview round so the commodity chains are, next to the impact companies, also constructed for the other companies of the Dutch cluster. The collection of commodity flow diagrams of each company can be found in appendix 3. Although these have less impact, the data will also be discussed because it complements the total Dutch cluster downstream food picture.

The commodity flows show where and to which party products are sold, which reveals different insights. The most striking finding in the analysis of the non-impact companies is the end location of the products, because the biggest part of the food produced by the Dutch in Debre Zeit is in the end of the chains predominantly consumed in Addis Ababa. This food almost always ends up in supermarkets. The supermarkets are the venue of the upper middle-class population and expatriates. And so, the food rarely ends up in the mouths of those belonging to the lower income groups. This is not remarkable considering that the expanding capital Addis Ababa is only one hour away, and demands large quantities of products for the well-off people. All dairy firms indicate that there is a huge urban demand for milk and that they cannot meet this demand. The majority of companies first trades with local parties, which sell the food to actors in Addis Ababa. A small share that is sold to traders has an unknown destination. One of the Dutch entrepreneurs formulated a short analytical answer and stated:

> *"It is almost cynical. We as Dutch people come from a rich environment and are used to good quality food. And what you see is that the Dutch entrepreneurs who went to Ethiopia are helping the richer Ethiopians to get their food" (Company 9).*

Exact numbers are often not known or disclosed but about 10% to 20% is sold locally in Debre Zeit. Mainly in supermarkets, shops, restaurants and hotels, locations for the higher-class population. But next to the core sales, most companies also sell other products locally or at a reduced price to the employees.

Although the food is not so much consumed locally but rather by the relatively food secure population, it is still positive that the production is for the domestic market. It is unique that none of the companies exports the products to surrounding or western countries. The study of Tschirley et al. (2014) emphasizes that as the middle-class grows, the share of perishable products like fruits, vegetables and meat in the food economy and their absolute level of consumption will also grow (Joosten et al., 2015). So even if the cluster does not produce for the local lower-class people at the moment, it is possible that this will happen in the long term.

In comparison to the rest of the Dutch cluster businesses, the three impact companies contribute more to local food availability by supplying inputs to local and regional farmers. Although as mentioned earlier, the end destination of these farmers outputs is most likely to be Addis Ababa.

6.3 Land and water governance

So far, the commodities have mainly been discussed, which makes sense in a commodity chain analysis. But it is inevitable that the food producing Dutch cluster also uses and affects land. Hence, this paragraph will line out how the Dutch businesses experienced the acquisition of land and deal with natural resources. Chapter 5.1 showed the number of hectares of land that are used by the Dutch businesses. It pointed out that the cluster is not land intensive and is not involved in large scale land acquisitions.

The interviews made clear that 90% of the companies used leasing as a land acquisition method. This is the only way to obtain a piece of land for foreign businesses. Depending on the case and specific

regional administration laws, it is possible to sign a lease contract for 20, 50 or 75 years. Making land available for foreign investors is the task of the (local) government. The government makes land available for foreign companies without contact between the current and new land users. The government compensates the former land owners for giving up their lands, and in principle the companies are not allowed to influence this process. The majority of firms acquired their lands via this normal indirect process. As a consequence of this the government has not respected the local land rights and farmers lost access to their land or were displaced, which undermined their food security and livelihood status. Whether and how the land rights are respected, or not, by the government is unknown. At least six companies know that the former land owners are compensated for the loss of land. It is mostly unknown to what extent this was a decent remuneration. But six companies say that they have a good relationship and live in harmony with the former land owners and surrounding community. This has led to satisfied communities and farmers, because they now have constant access to water or are able to work (in three cases) permanently for the Dutch company and have a stable income. One company indicated that the previous owner was compensated with circa €12.000 for one hectare. Three Dutch businesses indicated that they encountered (two small and one big) a land governance issue with the local community.

There have been anti-government protests and company attacks, also in Debre Zeit. Some commentators accuse the government of 'land grabbing' in order to please the foreign companies (Smith, 2015). The manager of company 9 explained, however, that the real reason behind the anger is the governments Finfinne master plan to expand the boundaries of Addis Ababa. He explained:

> *"The foreign companies were chosen as target, because that would attract much more (international) attention than local companies. Besides, it is easy to find a local farmer who will confirm that he would be happy to get his land back, that has been well drained and cultivated by the investor. But after the destruction the community was waiting for us to return, to continue the employment (Company 9)".*

Contrasting with the normal land acquisition process, the interviews found that 37% of the Dutch entrepreneurs had direct contact with the former land users before signing their contract with the government. The entrepreneurs explained that they maintain this contact and claim that the local people are very happy with this decision.

Company 9 and 10 used a variant approach by first searching suitable lands and after finding a good area, they contacted the local community and asked if they wanted a foreign investor on their lands. When they supported this plan, the company and the local people together went to the regional government and presented the plans. The government did not encourage this process but approved it in the end. Next to the leased lands the company also works with outgrower farmers. The advantage of this inclusive approach is that the lands remain in possession of the local farmers but are linked to commercial value chains. So, it seems that some local communities are satisfied with the transferal of lands and have improved their access to water and income.

Of the interviewed businesses 90% indicate that their land was previously used by local farmers. These lands were mostly used as pastureland and sometimes for agricultural purposes such as growing teff. There is little know about the alternatives the farmers now use, unless that in some cases the farmers used other lands that they possess. Although these fields were formerly used by farmers, their contribution to the national food supply should not be exaggerated, since these grounds were not

cultivated intensively. The Dutch firms are able to produce more food per hectare than the traditional farmers and also provide dozens of people with an income. The low productivity and compelling need to produce more food for the rising urban class makes it hard to assess the food security loss or win, considering the switch of land owner.

The Dutch investments have led to changes in land use compared to the traditional situation. The Dutch enterprises are using the land capacity differently and unlock the potential productivity potential. An implication of this is that some farmers became less self-sufficient, in some of the cases on the other hand it improved their food access by compensation money and job income. In addition, the fields are now used more intensively, resulting in more food. This food is most of the times not consumed locally. But this was perhaps also the case before. Furthermore, due to the activities of Solagrow, AKF and Genesis farms, the local farmers cultivate their lands now more efficiently with higher yields through their supply of improved feed and seeds.

Water

In the resource acquisition debate land acquisitions attracted more attention than water. However, water is also a resource that is used by two out of the three impact companies. Therefore, this section discusses, in addition to the earlier empirical chapters, findings concerning water.

Although AKF barely uses water, it plays an important role for Solagrow and Genesis. According to Solagrow, in the dry season a weekly 300.000 liter is required for irrigation per ha. Water is a primary condition for rendering land arable (Woodhouse, 2012) and making food available. All water using companies started their business by digging water boreholes around the company compound. To a much lesser extent they use water from rivers and lakes that are used by the local community as was the case in the study of Kirigia et al. (2016). In this way they do not impede the local access of water that much. Solagrow employed water-saving techniques and shared this irrigation knowledge with the local farmers. Where in the study of Kirigia et al. (2016) the arrival of Dutch enterprises led to dissatisfied communities and pastoralists in Eastern Africa, due to the loss of access to water, this access loss does not, or barely, occur considering the Dutch company cluster in Debre Zeit. The firms do not extract or pollute water that is used by local people or companies. Moreover, the companies created access to water that otherwise was not accessible for the locals. Besides this, they give the neighboring people and farmers the opportunity to also use this new source of water, which is eagerly used.

So, does the Dutch cluster really compete with the local people for water? It appears that this is not the case, though it is difficult to say how the use of water influences the total availability of water (groundwater level) in other resources in the region like rivers or lakes. It is unknown how the Dutch activities influenced the groundwater level.

This chapter demonstrated that various businesses models are being applied, farmers are linked to commercial value chains, increased access to water and foreign companies live, often but not always, in harmony with the community. However, this is accompanied by the loss of mainly pasture lands of small-scale farmers.

