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‘Chasing the middle-income status’

Ethiopia’s quest for achieving the middle-income status by 2025 through their climate-resilient green economy strategy

A mixed-methods case study investigating the effectiveness of a green growth development strategy on holistic rural development in the agricultural sector in Ethiopia

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Abstract

The increasing pressure of climate change urges state leaders to transform economies to low-carbon alternatives on a local, national and global scale. The aim of this study is to analyze how effective the Climate-Resilient Green Economy (CRGE) strategy has been so far in fostering inclusive rural development in the agricultural sector in Ethiopia, by applying a Triple-Bottom-Line (TBL) approach that recognizes the interconnectedness of the social, economic and environmental dimension as essential to sustainability. This study was executed as an embedded single case study design, incorporating a mixed methodology. It has been found that the CRGE approach is highly prioritizing economic growth, which has negative effects on social sustainability and inclusion in the rural agricultural areas. The lack of infrastructure to ensure a just distribution of benefits results in the improper execution of the CRGE and leads to the conclusion that the CRGE is not a suitable tool to foster rural holistic development in Ethiopia.

Key words: Sustainability transitions, Green Economy, Rural Development, Agriculture, Ethiopia

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List of Abbreviations

| | |
|------------|--|
| CC | Climate Change |
| CRGE | Climate Resilient Green Economy |
| EEA | European Environment Agency |
| EPA | Environmental Protection Authority |
| EPRDF | Ethiopian People’s Revolutionary Democratic Front |
| FAO | Food and Agricultural Organization of the United Nations |
| GDP | Gross Domestic Product |
| GE | Green Economies |
| GHG | Greenhouse gases |
| GTP I & II | Growth and Transformation Plan I & II |
| IDS | Industrial Development Strategy |
| IMF | International Monetary Fund |
| IPCC | Intergovernmental Panel on Climate Change |
| MDGs | Millennium Development Goals |
| MIC | Middle-income country |
| MLP | Multi-Level perspective |
| OECD | Organisation for Economic Cooperation and Development |
| PV | Photovoltaic |
| SD | Sustainable Development |
| SDGs | Sustainable Development Goals |
| SNM | Strategic Niche Management |
| TBL | Triple-Bottom Line |
| TIS | Technical Innovation System |
| UN | United Nations |
| UNEP | United Nations Environment Programme |

1 Introduction

1.1 Overall Introduction

After more than a century and a half of industrialization, deforestation and large-scale agriculture, the quantities of human-produced greenhouse gas (GHG) emissions in the atmosphere have risen to record levels not seen in three million years, leading to environmental problems and resulting in climate change (CC) (United Nations, 2019). The impacts of CC are global in scope and unprecedented in scale. It is argued that without drastic action today, adapting to these impacts in the future will be more difficult and costly (United Nations, 2019), endangering the planet and threatening livelihoods of especially vulnerable communities. There is not yet a global consent on how to radically act on decreasing the emission of GHG to avoid dramatic and irreversible effects of global climate change, such as rising sea levels, rising temperature, increasing extreme weather events, the loss of biodiversity and many more (IPCC, 2013). Therefore there has been a growing demand and increasing pressure by the civil society to take action, urging politicians to drastically change the way we produce and consume, especially on national levels. Since CC is a global problem with shared responsibility, by some described as the ultimate tragedy of the commons (Cole, Ostrom, & North, 2012, p. 419), there is a growing need for nations to transition their economies towards more sustainable practices, especially focusing on low-carbon development to reduce GHG emissions and keep the planet healthy.

Global attempts to change countries' behavior to low-carbon alternatives have been formulated in the discourse of Sustainable Development (SD) and the shift towards Green Economies (GE). In the Brundtland Report of 1987, SD is defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”, with a strong focus on non-state actors and public-private partnerships as driving forces (United Nations, 1987, p. 34). The GE discourse is highly interconnected with SD, yet a green economy is defined as “an economy that aims at reducing environmental risks and ecological scarcities, aiming for sustainable development without degrading the environment” (UNECE, 2019).

It is argued that the GE discourse as a follow-up to the SD discourse creates trade-offs of different sustainability dimensions by solely focusing on greening the economy and related industries and is thus dismissing the social dimension of sustainability (Bauer, Lederer, & Wallbott, 2015). The development of especially a low carbon society (with the aim to be a GE) does not always deliver sustainable outcome at a local level through for example rising energy prices of renewable energies that can exclude major parts of populations (Cavicchi, 2016).

Most research for sustainability transformations towards low-carbon economies has been focusing on industrialized economies, mostly in Europe, which poses the question of how to deal with this problem in developing and emerging economies, that struggle with challenges

industrialized nations have already (mostly) overcome (i.e. poverty reduction, equality, democracy etc.). Thus there is a drastic lack in literature to analyze sustainability transitions in the global south which creates the necessity to investigate ongoing changes in emerging economies (Musango, Swilling, & Wakeford, 2016). Ethiopia is one of the only African countries that has adopted a green economy strategy (Okereke, et al., 2019), namely the Climate-resilient green economy (CRGE) strategy. It consists of two parts, firstly to become a green economy and achieve middle-income status by 2025 and secondly, to build climate resilience (Federal Democratic Republic of Ethiopia, 2011). With the CRGE, Ethiopia is planning on tapping into international climate finance, that is necessary to achieve these aims. This raises the question how effective the CRGE strategy actually is in fostering holistic rural development in the agricultural sector of Ethiopia, or if it rather is a tool to access climate finance and take away the focus on holistic human development that Ethiopia is in desperate need of.

1.2 Aim and Significance

The aim of this study is to analyze how effective the Climate-Resilient Green Economy (CRGE) strategy has been so far in fostering inclusive rural development in the agricultural sector in Ethiopia, by applying a Triple-Bottom-Line (TBL) approach that recognizes the interconnectedness of the social, economic and environmental dimension as essential to sustainability. This research is investigating if this green economy approach and low-carbon development in a developing country can potentially even be counterproductive towards holistic and sustainable rural development on the ground by solely aiming at lowering emissions as a tool to tap into climate finance.

Due to the complexity of sustainability transitions and the narrow scope of the study, this research is solely focusing on Ethiopia's most important sector for the economy and for livelihood security, namely the sector of agriculture. Ethiopia is particularly vulnerable to adverse impacts of CC which has the potential to reverse the progress of development Ethiopia already has achieved (Eshetu, et al., 2014). This urgent pressure to increase rural livelihoods through rural development in Ethiopian is highly significant for the modern discourse of CC but also for Ethiopia's overall development. The identified lack of literature on sustainability transitions in the developing world poses the need to merge the mostly Eurocentric literature of sustainability transitions with development studies and several other strings of literature to make use of an interdisciplinary approach, in order to better understand the transition process in the geographical setting of developing nations (Hansen et al., 2018) in this case of Ethiopia.

1.3 Research Question

In order to explore how Ethiopia's CRGE strategy has influenced the development of the agricultural sector, this research question forms the starting point of our endeavor:

- 1) How effective is the Climate-resilient Green Economy (CRGE) strategy from 2011 in fostering sustainable rural development in Ethiopia, through the lens of the Triple-Bottom Line approach?

This research question is intentionally kept broad to be able to cross-fertilize development studies with transition literature and green growth approaches. The formulation of the research question gives possibilities to apply the broader TBL approach as a means of analysis to be able to gain a more holistic and interdisciplinary viewpoint, which has been missed in former research. The descriptiveness of the question gives the analysis the possibility to unfold in an inductive way and develop as-it-goes which has the advantage of the analysis not being cloaked up in narrow-mindedness and pre-defined and Eurocentric paths.

1.4 Limitations

There is a great need to set boundaries and define the scope of what this research is delivering, and more important, what it is not. This study is solely focusing on the case of Ethiopia, after the implementation of the CRGE strategy in 2011. The historical background and situation of Ethiopia will have to be considered for the purpose of context but will not play a major role for the actual analysis. The timeframe of 2011 until 2019 is a very limited period to measure the unfolding of national sustainability transitions, that usually take long time to unfold, but due to the small scope of this study, the geographically and temporally narrow boundaries are a necessity. Another reason for the latter is the pressing urge of CC and its effects and requires nations to take radical action quickly, which goes hand in hand with the chosen timeframe for analysis. The aim of the government to become a middle-income country by 2025 also supports the need to assess the impacts now, even solely after a short time period since implementation. Another limitation for the study will be the chosen sector of agriculture for the analysis since analyzing a whole sustainability transition of all sectors on a national level is clearly out of scope. Therefore there is a need to narrow down the entity of analysis to the most important sector for livelihoods and for the Ethiopian economy, namely agriculture.

This research is structured into seven main chapters, containing separate sub-headings. The next chapter will contain an extensive literature review (2), followed by the specific background (3) and then bringing forward a theoretical framework for analysis (4). The following

methodological approach section (5) will include case and design, methods and the sources. The main part of this research is the analysis (6), separated into three different parts, which end in a discussion and will then finish in a conclusion (7).

2 Literature Review

The impacts of humans on the environment and their contribution to climate change is not a new discovery, yet today the urgency to take action still seems to be a shock and breaking news to the majority of politicians and civilians. There is a large body of scientific literature explaining environment-society relationships, coming from different schools and different angles. At times, this large body can be very complex, intertwined and controverting since combating climate change is a global task that politicians all around the world still face enormous difficulties with on a national level.

Therefore, this section aims at bringing clarity into the discourses that are currently at play, especially major discourses that concern state transitions towards greener and more sustainable practices. This section will start off with a brief insight on the science of climate change and its effects to put this research into a broader context. This is followed by an overview of the sustainable development (SD) discourse and problems that arise. This will lead to the next sub-section about green economies (GE) and the surrounding discourses. After having laid out the more general discourses, the transition literature will be unfolded, with a specific focus on the difference of executing sustainability transitions in industrialized and developing nations, since this difference is highly important for the positioning of this research. This section will end with identifying a gap in the literature relevant for this study and finally transition into the specific background of the case of Ethiopia.

2.1 Science of Climate Change

Throughout the history of the earth, the climate has constantly changed. According to 97% of scientists and the Intergovernmental Panel on Climate Change (IPCC), the current CC is a result of human activity since the mid-19th century, after the start of the first cycle of industrialization processes (NASA, 2019). The effects of ever-increasing levels of GHG in the atmosphere, and the heat-trapping nature of carbon dioxide, have been demonstrated already in the mid-19th century, thus is not a new scientific breakthrough. There is no question that increased levels of GHG must cause the earth to warm in response, yet more than two centuries later many people still doubt the human component (Milman & Harvey, 2019). Drastic consequences of human-induced CC are global temperature rise at currently (but rapidly increasing) 0.9° Celsius, warming oceans, shrinking ice-sheets, glacial retreat, sea level rise, sea ice retreat, extreme weather events

and ocean acidification (NASA, 2019). These consequences are having major effects on the biodiversity of the earth and threaten the livelihoods of many people, especially in developing countries (NASA, 2019). To explain the full scientific background of climate change goes well beyond the scope and intention of this section. For the purpose of this study it is enough to say that GHG emissions must be lowered drastically, on a local, national and global scale, in a very short amount of time, in order to avoid a point of no return.

2.2 Sustainable development

Since the early 1990s the international community has relied on the concept of sustainable development (SD) to tackle the challenges of global environmental change. It aims at integrating economic, social and environmental concerns to achieve the protection of natural resources and ecosystems with the overarching goal to eradicate poverty and ensure equality and equity (Bauer et al., 2015). The Millennium Development Goals (MDGs) have been introduced by the United Nations (UN) as a means and guidance to achieve sustainable development around the globe and have eventually been replaced by the Sustainable Development Goals (SDGs) in 2015, a new set of targets to achieve the latter. SD is promoting bottom-up approaches and the inclusion of local communities into decision-making processes, bringing forward the importance of public-private partnerships as a catalysator for implementation (Bauer et al., 2015).

SD has been and still is a prominent discourse but has been criticized that environmentally and on a global scale no transformative drastic action has been taken through SD to combat CC. Global advances have been made in economic prosperity and social development, but environmentally SD still relies on the extraction of natural resources for development (Bauer et al., 2015). A major critique in this field is the nature of SD as a ‘buzzword’ that seems to predicate economics over environmental issues because economics are tangible and profitable, especially for development purposes. It is often stated that development and sustainability are not compatible, due to the need of extracting natural resources and the need for economic growth. Furthermore, it is argued by many authors that due to its ‘buzzword’ rhetoric, SD is a stagnant concept and not promoting the radical changes that are necessary. Instead it is comforting and calming leaders and citizens through nicely formulated and presented rhetoric (Meister, 1997). SD as a rhetoric is therefore not particularly helpful to analyze the effects of the CRGE strategy on the ground, yet this research will stick to sustainability as a concept that considers holistic development of the social, environmental and economic sphere.

The concept of sustainable development in agriculture is commonly examined in regards to environmental problems, the contradiction of economic viability and natural resource conservation, hence it is mostly concerned with resource efficiency in agricultural practices (Janker, Mann, & Rist, 2019). What catches the eye is the absence of social sustainability in

sustainable agriculture. Janker et al. (2019) are arguing that an “agricultural social system is then sustainable when institutional settings allow all concerned individuals to either satisfy or improve the satisfaction of all of their physiological, security, social, esteem, and self-actualization needs while actors and institutions continuously recreate a system that allows future generations to do the same” (p.40). Janker et al. (2019) developed this definition and framework because of the political-normative character of sustainability definitions, which allows various actors for various subjective and normative interpretations. This argument goes in line with the buzzword rhetoric Meister (1997) and other authors criticize more and more in regard to sustainable development. The problem of normativity in sustainability makes it hard to conceptualize definitions and frameworks that could be universally applied and rather call for space-specific and holistic concepts for sustainable rural development.