7. Employment effects & food access

Employment creation constitutes one of the most significant contributions of the Dutch investments to food access and local development and is a major reason for Ethiopia to attract foreign investments. Therefore ,this chapter will discuss the employment characteristics and effects of the Dutch businesses in Debre Zeit. This chapter answers the sixth research sub-question: *How do the Dutch businesses affect the food access*?

7.1 Employment effects

As mentioned earlier, in paragraph 5.1.4, a total of approximately 1951 people are employed by the Dutch businesses in Debre Zeit. The indirect jobs created by the cluster are not included. Other employment aspects and effects are displayed in table 7.1.

Table 7.1 Employment characteristics of Debre Zeit Dutch cluster

Company	Sector	Wage level	Skilled people %	Female labor %	Additional services
1	Poultry	100% higher than Ethiopian salaries	10%	60%	Food, transport costs, pension, medical compensation
2	Dairy	>100% higher than local salaries	±15%	-	Food, milk, courses, life-groups, medical compensation
3	Animal feed	Very good + volume bonus	20%	8%	Medical compensation, overtime payment, lunch, bonuses,
4	Dairy	Low	11%	50%	Food, medical compensation, bonuses, lunch
5	Meat	Low	-	-	Food, medical compensation, bonuses, lunch
6	Poultry	Little higher than local salaries	10%	70%	Lunch, water, chickens and eggs, medical healthcare
7	Agriculture	1200 birr for lowest jobs + bonus	-	-	Bonuses, water
8	Food packaging	40% higher than local salaries	54%	36%	Food, medical compensation
9	Agriculture	2000 birr	33%	±30%	Lunch, water, medical healthcare
10	Dairy	Little higher than Ethiopian salaries	8%	0%	Lunch, credits, bonuses, water, medical healthcare

Most companies did not want to disclose the exact salaries they pay but were able to give an indication in comparison to Ethiopian and local wages. As a consequence, the table is disorganized and it is harder to compare the wages. However, these were the answers given by the managers. The answers show that 70% of the firms claims that they pay good wages, which are above what other Ethiopian companies pay. It was found that three companies pay a little above average salaries and that four companies pay 40% to 100% more than the average wages. It is difficult to assess the wages because there is not an official minimum wage. It has a, loosely applicable, minimum wage of 420 birr per month for civil service employment. But this is not binding in the private sector. According to the WageIndicator (2018) database, the base salary of a beginner teacher in Ethiopia 861 is birr and the starting salary in grade 1 for a manager in the Ministry Of Transport And Communication is 570 birr. Based on a cost of living survey and FAO data, the WageIndicator (2018) calculated a 'living wage' for Ethiopia. This wage is the income that a person or family needs to cover the living costs. As of January 2018, the net living

wage in Ethiopian birr for a single person is between 1494-2680 birr and for a typical family 2038-3497 birr (WageIndicator, 2018). There is thus a huge difference between the minimum and starting wages and the estimated living wage. The Dutch companies pay more than the minimum and starting wages but do not provide a living wage. While the idealistic companies think that that the salaries are outstanding, and it is true that they are above local average, they do not come close in providing the living wage to cover all costs. One Dutch manager stated:

> *"At the moment we pay too little, because before me there was an Ethiopian manager, so that was possible. But I am increasing it now, because as foreigner you cannot do that" (Company 4).*

In the Debre Zeit community the flower farms are (in other parts of Ethiopia) known for their poor payment conditions. This is reinforced by what the embassy told in the interview: the flower companies around Ziway pay marginal wages. This can also be tracked back to the intention for doing business in Ethiopia: cheap labor (Busse, Nunnenkamp, & Spatareanu, 2011; Kirigia et al., 2016). While in Debre Zeit several Dutch companies have people standing at the gates, hoping for a job due to the good wages and work conditions.

The Dutch businesses in Debre Zeit mainly employ local people that have different kinds of skill levels. The majority of laborers is low- or unskilled and in most cases 10% to 20% are high skilled people. This is often divided between the vast part of low skilled people working 'on the floor' or in the fields and a smaller part of educated people working in the offices. But most of the jobs do require some skills, hence ,the companies do not employ migrants but local people. Eight companies indicated that they have only employed local people.

It is remarkable that almost all firms make use of permanent employment and have no daily employees. Only one agriculture company stated that they use extra laborers in the peak times with planting and harvesting. There are differences in how many males and females are employed. Three enterprises work mainly with women, while four firms employ more male workers. This depends on the nature of the work and is often based on traditional gender roles. Three company managers stated that they need men for the heavy work and at three firms the female male ratio is unknown. The cluster ensures that this social group of women is included in the labor force of Debre Zeit.

The working conditions at the Dutch firms are better than average in Ethiopia and are taken very seriously by the enterprises. For instance, all companies offer additional services. Ninety percent of the interviewed companies provide services related to food. Usually in the form of breakfast or lunch and in four cases by distributing self-produced food for home. Nine out of ten enterprises provide healthcare in a medical clinic at the company or compensate health costs of their employees. Besides this, companies offer financial services and encourage employees to train and learn while they are working. This indicates that the enterprises perform well on employment conditions. This is explained by the fact that most of the Dutch firms have the intention, originating from Christian values, to create fair employment opportunities. Hence, the well-being of the employees is anchored in the activities and policies of the companies, and the Dutch companies do not take a narrow approach of being a responsible employer. It is remarkable to find that it looks like the working people of Debre Zeit are better off with the Dutch cluster companies than with the regulations of the Ethiopian public sector. Instead of influencing the government to allow exploitative labor practices, the Dutch private sector sets the better standard.

7.2 Food access

The research showed that 70% of the firms stated that their employees spend the biggest part of their salary on food, followed by clothing and housing costs. Especially the poorer people, who live in the countryside, spend most of their income on food because they live more simply and do not have high housing costs.

Three managers noted that their employees do not eat enough at home. That is why they provide healthy lunches at work, which for a big part of the employees is the most important meal of the day. Three firm managers indicated that the biggest problem considering the home meals is that the meals are not balanced enough. Six companies claim that the nutrition status of their employees is good. Seven managers add that the nutrition status of their personnel has improved since they were employed at the company.

Almost all company owners observed price increases in the last year. This indication applies both to the products they produce as well as the resources the Dutch companies purchase. Although the indication is that the food prices increased, the employees earned more than the local wages, worked locally in decent conditions and improved their food access. Therefore, in terms of employment conditions and wages, local benefits are more positive than the typical postcolonial cluster image.

8. Conclusion and discussion

This research aims to gain a broader understanding of the impact of foreign investments on local food security and especially resources. The prime focus of this research is the effects the Dutch company cluster in Debre Zeit has on local and regional resource use and food security. The research was executed by considering and integrating classic food security dimensions with the commodity chain analysis and theories about business clusters and land governance. Political and practical constraints demanded a different and smaller scope; thus the study is unable to encompass the entire food security concept, but focused on food availability and access and resources chains. Interviews with the companies within the cluster have provided relevant qualitative data about commodity flows and the functioning of the cluster. This final chapter summarizes the answer to the research question how the Dutch business cluster in Debre Zeit is locally embedded and in what way it affects local resource use, food supply and access.

Dutch cluster

The effects of the Dutch cluster in Debre Zeit unfold in a variety of ways. This starts with understanding the establishment and behavior of the operating companies. Thirteen enterprises of Dutch origin are located in and around the city of Debre Zeit. The Dutch firms are predominately active in food related business. As a result of globalization, Debre Zeit is a perfect and logical location for foreign investments due to its close position to the growing capital city Addis Ababa and ideal supply connections with the Ethiopian hinterland. This non-random geographical concentration of Dutch companies is unique and different from other foreign clusters because of their business rationale. Their genuine social mission and sense of responsibility, rooted in Christian values, is remarkable. Therefore, it is also known as the Christian cluster. The shared culture and informal contact provides a foundation of trust for doing business with people from the same country. This results in many mutual informal and formal relationships where the Dutch companies act as supplier or client in the same chains. Due to the idealistic motives of this cluster, it cannot be considered as a normal economic cluster but as a unique example.

Resource use

The question stands where the enterprises extract the materials they need for producing their products. Most companies are, next to social connectedness, still attached to the western world and especially the Netherlands. Although it is not a major part all businesses import materials, predominantly from the Netherlands, because of a preferred specific quality. This research, however, demonstrated that the majority of the resources are extracted regionally, mainly between Debre Zeit, Adama and Addis Ababa. This includes a lot of industry by-products and biomass residuals. The chain analysis exposed several potential bottleneck locations in the region of mid-Ethiopia. The potential bottleneck locations are sugar cane farmers in Wonji, the ADA farmers Union of Debre Zeit and the producer groups in Wenchi, Welkite, and Hidi/Debre Zeit. It remains unclear how the food security of these farmers and surrounded area is changed due their involvement in the Dutch chain. It is beyond the scope of this study to examine the effects on food security of the farmers that are included in the Dutch chains. This research only indicated the potential bottleneck locations. Further research should investigate how the life and food security of these farmers has changed since the Dutch involvement. It is plausible that the Dutch cluster competes with local food production and access to food at these locations. This is especially worthwhile since Wonji, the place where the Dutch animal feed companies purchase their molasses, has been examined by Wendimu et al. (2016) and showed that the food access position of farmers has

deteriorated. But also, because the manager and supplier of the farms in Wenchi, Welkite and Debre Zeit expressed that the people stated that they benefitted strongly from the Dutch involvement. They benefited from the shared resources, agriculture knowledge, facilities and linkage to commercial value chains. This indicates that the activities of the Dutch company cluster can impede but also enhance the food security of local populations.

Food supply and food access

But for which markets does the Dutch cluster produce food? The results show that the biggest outputs of the Dutch cluster are animal feed and vegetable seedlings. These are primarily sold to regional farmers in the sectors of poultry, dairy and vegetables. The indications are that the outputs of these farmers will mostly be consumed in Addis Ababa. This domestic production is largely destined for the urban high end of the market, the sections of the Ethiopian populations that are usually already food secure. Most food produced by the Dutch firms is not consumed locally. But what can be expected? Strong urbanization causes a population concentration which needs to be fed with food from other locations. This generates specialized supply locations nearby the urban area. Urbanization combined with rising living standards leads to a changing diet. In this diet there is an increasing demand of non-local food, like dairy products, vegetables, meat and eggs in Ethiopia. This implies that traditional value chains evolve and have new supply locations and specific inputs.

In addition, feed and seed distributors ensure stability: bringing the food sector to a higher level, considering quality and quantity of food, next to a reduction of failures to produce for farmers and food safety improvements. The feed manufacturing industry also plays an important role in the socio-economic development of the country, making important contributions to employment, income generation, and to linkages within the value chain. Furthermore, an efficient animal feed industry, producing affordable feed of high quality, can help ensure that smallholder livestock keepers are not excluded from market opportunities presented by the socio-economic transformation that is taking place in Ethiopia. Seed distributors ensure that farmers are included in these non-traditional value chains. However, the danger can be the repression of local communities and their food demand.

The most striking result in analyzing the Dutch cluster of Debre Zeit is that in contrast to other studies, which examine foreign enclaves (Melese & Helmsing, 2010), this cluster does not export its products at all and so the food supply is increased. Whereas in other clusters the export component forms mostly one of the most important rights of existence, the Dutch cluster in Debre Zeit is built on something else. The companies are established with the goal to produce for the domestic market and aim to contribute to sectoral development. This goes hand in hand with the earlier mentioned urbanization effects and the strong demand for non-local food.

In terms of food access it can be concluded that the access is improved for the employees of the Dutch firms. However, this group of people is not very large. The permanent employment ensures stable food access for the people. It is unknown how the food access of other people, like local people and people that are linked to the chains, is impacted. Besides this, is the indication that next to the access, the nutritional status of the employees is improved.

The resource extraction and supply of food show that the cluster has translocal effects. Not only the community of Debre Zeit feels the impact of the Dutch businesses, but the effects are felt translocally in the region. The globalized activities are linked with different local places. The local gets connected with the global by interaction with foreign enterprises. This generates development effects for the food

security of different local places. Nevertheless, the chains are less global than expected because the products end in Ethiopia and are not exported to other countries.

Land governance

The foreign investments also has implications on land. The FAO, IFAD and IIED (Cotula et al., 2009) argued that the motives of land acquisitions are growing demand for non-food agricultural commodities and the attractive increasing return in agricultural lands. Although a small portion of the resources in the Dutch cluster is derived from the biomass industry, these two motives do not seem to match with the Debre Zeit cluster. Most companies were not interested in financial returns on land because these are low due to the bad international exchange rate of the Ethiopian Birr and care primarily about business impact.

The Dutch investments induced changes in land use compared to the traditional situation. People have lost land which usually had the purpose of pasture grounds. Meanwhile, it can be concluded that the Dutch enterprises are using the land capacity differently and unlock the potential productivity. This implies that some farmers became less self-sufficient, but the fields are now used more intensively resulting in more food. Prevention of foreign investments in agriculture is not inherently better, given the prominent low productivity in African agriculture and the indomitable need to produce more food. The majority of the companies have a good relationship and live in harmony with the former land owners and surrounding community. But in most cases it is still unknown how the former land owners are compensated for the loss of land because of the Ethiopian government interference. Furthermore, national legislation cannot be considered as an adequate basis for acquiring land due to the exclusion of local people. It would be advisable to look for investment opportunities where the rights of local people are taken into account and to look further than accepting a piece of land from the government. A recommendation can be made to the Dutch embassy and business advocate groups to be more aware of the implications of the land acquisition process. These groups have the duty to inform businesses of the effects on land and livelihoods because it seems that still not all entrepreneurs are aware of this.

These results further support the idea of Cotula et al. (2009) that there are few signs that companies make specific efforts to include important social groups in land governance. However, the results of this study also revealed that there are interesting variant approaches applied which circumvented the general dictated legal process through requesting land by the local community first. As well as the promising triangle concept of the animal feed producer AKF with farmers, milk factories and NGO's. This is an answer to the call that Van Westen & Zoomers (2016) make for more inclusive business models. Further research should be undertaken to explore the potential of these promising inclusive business models. But this study already showed that there are foreign investments where the local community gets the opportunity to be involved in agriculture and reap the benefits (or do not) and that FDI can be a source with sustainable impact for the whole region.

The indications are that the effects on water use are less disconcerting than the land acquisition concerns. Contrary to the study of Kirigia et al. (2016), the Dutch companies in Debre Zeit seem to compete less on water with the local community. Besides this there are no clues for water pollution. Moreover, most of the companies are a new source of water for local neighborhoods. Where in the study of Kirigia et al. (2016) the arrival of Dutch enterprises led to dissatisfied communities and pastoralists in Eastern Africa because of the loss of water access. This direct access loss does not or barely occur considering the Dutch company cluster in Debre Zeit. Together with the supply of local services and

facilities this results in satisfied communities and shows a different view on local community impact. However, the indirect loss of water by a lower groundwater level is unknown.

The focus of this study was on local food security and resources. This included tradeable resources and land. Water was usually not included in the food security theory. But in retrospect, it would have been better to incorporate the water topic already in the conceptual model to gain more qualitative data in order to asses this properly. There are namely still open questions about how much water the companies use and, more importantly what the effects are of creating new water sources on total water supply. Besides this, it is not surprising that the company managers indicated a positive local view. But the fact is that they supplied local services and created, for example, new water sources and it can be assumed these managers speak the truth when the say that the local community is happy with the Dutch operations. Further research, including the local communities, should investigate the impact on the regional groundwater levels, possible salinization and how much water a company can use in a sustainable manner given the local context.