2.3 Green Economies

In the run-up of the Rio+20 conference in 2012, a new discourse has spurred the sustainability debate – namely the concept of ‘Green Economies’ (GE). Especially in industrialized countries, this concept is supposed to guide more transformative action at the intersection of environmental, economic and social politics. While SD as a global discourse is focusing strongly on a holistic bottom-up approach to eradicate poverty, the United Nations Environment Program (UNEP) is defining the GE discourse as implying a top-down “form of economy that can improve human wellbeing and social equity while reducing environmental risks and ecological scarcity” (UNEP, 2019). It is stated that the GE discourse can be thought of as one which is first low carbon and resource efficient and then socially inclusive, while there can be many other environmental objectives be involved apart from low carbon (Bauer et al, 2015). In comparison to the SD discourse that focuses highly on bottom-up inclusive growth and poverty reduction, GE focuses more on ecological preservation in industries and economies and points more to public actors as proactive drivers (Bauer et al, 2015). It is criticized that GE stays in the boundaries of macroeconomic growth as a market liberal growth strategy and that it mainly focuses on technological and economic parameters, which is easier applied to industrialized countries due to existing infrastructure (Bauer et al, 2015). Others have brought this even further, stating that GE is similar to SD with the hope of combining environmental, social and economic values by ‘polite meaningless words’ (SD rhetoric) masking continued capitalist exploitation (Death, 2015). Death (2015) also argues that GE is the latest repackaging to reconcile economic growth and capitalist development with ecological sustainability.

Another important assumption in the GE discourse is the role of the state. Bauer et al. (2015) point out that SD and GE differ in their underlying assumption of causal mechanisms and actor constellation, wherein the GE highlights the importance of centralized (and maybe even

authoritarian) and national state actors to drive change, from a top-down perspective. Nevertheless, it has been pointed out that the proactive role of the state has been assumed rather than systemically analyzed, especially for cases in the Global South (Bauer et al, 2015), which indicates a gap in the literature and the poses the need for further investigation.

One commonality with the priority presented literature in this field is the critique of what some call 'sustainable capitalism' (O'Conner 1994, in Fischer & Freudenburg, 2001, p.702). This criticism is stating that technological development as the solution to the ecological crisis is in general very problematic, and that there is a need to change the capitalistic system and process of industrialization, in industrialized and in emerging economies. Many of these critiques that also apply to the literature above is rooted in a neo-Marxist perspective, calling for urgent radical and systemic change, instead of skirting some of the main challenges ecological problems pose (Fischer & Freudenburg, 2001) by for example ecological modernization, but also by the SD rhetoric and even the GE approaches. Fischer and Freudenburg (2001) put this discussion into a nutshell by explaining that green growth defenders believe that environmental improvement can take place in a tandem with economic growth, while the critics say that the theory is too good to be true and not tackling the actual problems behind the ecological crisis (Fischer & Freudenburg, 2001, p. 703).

2.4 Transition Literature

Rosenbloom (2017) is agreeing with other authors that the sustainability rhetoric mentioned above has to date outstripped concrete action and global leaders are now slowly but steadily recognizing the necessity of a radical societal low-carbon transition. A low-carbon transition is characterized as the project of deliberately moving from existing carbon-intensive arrangements towards low-carbon future states (Rosenbloom, 2017). The European Environment Agency (EEA) highlights the globalized and systemic character of the environmental challenges which require fundamental changes in core societal systems, in particular those related to food, energy, mobility and the built environment (EEA, 2019). Achieving such transition requires more than incremental efficiency improvements, but instead profound changes in dominant practices, policies and ways of thinking (EEA, 2019), which are called sustainability transitions. Many scholars agree that this is a complex task which requires cross-fertilization from multiple disciplines to avoid short-sightedness and cognitive lock-in, especially keeping in mind the interdisciplinary nature and complexity of sustainability transitions (Hansen & Coenen, 2015). Geels (2010) is further arguing that later environmental problems have been addressed fairly well with incremental clean technologies (mostly in industrialized nations), but the more pressing and global environmental problems are in need of more substantive transitions, which makes the radical transition theory the dominant paradigm. According to Geels (2010), these system changes are labelled 'socio-

technical' transitions, exactly because they do not just focus on introducing new technologies but also consider changes in markets, user practices, policy and cultural meaning (Geels, 2010), social and cultural in nature. Furthermore, transition processes are considered long-term, open-ended, co-evolutionary, multi-actor processes, inherently complex, uncertain and ambiguous (Holmberg & Larsson, 2018).

In connection to the former SD and GE discourses, more radical sustainability transitions are now assumed even necessary to achieve actual sustainability. Nevertheless, it has been pointed out that a transition towards low-carbon societies does not always deliver sustainable outcomes at local levels. Cavicchi (2016) argues that transitions are supposed to lead to a better future, though in reality it may generate several negative outcomes on the ground. These could be social opposition, poor redistribution, higher energy bills, land pollution etc. and evidence shows that transitions beneficial on the national level may become negative at local level (Cavicchi, 2016). Holmberg and Larsson (2018) agree to the latter argument by saying that transitions cannot be planned, but they can be influenced. Purposive engagement towards influencing transition processes include reflexive modes of governance, characterized by experimentation and learning-by-doing. Navigating transitions is thus to a large extent about entering and exploring the unknown (Holmberg & Larsson, 2018). This entering and exploring the unknown (Holmberg & Larsson, 2018) is generally a highly difficult and risky task, even for industrialized nations that have access to existing infrastructure and financial capital. Developing countries, that are fighting with many other challenges that will be examined further, face even more difficulties and take more risk, which makes it necessary to increase the research formulated in this field.

The interdisciplinary nature of transition literature and its frameworks have often been criticized in resulting in rather haphazard and fuzzy conceptualization (Hansen & Coenen, 2015), which appears to be a general problem in sustainability literature and approaches. Key conceptual frameworks that are most frequently used to better understand sustainability transition processes are namely technological innovation system (TIS), the multi-level perspective (MLP) and strategic niche management (SNM) (Markard, Raven, & Truffer, 2012). These frameworks have nevertheless been criticized of not being too space-sensitive, especially to the developing context, and are rather fuzzy and hardly applicable since they have been developed in the European context (Hansen & Coenen, 2015) , which underlines the need to engage in analyzing sustainability transitions in developing countries with a more interdisciplinary approach.

2.5 Sustainability Transitions in the developing context

Triggered by the negative implications of the Western post-war development, the literature is mainly analyzing the sustainability transitions in the more economically developed world, that historically have had a greater share on emitting GHG (Wieczorek, 2018). Models and analysis

have mainly been developed for and in the European context, just recently extending also to developing nations, although mostly focusing on Asia (especially China, India, South Korea, Taiwan) (Okereke, et al., 2019). Industrialization and economic development in the Western world, coupled with the accessibility of capital, finances and existing infrastructure, formed the dominant philosophy of ‘industrialize first, and clean up later’ mindset (Okereke, et al., 2019) in the Western world. Now that the effects and urgency of CC is becoming more present, this mindset is no longer justifiable as a development tactic, nevertheless still remains a comprehensible mindset from a national perspective. Applying sustainability transitions not just to the industrialized world but also to the developing context becomes essential nowadays.