Local embedding & knowledge transfer

But if the food is not consumed locally, to what extent are the Dutch companies locally embedded? It is noteworthy that all enterprises employ local people and make no use of migrant laborers. This outcome is contrary to that of Kirigia et al. (2016) who found that most of the Dutch horticulture firms in Ethiopia employ migrants.

As stated earlier, most Dutch firms import materials. Importing entails negative and positive effects: negative side is that local firms are excluded in the business chains but positive is that the domestic supply is supplemented, and companies are able to use materials that first were not available. In the total cluster, the local sourcing and selling links are limited but the most impactful firms do source and sell significantly more locally. This local sourcing could be expanded in the favor of the local economy. The present but limited local sourcing, local sales and foreign dependency confirm to some extent the foreign enclave image where linkages with local firms are not impressive.

It can be asked whether it can be expected that there are only local linkages The answer in a globalized world economy seems to be no. It is natural that inputs are extracted from different regions. The question if the local community benefits from the presence of foreign investments is more important. The results of this study tend towards a yes regarding this question. Primarily through the domestic food supply and employment for local people. Additionally, all Dutch firms deliberately transfer knowledge to the local community. The most common knowledge transfer is providing agricultural and husbandry training for local farmers. The presence of the Dutch companies in the national market is positive because they ensure that local suppliers produce with higher quality. The presence can also be a catalyst that pushes the local producers to be more efficient and innovative in order to compete. In the long term this process can eventually eliminate the need for imports, but this is now unclear and still a long shot.

The arrival of the Dutch cluster did not result in many more new companies or entrepreneurs. But the question remains if local firms are ready to acquire the shared knowledge and technology. And are local institutions supporting such efforts? This seems to be hard due to the lack of financial capital and big (cultural) differences between the working styles. Nevertheless, there are some examples of local acquisitions and hundreds of farmers are included in new value chains. Some Dutch induced companies are now Ethiopian, so there is a gradual process of endogenisation where there is more local control. These are mostly the wealthier Ethiopians who have the capital to do this. This shows that there is a

progressive and gradual development of local capabilities and control over business that initially has been shaped by Dutch investments.

Besides this, the companies do provide plenty of services for the local community. Due to its size this involvement is undertaken without clear policies, but perhaps with more passion and effectiveness. By operating in Ethiopia, the Dutch companies increase the tax revenues which contributes to funding the safety nets for the extreme poor. The research showed that the companies contributed in substantial and structural fashion to the local community by providing it with (improved) infrastructure, education and services. On top of this, several companies provide aid with a more inclusive character through regional medical care and food aid distribution. This reinforces the indications of Joosten et al. (2015) and Keane (2013) that firms sometimes are social support providers.

Is this Dutch cluster a good example of a foreign enclave? No, countering the image painted by Melese and Helmsing (2010) of foreign company clusters as detached from the local community, this cluster is, definitely, locally embedded and there is no loss of control over the export channels. Instead of the foreign enclave character, all these contributions indicate more of an endogenisation process, where there is a progressive development of local capabilities. However, it is questionable how much is spilling over to local businesses and there is certainly room for improvement, especially in more inclusion of local companies in the commodity chains. It can be concluded that the role of the Dutch cluster in Ethiopia goes far beyond enclave formation and is helping to create a favorable situation for Ethiopia. This is different from the study of Melese and Helmsing (2010) who argue that the Dutch floriculture investments are a win-win situation for both countries. The Debre Zeit cluster is to a lesser extent focused on the Netherlands and certainly not focused on a 'win' or financial gains that flow back to the Netherlands but is aiming at a win for Ethiopia.

Employment

The majority of the Dutch firms claims that they pay good wages, which are higher than Ethiopian companies. It can thus be suggested that the Dutch businesses appear to perform significantly better than local Ethiopian companies in terms of employment. But compared to the Ethiopian living wage the Dutch cluster does not perform that exceptional. It performs better than the domestic companies and institutions but still does not cover all costs to meet all needs. Almost all firms make use of permanent employment and not temporary laborers. These results are not in agreement with the findings of Van Westen and Zoomers (2016) which showed that the bulk of created work is temporary, seasonal or casual labor. The vast majority of jobs is low-skilled, but these jobs are welcome for those who are unskilled. The research did not investigate on a household level if the increased income resulted in a bigger or nutritious intake of food. However, the majority of managers indicated that the nutrition status of the employees improved since they started working for the company.

The working conditions at the Dutch firms often seem better than average in Ethiopia and the indication is that the local community prefers to work for 'the Dutch'. It has been suggested that there are clear limits in being a responsible employer and that working conditions are not decent everywhere, considering Dutch companies in Africa (Van Westen & Zoomers, 2016). This does not appear to be the case in the Dutch cluster of Debre Zeit. Next to better wages, all companies provide additional services to their employees. The majority provides services related to food and healthcare. Furthermore, financial services and trainings are offered to employees. It is striking that all these companies are not guided by certifications or external pressure but act out of Christian principles. Whereas classical enclave economy firms are known for influencing the government in host countries to allow exploitative labor practices,

the Debre Zeit cluster sets the better standards and pays more than above average. This differs from the findings presented by Van Westen and Zoomers (2016) that Dutch enterprises comply with laws and regulations and take a narrow approach to responsible business. The private operators in this case sets an even higher benchmark than the public sector. This does not undermine the importance of the institutional environment but shows that encouraging this is not per se necessary for providing decent working conditions. The Dutch cluster shows that it is possible to contribute to the local community by employment through local and permanent labor under good working conditions.

Is business the answer?

According to the FAO (2014), companies can trigger three growth loops, which are becoming partly visible in this research. Firstly, the improved food supply and the availability of more jobs sets in motion a multiplier loop. This research showed an improved domestic food supply and more jobs, but was not able to investigate whether the workers spend their income on more products and services. Secondly, there is the investment loop which is powered by reinvested profits and savings. The indication is that just a small share of farmers is able to be a successful entrepreneur, as expected by the FAO (2014). Thirdly, the progress loop that ensures social support is present but limited. It is unclear whether the tax revenues that the companies generate are spend for societal and natural support. However, the research did show that the companies themselves are also social support providers. With wage labor and employment standards did the companies introduce good examples of an institutional mechanism that ensure a fairer allocation of the net income. But there is also a lack of a good mechanism to protect het land rights of the local people.

In the food security and trade debate the case of the Dutch cluster is shown from different sides. On the one hand, trade can be seen as an opportunity, due to generation of economic development and growth, with improved incomes and more employment. On the other hand, this research shows that the direction of the 'trade as threat school' with more focus on local agriculture and small-scale farmers is more inclusive. But it is hard to argue that the market by itself will fail to deliver. Investments are an opportunity but also a threat, as the state and other institutions will not review the activities and distribute the benefits equally.

` The Dutch investments in Debre Zeit show a paradox of sector development. With an import of specific inputs that creates a more advanced sector versus the creation of foreign business enclaves who source less locally with few linkages to the local economy. But it is striking that the companies hardly export and certainly have a connection with the local community, although this is less in local economical ways.

To conclude, the results of this research support the idea that foreign companies are able to create a positive impact on local food security by supplying food, generating employment opportunities and including farmers in value chains, but it cannot be expected that these entrepreneurs resolve all food insecurity challenges. This endeavor requires collaboration between the private industries, both national and international, as well as the public sector. Especially it requires a government that implements favorable strategies that distributes generated profits under the total population to have an inclusive yield.