Applying sustainability transitions to developing countries creates difficulties that are hardly comparable to the process in industrialized nations. Developing countries mostly exhibit a mixture of well- and ill-functioning institutions, in a complex context of market imperfection, clientelist and socially exclusive communities, patriarchal households and patrimonial and marketized states (Franco-Garcia, Jauregui-Becker, & Ramos-Mejia, 2018). The ‘illness’ of both the formal and informal institutions in the developing world are contested and personalized to various extents, undermining the well-being of many and strengthening the privileges of few, which ultimately reproduces the pattern of social exclusion and inequality (Franco-Garcia et al., 2018). More conditions that affect the development of these countries are weaker state apparatus, less efficient bureaucracies, higher levels of political and economic instability, less transparency in legal proceedings and enforcement of legal frameworks and relatively high levels of economic and social inequality. Furthermore, developing countries typically rely on foreign sources of technology, knowledge, financial resources, with external donor interventions playing a role, with less advanced industrial processes, a dominance in low-tech sectors and reliance on the employment in the informal sector (Hansen, et al., 2018)

To tackle these issues, many authors agree that sustainability transitions, especially in the developing context, pose the need of being executed as just transitions, consisting of a dual commitment to human well-being (income, education, health etc.) and sustainability (decarbonization, resource efficiency and ecosystem restoration) (Musango et al., 2016). Some authors go further by saying that the main challenges of sustainability transitions come with connecting the environmental sustainability agenda with development goals of poverty reduction, social justice, local community development and broader good governance (Okereke, et al., 2019). Achieving these objectives is therefore especially challenging in countries, where institutional capacity is low and innovation systems are weak, especially considering the role of a strong state mentioned above (Okereke, et al., 2019). Being aware of these difficulties, some authors in the field highlight nonetheless that developing countries have the advantage of not having to grapple with technology lock-in and associated path-dependencies which often constrain change in the Western world (Okereke, et al., 2019).

Musango et al. (2016) point out that while development literature has been widely used to address the development challenges of industrializing nations, this literature has generally neglected to deal with environmental challenges and sustainability transitions in particular. On the other hand, transition literature has also generally neglected to deal with development challenges, which shows the lack of interdisciplinarity in the literature. Therefore the authors show a consensus that cross-fertilization of sustainability transitions and development studies in further research is clearly needed (Musango et al., 2016) when engaging with transition processes in the developing world. Thus, there is an identified gap in the literature with many authors pointing out the need to practically apply the sustainability transition processes to and analyze case studies in the developing world (Wieczorek, 2018; Franco-Garcia et al., 2018; Musango et al., 2016, Hansen et al., 2018).

Right now, this identified gap is described as a burgeoning field of research with increasing numbers of papers that point out the necessity of cross-fertilization and further research, but actual case studies and empirical research are still drastically lacking. Many authors point out different foci new research should take, for example the focus on regimes and the role of the state, innovation systems, ontological assumptions and many more, but in the end of the day there is a great need to expand research and apply existing or new frameworks according to the particular developing settings (Musango et al., 2016). It has also become clear in this literature review, that most research, that did indeed engage with sustainability transitions in the developing context, are mostly concerned with the governance of sustainability transitions and its theoretical execution (Okereke, et al., 2019) (Wieczorek, 2018) – and not with the actual sustainability on the ground. Additionally, Death (2015) urges to keep in mind the need to not just analyze the sustainability transition as such, but also identifies the danger of sustainability transitions exacerbating existing highly inequitable and ecologically damaging growth patterns and further discrediting environmental discourses by legitimizing big infrastructural projects like dams and intensive commercial agriculture, under the cloak of the GE. In other words, Death (2015) is highlighting the need to identify and analyze potential trade-offs of the green economy paradigm on different sustainability dimensions in the developing context. This goes hand in hand with Musango et al. (2016) who argue that sustainability transitions in developing countries must be just transitions and also connects back to Cavicchi's (2016) standpoint that low carbon development is often not sustainable in the context of poverty.

This gap in the literature clearly indicates the need to analyze the sustainability transitions in the developing setting with an interdisciplinary focus and with an extra eye on potential sustainability trade-offs that happen under the cloak of GE. Thus, this angle resulting from the identified gap in the literature will form the backbone of this research.

3 Background

Some African countries are attempting to embrace the concept of green industrialization and green economies, to rapidly grow their economies without externalizing the negative environmental costs of development, especially in the face of CC, increasing natural resource degradation and rising environmental pollution. The few nations that follow these attempts are Rwanda, Mauritius and also Ethiopia. Their governments have sketched ambitious plans to decouple industrialization from the environmental impacts and eventually leapfrog to green economies (Okereke, et al., 2019). In Ethiopia's case this ambitious plan is the Climate-resilient green economy (CRGE) strategy. Having laid out the different discourses at play in the former section, the section will now transition into the historic background of Ethiopia and its ambitious CRGE.

3.1 Historical Background of Ethiopia

The Federal Democratic Republic of Ethiopia is a landlocked nation in the horn of Africa, close to the Middle East, bordering Eritrea, Somalia, Kenya, South Sudan and Sudan. Ethiopia is after Nigeria the second most populous nation in Africa with 104 million people in 2017, predicted to rapidly double to 242 million people by 2100 (Populationpyramid, 2019). Ethiopia is the fastest growing economy in the region, but however also one of the poorest with a per-capita income of \$783 (World Bank, 2018) . In 2017, Ethiopia's Human Development Index (HDI) ranked with the low score of 0.463 on place 173 of 189 and is thus still classified as a least-developed country (LDC) (UNDP, 2019). In 2015, the World Bank estimated Ethiopia's GINI-index (which measures the extent to which the distribution of income among individuals in a household deviates from perfectly equal distribution) to be 39.1, which indicates still persisting inequality patterns (World Bank, 2015).

Ethiopia's economy has experienced strong, broad-based growth of 10.3% a year in the period from 2006/7 to 2016/17, almost double of the regional average (5.4%) (World Bank, 2018). Agriculture, construction and services account for most of the growth, with a small contribution from the manufacturing sector. Coupled with higher economic growth, positive trends in poverty reduction have occurred, both in urban and rural areas. The share of population living below the national poverty line has decreased from 30% (2011) to 24% (2016) (World Bank, 2018).

Smallholder agriculture is still the primary livelihood source, engaging 85% of Ethiopians, and building the main source for livelihood and the backbone of the economy. In the 1980s, Ethiopia has faced one of the worst famines and hunger crisis in the 20th century, that resulted in the death of 1 million people. Millions were displaced and left destitute, without any resources to secure their livelihoods. This promoted a global response to increase food and development assistance to Ethiopia (Reid, 2018). In 2015, Ethiopia again faced one of the worst

droughts in decades, which affected these smallholder farmers severely and brought millions of people into food-aid dependency (Dagerskog, Järnberg, Kautsky, & Olsson, 2018). Additionally, the fragmentation of land has increasingly emerged, and land degradation and high rates of annual soil losses impose even more difficulty and vulnerability on the farmers (Dagerskog et al., 2018). These two major famines played an important role for the Ethiopian government to implement a front-runner green growth strategy, with the aim to strengthen the livelihood of the vulnerable smallholder farmers.

Generally, Ethiopia is still struggling with many development challenges. Significant food security problems and recurrent famines are seen as the major ones (Dagerskog et al., 2018), while limited competitiveness, a highly underdeveloped private sector which leads to vulnerability of shocks, political disruption and social unrest additionally negatively impact growth and tourism (World Bank, 2018). The challenge of sustaining its positive economic growth and further accelerate poverty reduction require significant progress in job creation as well as improved governance. The prevalence of complex development challenges in the context of Ethiopia raises the question if these are considered enough in their CRGE strategy, which is the current dominant low-carbon development path of the Ethiopian government towards achieving a GE.