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Appendix 1: Interview guide

Characteristics of enterprise / Availability

1. How would you describe this company and its products or services?
   -Characteristics

2. What is the mission of the company?

3. What is the legal structure of the enterprise? And has this changed of the years?

4. How much hectares does the company take in?

5. Is the land inherited, given, bought, leased or rented?

6. For what was the land used before?

7. Can you describe your material/product flow?
   So where does the product starts and which paths does it follow?

8. Who (what kind) are your (biggest %) suppliers? Where are they located?

9. Are there issues or risks in obtaining your supplies?

10. What kind of contract do you have with the suppliers? Fixed, flexible, spot market prices

11. Were these suppliers already supplier before you contracted them?

12. What are the biggest issues for getting your supplies?

13. Who are the main % clients for which the company produces or delivers its products/services?

14. What are the end locations of the food?
    -local market, national market, international market? Who is eating it?

15. In what way do you collaborate with other Dutch business in Debre Zeit?

16. What has been the annual turnover of the enterprise in the last year? Around?

17. How stable is the market?

18. Has there been significant changes in the consumer price since the supply of your product?
    Reason for change?
    Is the change in purchase prices the same?

19. Could you deliver the product also to other types of consumers? Lower classes?

20. Are the possibilities for lowering the price?

21. Are there policy constraints? Which hold back the operations of the company or the supply of food?

Food Access

22. How many people does this company employee?

23. What share of the employees are local and what are migrants from other regions or countries?

24. What share of these employees are in permanent service/temporary service?

25. What share of employees is unskilled and skilled labor?

26. What percentage of the employees is male and female?

27. What is the minimum wage and average wage? Around, approximately?
    Does the company pay around the minimum wage, or above minimum wage?

28. Is the payment of this company different from how the people got payed before or elsewhere?

29. Does the company provide additional provisions?

30. Does the company provides provisions or services for the community?

31. Can you give an indication of the indirect jobs created? By suppliers and distributors?

32. How does the wage this company provides (or payments to suppliers), changes the access to food?

33. On what items/products is the income, employees earn, spent the most?

Food Nutrition

34. How do you view the nutrition status of the employees?

35. Has this changed over the years that they work here?

36. Can you see if the diet pattern has changed since employees work here?

37. Does the company provide the employees with meals or (subsidized) food? Water?

38. Where is this food purchased? Locally

Additional

39. Where are the risks for supplying food and getting access to food for local people?

40. Are there any plans for expanding the operations in the future?

Appendix 2: Code tree

Company characteristics
- Years of existence
- Import
- Mission of company
- Land obtaining method
- Previous purpose of land
- Competition
- Former job
- Land size
- Product and services
- Contracts
- Revenue
- Market influence
- Number employees
- Skilled and unskilled labor
- Male female ratio
- Permanent service
- Additional services employees
- Expansion

Food availability
- Indirect food security development
- Food intake versus business
- City power Addis
- Resource availability
- Food security risks
- Land intensification

Food access
- Price evaluation
- Personnel wage
- Good wage
- Salary spending's
- Food access

Food utilization
- Food standards
- Nutrition status employees

Dutch business cluster
- Dutch cooperation
- Dutch business relations
- Food security and development by business

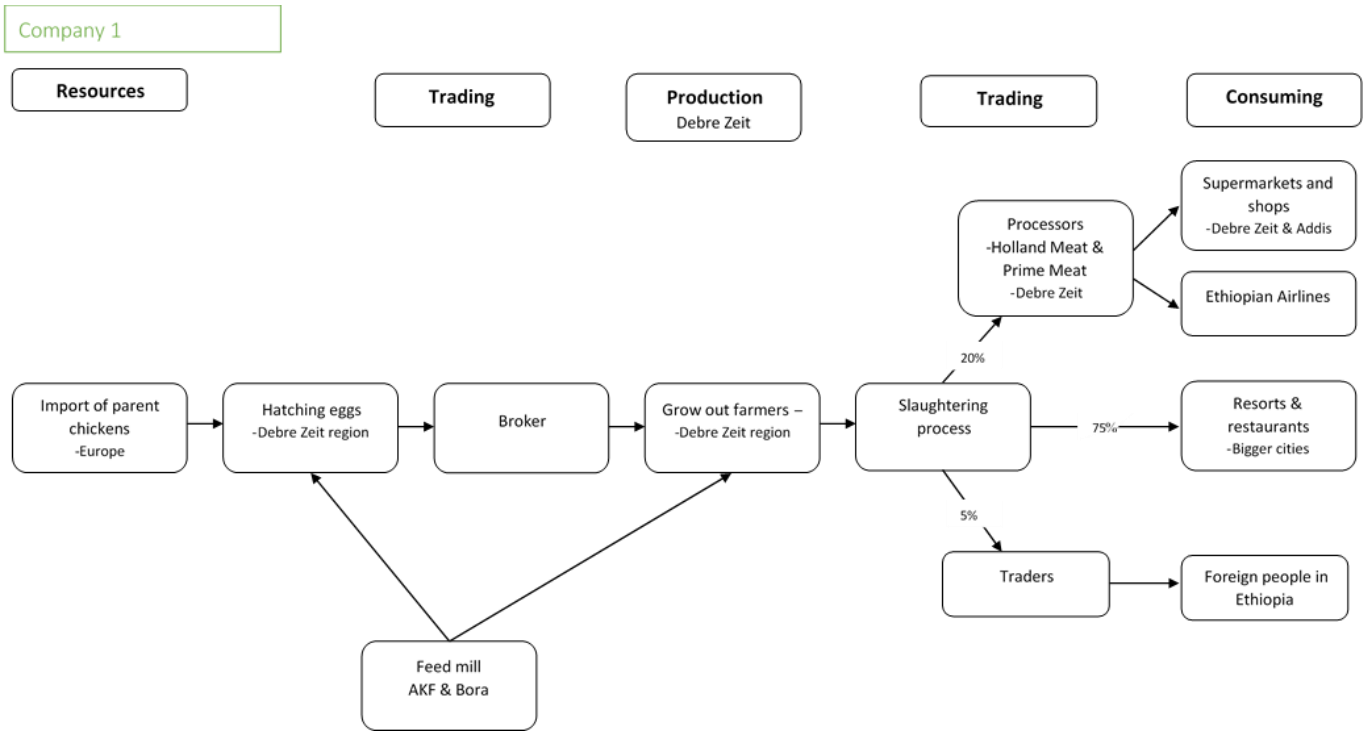
Local embedding
- Local Ethiopian partner
- Local employees
- Local sourcing
- Local partnerships
- Local knowledge transfer
- Local lunch
- Local services
- Local sales