Ethiopia provides one of the clearest examples of an African ‘developmental state’. Despite the high growth rates, the political setting is still tightly constrained, and the state is not allowing the private sector freedom of action, which results in the almost absent private sector. It is argued that the ultimate success will highly depend on the capacity to transform a state that has itself been central to the development process (Clapham, 2018). The case of Ethiopia is described as one of the most significant attempts to implement a developmental state in Sub-Saharan Africa, beyond the common examples of East Asia. Ethiopia is having long experience of statehood, not in colonialism, but in being a political unit of authoritarianism on the one hand and civil obedience on the other. Ethiopia’s case is standing in sharp contrast to the ‘normal’ African experience of state creation, initiated by external colonial powers. In Ethiopia, building state capacity has been an indigenous process, driven first by war and subsequently by revolution, which shows the hierarchical and intolerant nature of the regime. It is argued that the imposed political limitations are not only responsible for much of the conflicts as such, but also constitute a significant barrier to the development enterprise itself (Clapham, 2018). The resulting organisational capacity enabled the Ethiopian empire to defeat the colonial conquest, which was enhanced by social upheaval and created the idea of the state, which spread in society and gained wide acceptance. This acceptance makes it possible for the Ethiopian government to conceive and implement projects of transformation that is difficult to imagine in Post-colonial Africa (Clapham, 2018). The Ethiopian case confirms that the creation of an effective state precedes the emergence of industrializing economies. It can also be argued that patterns of state authority are critical to

development processes and ultimately highlights the importance of an indigenous rather than a colonial process of state formation (Clapham, 2018). This non-colonial history makes Ethiopia a highly interesting case for investigation since many countries with a colonial past have followed Western models of development, while Ethiopia does not. The authoritarian history of the state adds another interesting dimension since it is argued that sustainability transitions can be carried out more successfully by a strong state (Bauer et al, 2015), that is in the case of Ethiopia also known to be intolerant in nature. Therefore it is interesting to analyze if the government follows the GE approach with a purely economic incentive and if this approach has had any effects on the sustainability in the agricultural sector.

In the last 30 years, Ethiopia has embarked on an aggressive pursuit of industrialization, spearheaded by the formerly explained ‘activist developmental state’. Coming from a weak industrial base built by the previous government, the current Ethiopian People’s Revolutionary Democratic Front (ERDRF) government started out in 1991 by introducing the first market-led economic policy. In this time period, Ethiopia received (as many other Sub-Saharan African countries) sponsored programmes from the International Monetary Fund (IMF) and the World Bank, which were aimed at market-liberalization. Ethiopia nonetheless decided against the prescribed market opening and liberalization, and instead followed a selective and gradual reform approach. In the year 2000, the Industrial Development Strategy (IDS) has been implemented which aimed at export-oriented and labour-intensive industries to foster Ethiopia’s perceived comparative advantage. The IDS also underlined the importance of government interventions to lead the country’s development agenda (Okereke, et al., 2019).

All in all, in the last 30-year period Ethiopia poured resources into infrastructural development and pursued the earlier mentioned ‘activist industrial policy’ for growth, enacted by the state. Many authors have described this development as a bold experiment, which has not been environmentally sustainable so far, but has halved Ethiopia’s poverty in two decades and recorded double-digit growth over 15 years (Okereke, et al., 2019). These industrial development plans led to an expanded industrial sector, the largest African airline, the largest electric railway on the continent and now even to the construction of the largest hydropower plant on African soil. The two major multi-sectoral Growth and Transformation Plans (GTP I & II) aimed at consolidating and expanding these achievements. Nevertheless, it has been briefly pointed out above that the rapid industrial development has not necessarily been environmentally sustainable, nor socially inclusive. Even though the current industrialization agenda and the environmental governance section follow the two imperatives of becoming a middle-income country and mitigating CC, the CRGE is now necessary to bring Ethiopia on a more socially inclusive, sustainable and low carbon development track, in the very short time frame of fifteen years (Okereke, et al., 2019).

The today's government is devoting a high share of its budget to pro-poor large scale programs and investments through donors and international development institutions, working closely with the World Bank, the United Nations and more to tackle its development challenges (World Bank, 2018). Nevertheless, the dominant Ethiopian development discourse is currently a green growth strategy, and this creates the necessity to ask if the dominant discourse of GE has its flaws by dismissing the holistic sustainability of transition processes.

3.2 The CRGE and sustainability transition

“We will soon reach a goal of 100% renewable energy and then we want to start exporting the electricity ... we are embarking on a carbon-neutral path.” (Ethiopian Prime Minister, COP-15, 2009)

In 2011, Ethiopia has implemented an ambitious and for Africa quite unique Climate Resilient Green Economy (CRGE) strategy which is a 15-year plan aiming at creating a green economy (GE) to bring Ethiopia to a middle-income country (MIC) status by 2025. It is following the GTP I and II that were in place beforehand and were aiming at boosting Ethiopia's industrialization. The aim of the CRGE is to spur green industrialization in Ethiopia, leapfrog environmentally unsustainable development and bring the country to middle-income status by 2025, which clearly implies lifting the living standards for the Ethiopian population (Okereke, et al., 2019). The CRGE initiative has been implemented under the leadership of the Prime Minister's Office, the Environmental Protection Authority (EPA) and the Ethiopian Development Research Institute. Furthermore, Ethiopia is closely collaborating with major development institutions such as the UN, the IMF and with seven sectoral teams involving more than 50 experts from more than 20 leading government institutions, and is trying to attract even more development partners to successfully implement their new green growth model (Federal Democratic Republic of Ethiopia, 2011).

The CRGE strategy is a dual initiative to build climate resilience and meanwhile build a low-carbon GE (Federal Democratic Republic of Ethiopia, 2011). It is stated in the CRGE that reaching middle-income status by 2025 will require boosting agricultural productivity, strengthening the industrial base and fostering export growth. Ethiopia's government has expressed their ambition to become a 'green economy front-runner' by 2025 through this CRGE strategy (Federal Democratic Republic of Ethiopia, 2011). Calculations show that the sustainability transition towards a green economy is expected to cost \$150 billion over the 20 years after implementation, with a share of \$80 billion to go straight into capital investment and \$70 billion for operating and programme expenses as such. The CRGE initiatives are expected to offer positive returns on investments and is thus supposed to promote economic growth by

creating additional and higher-value jobs. There is expected co-benefits to appear in improved public health through air and water quality and in promoting rural economic development through increased soil fertility and food security (Federal Democratic Republic of Ethiopia, 2011). These expected co-benefits are important for this study since their sheer appearance shows that the CRGE is not just intending to build a low-carbon economy, but also have benefits for more holistic social development. If these co-benefits have occurred after half the CRGE period is over, will be the main focus in the analysis later on.

The CRGE follows a sectoral approach and is dividing the targeted sectors into four major pillars (see Figure 3.1).

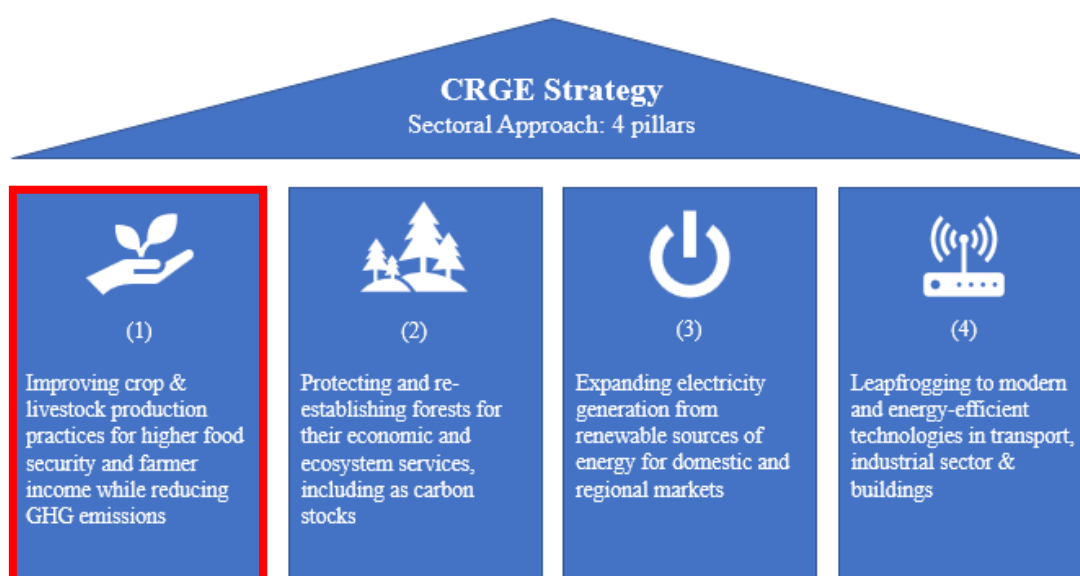


Figure 3.1: CRGE's four sectoral pillars, retrieved from CRGE paper

Figure 3.1 shows the four pillars that represent the sectors the CRGE Green economy section is targeting, these are namely (1) Agricultural practices, (2) Afforestation, (3) Electricity Generation and (4) Technology. Upon this basis and with regard to the cultural background of Ethiopia, it has been decided to solely focus the analysis on the agricultural sector (highlighted in red in Figure 3.1) since it is the core sector of the economy in Ethiopia and will also play a major role for livelihood security in the future. Another reason for the choice of one sector is the sheer complexity of analysing sustainability transitions on a national scale, and therefore it has been decided to solely focus on the most important economic sector for livelihood security and social stability in the setting of Ethiopia.

For the CRGE strategy implementation, more than 150 potential green economy initiatives across seven sectors have been scanned and 60 of these have been shortlisted for inclusion. Each of these specific initiatives is supporting one or more of the four pillars to achieve Ethiopia's goal. Since it is costly, difficult and time-consuming to implement 60 initiatives at

once, four major initiatives have been shortlisted for fast-track implementation that can promote growth immediately and additionally attract climate finance for following initiatives. One example is the planned distribution of clean-fuel cooking stoves, to reduce the use of firewood (Federal Democratic Republic of Ethiopia, 2011). These ambitious expectations add an interesting dimension to the analysis since the government has a clear monetary intention (tapping into climate finance) to perform well in their sustainability transition, which raises the question of which intention has the higher priority, inclusive and dual development or tapping into climate finance through being a ‘green economy front-runner’.

4 Theoretical Framework

In the field of sustainability science, many authors are concerned with the intrinsic fuzziness of the sustainability concept itself, and thus criticize the resulting fuzziness of frameworks for analysing the impacts of sustainability implementations (e.g. sustainable development is, like social justice, a value-laden concept that has many different dimensions and perceptions) (Sala, Ciuffo, & Nijkamp, 2015). This has been mentioned in the literature review where authors such as Hansen and Coenen (2015) have criticized the use of fuzzy conceptualization for assessing the impacts of sustainability, on a national level especially due to the normative character of the concept of sustainability (Janker et al., 2019). Sala et al. (2015) further argue that to fully understand the complex dynamics involved in the introduction of a new policy or product is often beyond our capabilities, especially for what concerns the social and economic spheres of sustainability.

To reduce the complexity of executing a full socio-technical analysis on regime level (that is out of scope), but still offer a flexible framework, this study’s theoretical ground rests on the triple-bottom line (TBL) framework, that considers environmental, social, economic activities and their outcomes as endogenously interrelated (Bryden, Arandia, & Johnson, 2008). By drawing on this TBL framework, that sees the integrity of the three dimensions (environmental, social and economic) as essential to sustainability, the ‘sustainability’ of low-carbon development is understood as processes of its development that secure economic long-term feasibility while providing rural areas with social and environmental benefits, e.g. local GHG emissions reduction, less pollution, higher income, higher-value jobs etc. (Cavicchi, 2016). The choice of the TBL goes in line with Musango et al. (2016) who argue for cross-fertilization of different disciplines to assess transitions in the developing context. The TBL is allowing to be applied to the developing setting of Ethiopia’s agricultural setting by acknowledging the interconnectedness of the three dimensions for holistic sustainable development.

Sala et al. (2015) criticize that when the TBL framework is used for assessing sustainability, it often results in comparing different alternatives on the basis of indicators (more

or less) casually chosen from among various alternatives in the three pillars of sustainability (namely economy, environment and society), without deepening the analysis of potential interconnections between the pillars. Thus, in order to overcome this criticism, to stay in the scope of this research and to overcome vagueness and subjectivity in favour of a transparent, robust and flexible assessment, this TBL framework is integrated with a two-fold methodological approach, that will be examined in the following section.

Figure 4.1 is a conceptualization of the used TBL framework and shows how the economic dimension, the environmental dimension and the social dimension are highly interconnected. The intersection of the environmental and the economic dimension must be viable, the intersection of the environmental and social dimension must be bearable and the intersection of the economic and social sphere must be equitable, in order to make a policy or a product properly sustainable. This framework will be used for analyzing the effectiveness of the CRGE approach in the context of Ethiopian agriculture and rural development, and how exactly this framework will be executed to tackle the common criticism, will be further explained in the methodological section.

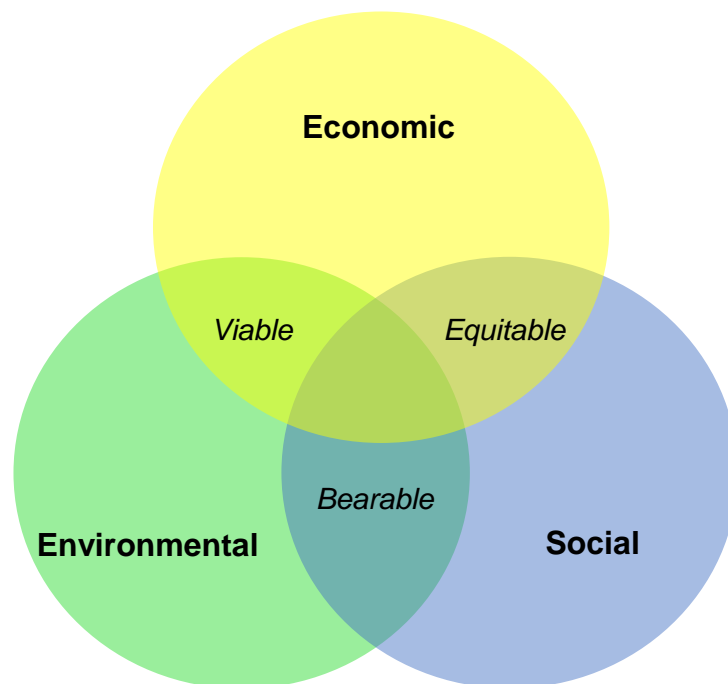


Figure 4.1: Conceptualization of Triple Bottom Line (TBL) framework for assessing sustainability

5 Methodological Approach

In this section the methodological approach will be explained. Firstly, the case, the design and the chosen methods are examined and justified. This will then lead to the specific data sources that will lead the analysis and why and how they are necessary to answer the research question. This section will end with delimitations that are important to keep in mind for this research and the use of the methods. The research question that will be answered through the methodological approach and the analysis is the following:

- 1) How effective is the Climate-resilient Green Economy (CRGE) strategy from 2011 in fostering sustainable rural development in Ethiopia' agriculture, through the lens of the Triple-Bottom Line approach?