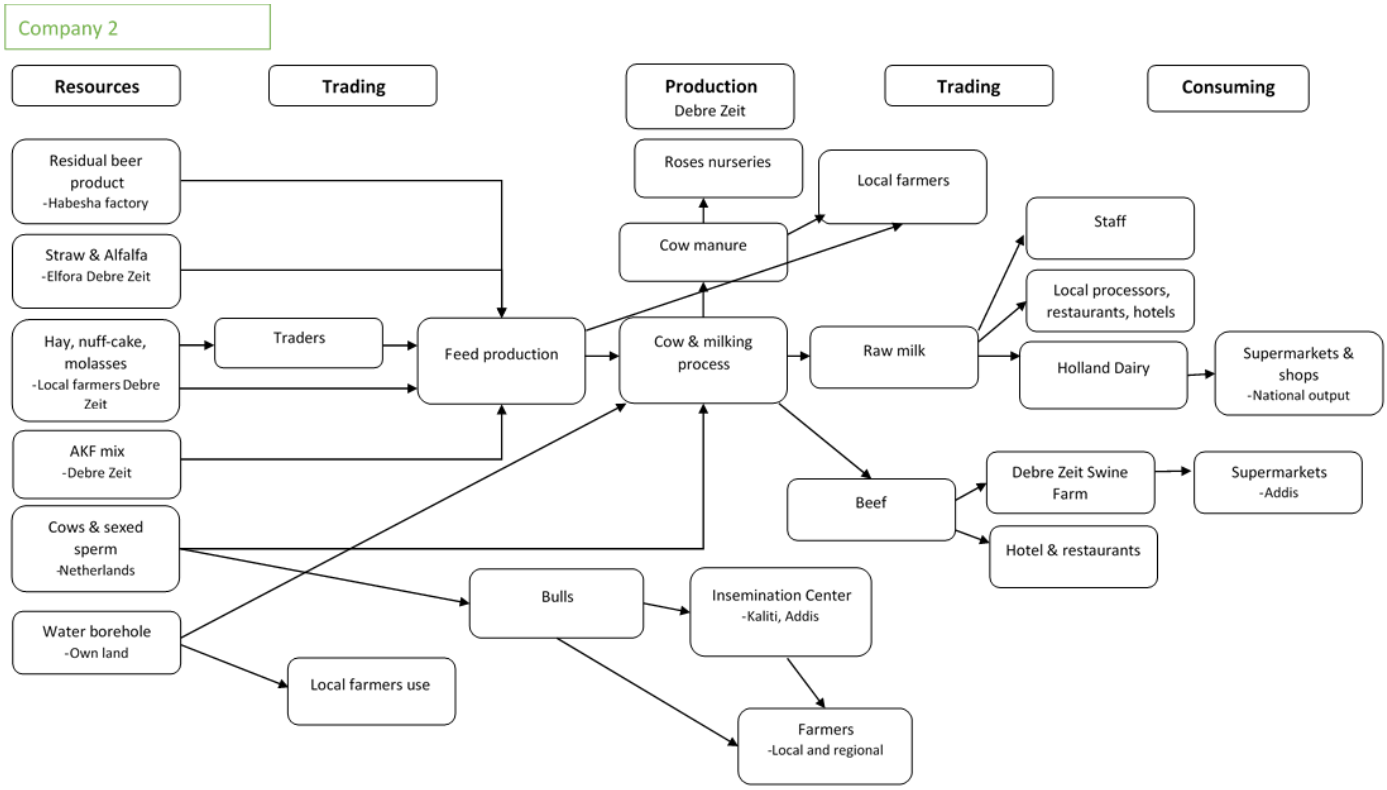
Government
- Dutch government interference
- Subsidy
- Foreign currency difficulties
- Governmental issues
- Government policy

Innovation
- Chain innovation
- Food innovation

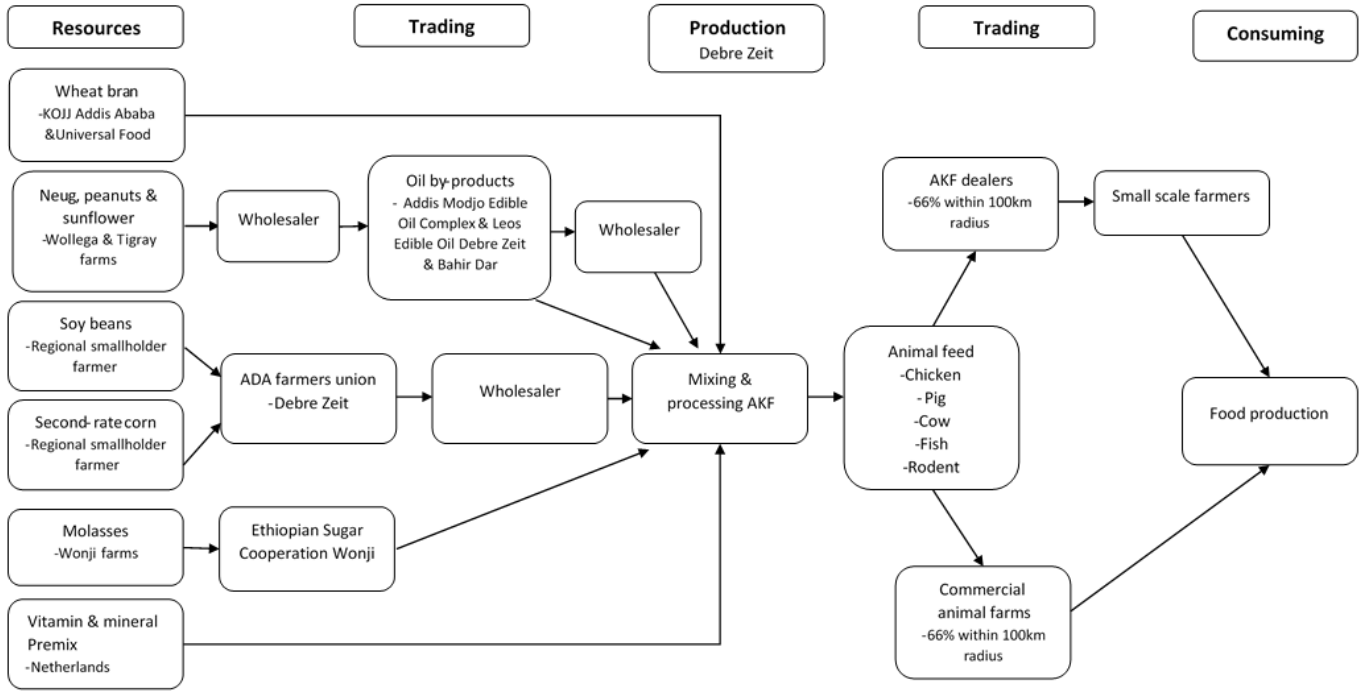
Land governance
- Land governance issues
- Land governance harmony

Appendix 3: Commodity chains Dutch companies Debre Zeit

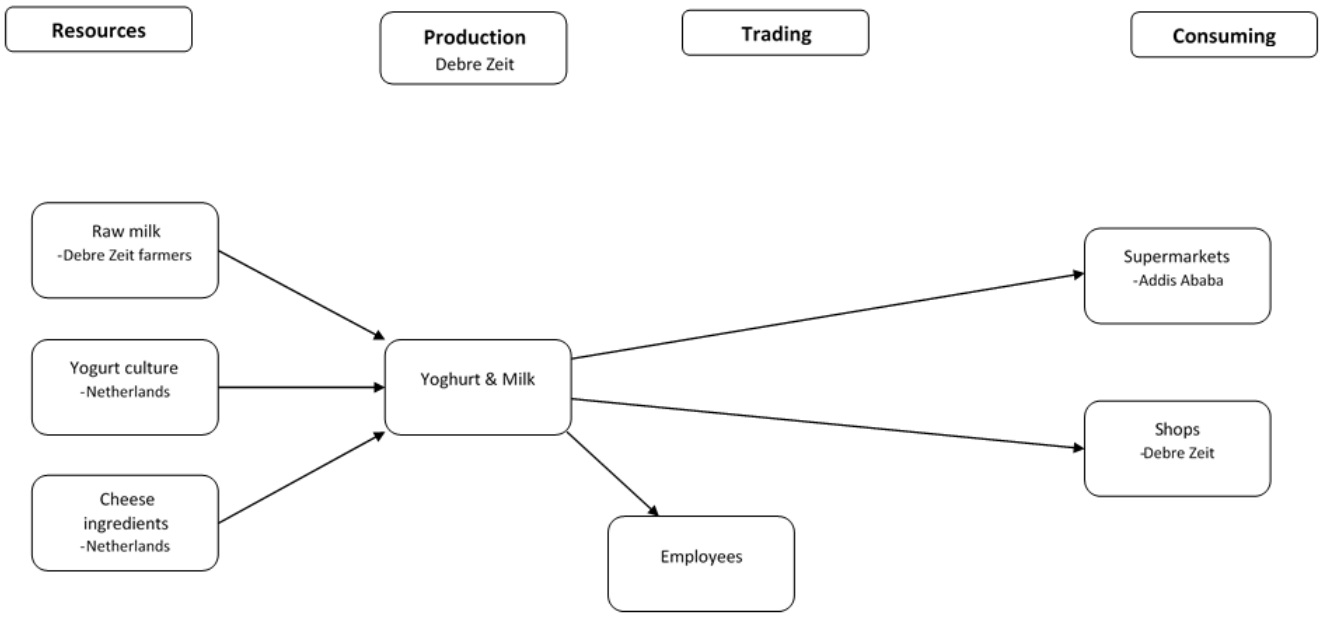




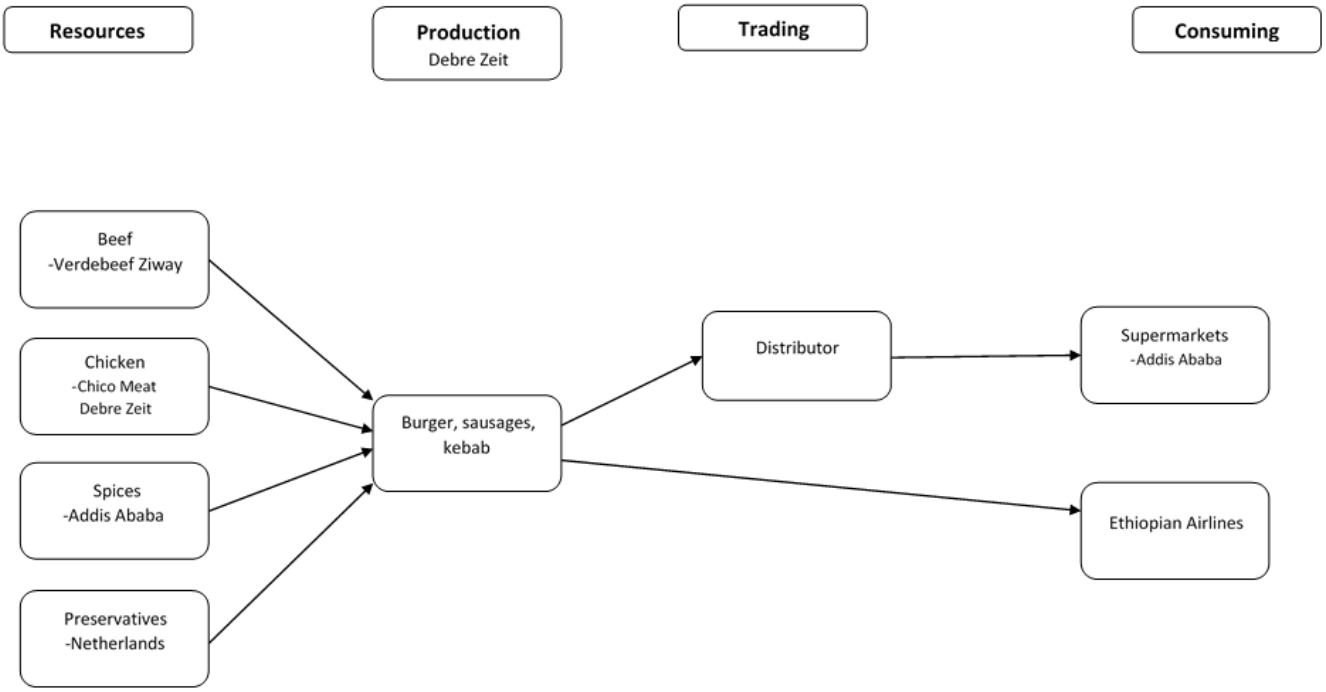
Alema Koudijs Feed



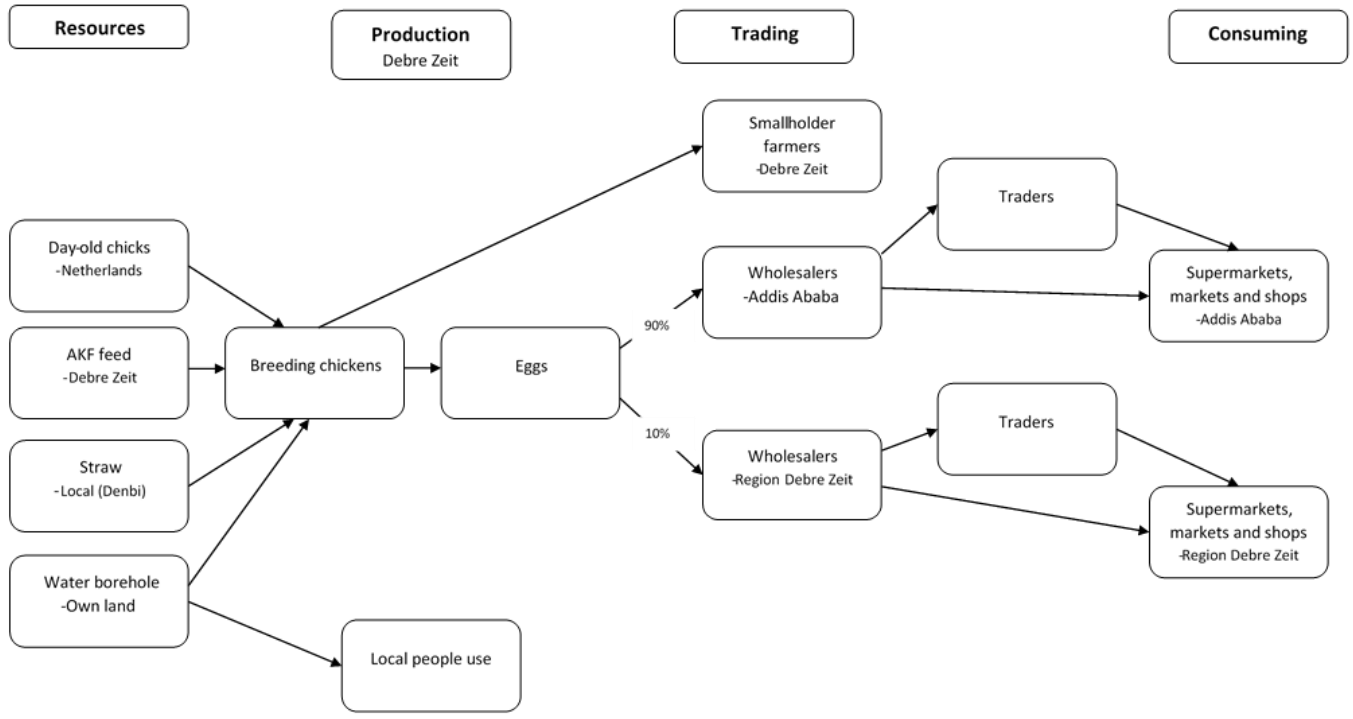
Company 4