5.1 Case and Design

This research will be carried out as an embedded single case study, with the unit of analysis being the agricultural sector of the Federal Democratic Republic of Ethiopia. Single case studies are described as an applicable design for investigating and understanding complex social phenomena and real-life events such as organizational and managerial processes (Yin, 2009). Yin (2009) is arguing that “a case study is an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident” (p.18). The case has been chosen to be Ethiopia because there is a drastic lack in literature analysing developing nations and their sustainability transitions due to its relatively new-ness. Asia has already become an academic target for investigation because of the Asian growth models like China, Japan, Taiwan etc. due to their unique and rapid development paths. Therefore it has been decided to use an African nation for investigation and since the literature is very limited in this area, there was a need to choose a nation that has strong green growth plans implemented but still remains a developing nation. Ethiopia developed to be a highly interesting case due to its developmental history and regime, its ambitious green development plans and at the same time its difficult development stage and challenges. For this research, there is solely a focus on half of the CRGE that is targeting the GE and not the part for building climate resilience. There is awareness that the two faces are highly intertwined but to answer the research question, the GE initiatives is playing a more important role than the establishment of CC resilience. The CRGE strategy has been chosen as a point of departure for the analysis for several reasons. First, it helps identify the sectors that are actually targeted by the CRGE to transition towards a greener path. Second, prior plans that have been in place (GTP I

and II) have followed traditional development models and do not necessarily go in line with green economy strategies and therefore the CRGE strategy is the most helpful to identify eventually triggered transformative processes and its outcomes on the ground. Third, this strategic policy document enables us to look at the dualism of creating a green economy and building an alternative development trajectory for Ethiopia which is an important point of departure for this study. For the latter reasons the CRGE strategy was consciously chosen as the main source for identifying the sector of the analysis. Agreeing with Yin (2009), the green transformation of Ethiopia is a contemporary phenomenon and the boundaries of the transition process and the context (developing context and challenges) are neither clear nor evident. Therefore this makes a highly interesting single case study which will hardly be comparable to other nations in Africa but is nevertheless valuable for further research.

It is therefore necessary to break down the formerly mentioned complexity of the transition into feasible units of analysis that make this research stringent and especially investigable. The three sustainability dimensions of the TBL are used as a theoretical frame to apply structure to the analysis and make it more stringent. Gerring (2004) is agreeing that a case study should be an intensive study of a single unit but can contain particular sub-units (dimensions) to help guide the analysis which in this case is consisting of these three sustainability dimensions of the TBL, applied to the Ethiopian agricultural sector. Having an analytical focus on the three dimensions makes this research a so-called 'embedded' case study design with multiple units of analysis (Yin, 2009, pp. 50-52). Since this research is not just aiming at examining the overall nature of the sustainability transition in Ethiopia but looks at specific sectoral changes in agriculture, the embedded single case study is seen as the most appropriate design to answer the prior research question.

The bounded nature of a single case study makes it necessary to define both the synchronic (spatial) and diachronic (temporal) elements that build the so-called 'case'. In this research the synchronic boundaries are lying in the national boundaries of Ethiopia in the agricultural sector, since this research is investigating changes introduced on a national and political level, that have effects on the ground. The diachronic boundaries of the case are intentionally set to the implementation of the CRGE strategy in 2011. It has been mentioned in the background section, that Ethiopia has experienced a 30-year period of growth and industrialization, but for the analysis of the transition towards a green economy through low-carbon development, the time frame needs to be set to from when the strategy was implemented. Like mentioned above, the sustainability transition and the implementation of the CRGE are a relatively new and contemporary phenomenon, which goes in line with the design of this research. The time frame from 2011 until today (2019) is eight years and very short for seeing effects of the sustainability transition. Nevertheless, it is necessary to set these boundaries intentionally

narrow, for the sake of making this case investigable and tangible for the very limited scope of this research.

5.2 Methods and Sources

This research is being carried out through mixed methods, with two data collection steps that feed the empirical analysis, one qualitative and one quantitative in nature. Priority is laid on the qualitative approach which then is being followed by the quantitative approach (QUAL→quan) (Bryman, 2012, p. 632). This mixed-methods approach follows the purpose of completeness, that is described by Bryman (2012, p. 633) as mixing methodology to bring together a more comprehensive account of the area of inquiry. The mixed-methods approach makes most sense for this research, since sustainability transitions take place on multiple levels and cannot be analysed solely by quantitative methods, nor solely by qualitative methods.

All data sources consist exclusively of secondary data, which inherits the advantage that it is less time consuming and less expensive than primary data collection. Especially for small-scale research projects like this, the usage of secondary data is an advantage. It allows the researcher to spend more time on the analysis than on the data collection as such (Bryman, 2012, p. 313). Furthermore, secondary data can be thought of as being of high-quality and reliance due to peer-reviewing processes. Nevertheless, there is awareness that using solely secondary data has its flaws. It narrows the analysis in terms of relying on what others have produced and creates a certain bias. One argument is that it is difficult to establish causality with quantitative secondary data or the complexity of the data that the author is unfamiliar with (Bryman, 2012, p. 316). These concerns are being dealt with by applying a mixed-methods approach, that is first building on the qualitative approach, and then translating into a quantitative approach for data collection.

The first step of the data collection is to make use of qualitative data sources, namely the official *CRGE strategy* (2011), the Organisation for Economic Cooperation and Development's (OECD) Green Growth paper *Making Growth Green and Inclusive: The case of Ethiopia* (2013) and the *Development Aid to Ethiopia* report by the Oakland Institute (2013). The approach of using qualitative sources to identify major key issues provides useful material to detect important narratives in the context of Ethiopia that influence the development paths, especially in rural agricultural areas. The qualitative method of categorizing, coding and crosschecking between the sources has been applied to identify major key issues that concern the agricultural rural development in Ethiopia. The core issues that are the results of the qualitative data collection are mainly: 1) emissions, 2) finances (including climate-related financing), 3) land ownership, 4) demographic change, 5) gender and 6) energy. To identify these six core issues, the OECD and the Oakland report have served as the basis, while the CRGE was more helpful to identify the sector and the aims of the strategy.

The second step of the data collection is to assign quantitative indicators to the specific identified qualitative core issues (e.g. GHG emissions, total GDP etc.). The choice of indicators is grounded in the qualitative sources, which tackles the argument of Sala et al. (2015) that the choice of indicators for the TBL is casual and random, but rather re-investigates what official sources already pointed out in 2013. The indicators have been assigned to the three dimensions of the TBL framework for the sake of clarity, structure and transparency (See Table 5.1). The indicators assigned to the economic dimension of the TBL are mostly dealing with macro-economic figures that contain information about the sectoral economy of agriculture. The indicators chosen for the environmental dimension are mainly emission statistics but are also concerned with energy supply and access to green energies. The indicators assigned to the social dimensions mainly deal with rights, gender, and trends in demographics, due to their inherently social nature.