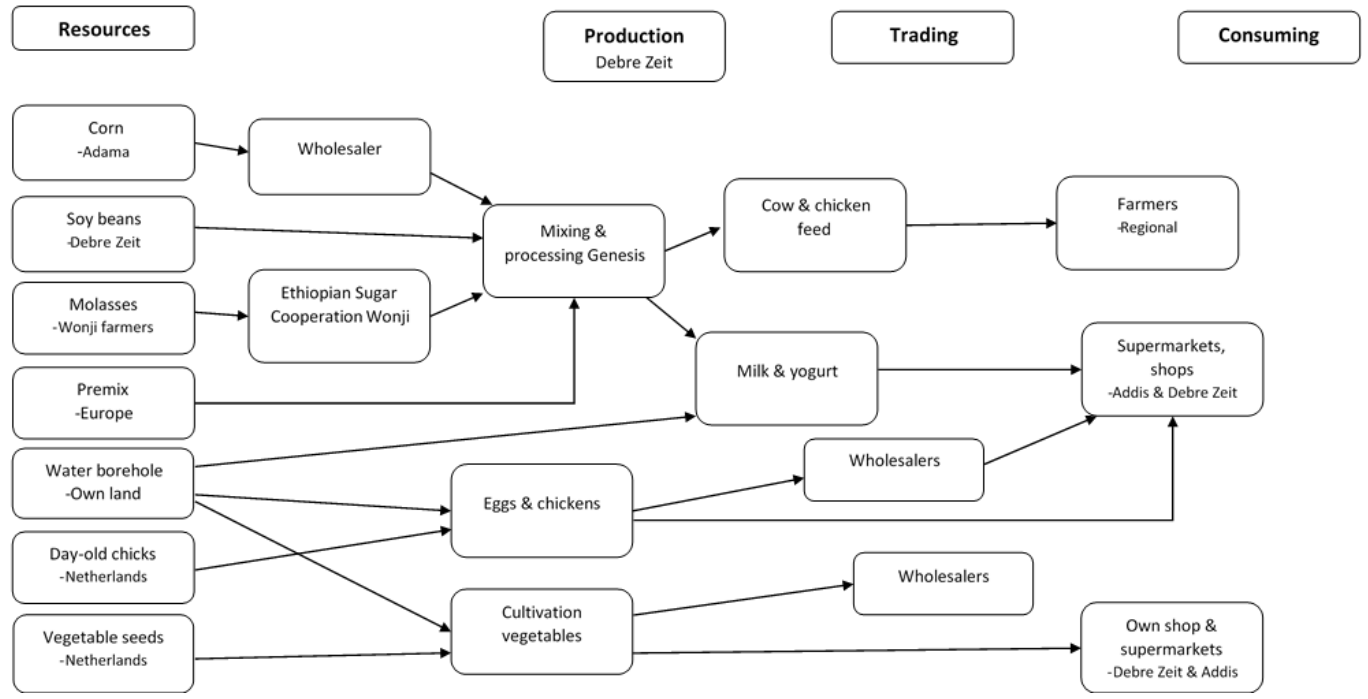
Company 5



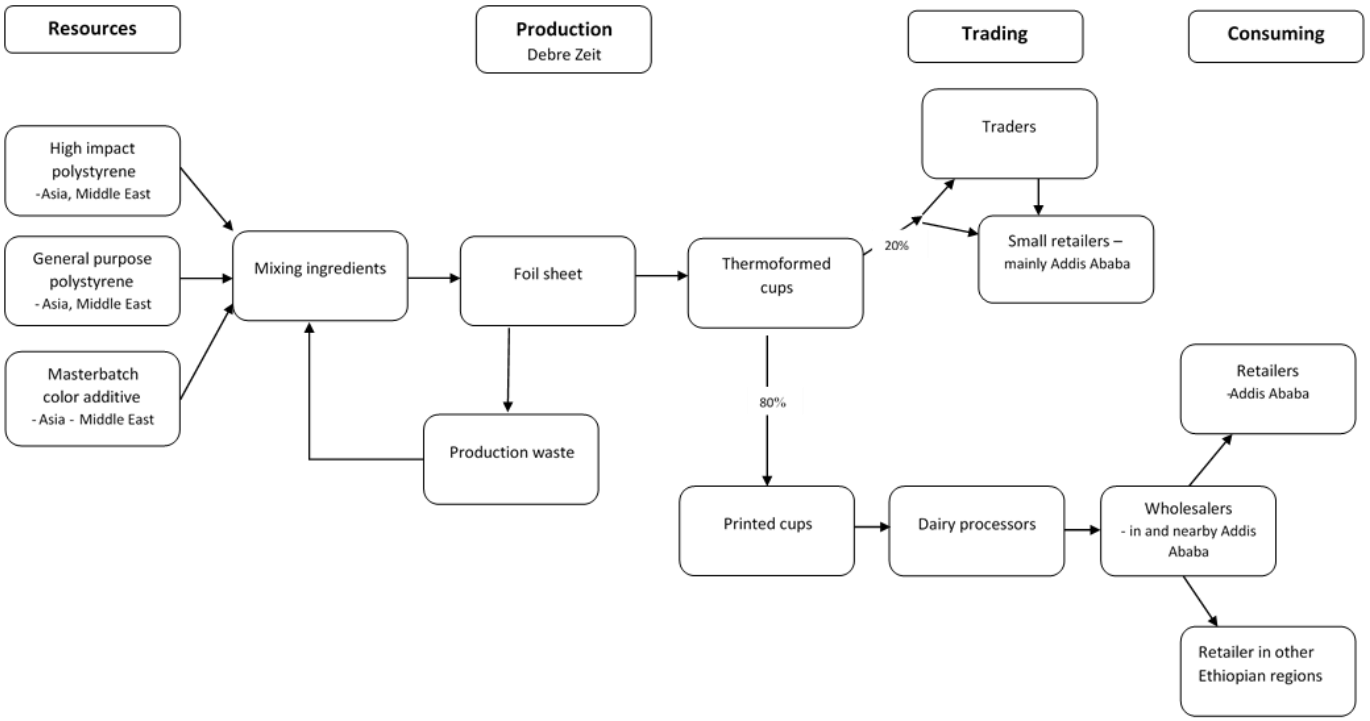
Company 6



Genesis Farms



Company 8



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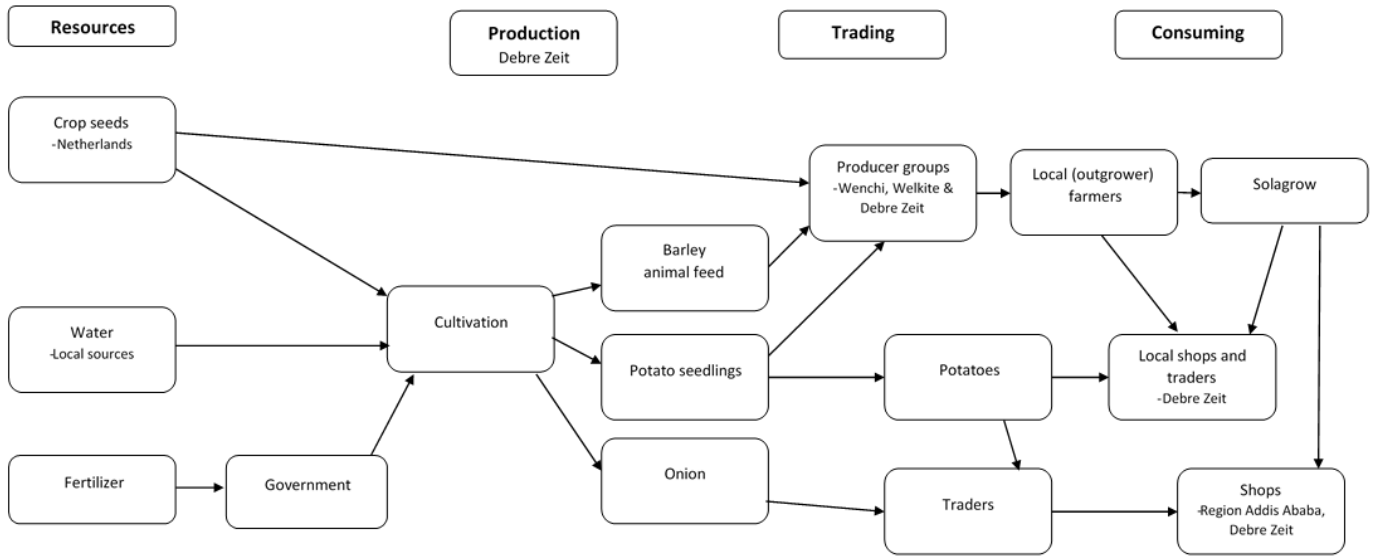

Company 10