Table 5.1: Quantitative indicators sorted after three dimensions of TBL

| Economic | Environmental | Social |
|---------------------------|------------------------------------|----------------------------------|
| GDP | Total CO ₂ eq emissions | Forced Relocations |
| Agricultural Share of GDP | Carbon Intensity | Human Rights Violation Index |
| Formal Employment | Electricity generation | Average farm size |
| Gross Production Value | Access to electricity | Livestock contribution |
| Agricultural Productivity | Share of renewable energy | Female employment in agriculture |
| Farmer Income | Distribution of clean fuels | Women's economic rights Index |
| Food Security Index | | Population Growth |
| Climate Financing | | Urbanization |

The sources for the quantitative indicators are statistical data banks of the World Bank Data and the United Nations Data, especially of the Food and Agricultural Organization (FAO) of the United Nations (FAOStats). Furthermore, Statista and other statistics webpages have been the source for the quantitative data. Additionally, index data has been used to measure the overall performance of the economy, such as the food security index, and to use them as a linkage to the more specific data. The time frame of 2011-2019 has been assigned to the quantitative data, to compare the periodic change of the indicators in the assigned time frame. For a conceptualization of the methods see Figure 5.2.

For the empirical analysis, the qualitative and quantitative data is being integrated into and analysed in the broader context. The data material for the analysis has emerged during the process and has been crosschecked via an iterative process of multiple data sources (quantitative

and qualitative) to paint a picture as holistic as possible and increase the validity of the research, framed through the TBL. It is important to keep in mind that this analysis is not resulting in causality, but rather serves as a normative comparison of where the development of the CRGE is supposed to head (according to the strategy itself) and how effective it is for rural development in Ethiopia’s agriculture. Thus, this analysis is rather gauging trends, being aware that relying on secondary statistical data has its flaws and creates difficulties for pinpointing causality (Bryman, 2012, p. 314). Not being able to pinpoint causality does not take away any validity of the results, but rather indicates awareness of the complexity of pinpointing causality in the developing context. Since the CRGE is a normative policy, it can nevertheless be analysed if the expected benefits (social, environmental and economic) have occurred or not – and if not, what the broader context is these trends occur in. That is the reason, this research will be carried out through a mixed-methods approach, to be able to cross-fertilize between different disciplines, sources and methods in order to create a more holistic and interdisciplinary analysis.

The literature that is used to create the literature review has been retrieved through LUB-search and Research Gate and the process was started by searching for ‘sustainability transition’ keywords. From this field, targeted snowballing through the bibliographies of the authors has been executed. Through this method, key authors could be identified, and publications and the different discourses were easier separated through key authors. From there, the need arose to adjust the literature search and integrate ‘developing context’ or ‘developing countries’ in order to get closer to the identified gap in the literature. This targeted literature snowballing is helpful to familiarize with the complex field of sustainability transitions and green economy discourses.

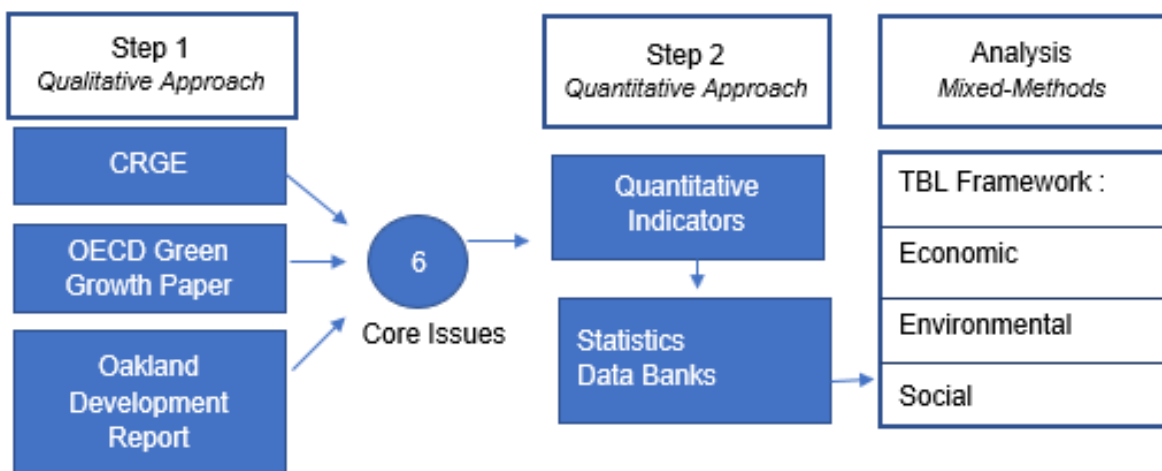


Figure 5.2: Conceptualization of Methods

5.3 Delimitations

For this research to succeed, there is a need to set strong boundaries and delimitations to make the scope of the work feasible and valid. Mixed methodology has many flaws but is found to be helpful in this case to create more reliability, validity and flexibility, especially relying on qualitative sources and translating the findings into quantitative periodic comparison. The reliability of the qualitative sources, here policy papers and reports, is a difficulty, especially because they tend to be very ambitious describing the implementation of national plans instead of portraying real changes. This is often a limitation of secondary qualitative sources but is tackled easily due to the official nature of the papers, stemming from big international institutions. Another limitation is the availability of the secondary quantitative data. During the data collection it has become clear that most statistical data is not up to date yet, and therefore the most current available data for each indicator has been used, which often resulted in being the year 2016. This limitation has been solved by comparing similar indicators with similar time frames and working with what was available. Another limitation for this research is how the indicators have been assigned to the three TBL dimensions. They all are highly interconnected and could be included in the different parts if argued correctly, but for the sake of the reader the indicators are assigned after logical reasoning, see Table 5.1 for clarity. Furthermore, it is questionable if the chosen indicators are representative, in their dimensions, but also in the broader picture. Are specific indicators missing that should have been considered? For the sake of structure and clarity, and grounded in the qualitative data sources, these indicators have been chosen for the analysis, being as broad as possible, with the awareness that not the whole picture can be covered, but rather these core indicators are used to support the pillars the three TBL dimensions can be based on.

Since this research is carried out as a single case study of Ethiopia's agricultural sector after 2011, the research will be neither generalizable nor comparable to other case studies because it is embedded in and dependent on Ethiopia's unique socio-economic and historic country specificities. It will solely focus on the case of Ethiopia's agricultural sector and development and will just analyse its current situation (in the assigned time frame), without considering much the historic past nor the unknown future. The time frame is therefore intentionally kept narrow. Another limitation for this research is the danger to lose the red thread, and therefore the TBL framework has been applied with simplified dimensions, to structure the analysis.

Some data sources could be contradicting (quantitative and qualitative). The vast amount and diversity of data sources for this research can be an advantage or a disadvantage if not used correctly or in a systematic clear way. It is necessary to follow a red thread and a story line throughout the research and throughout the analysis to not lose track and the purpose of the research work.

6 Analysis

It has been argued before that GE and the ‘greening the economy’-approach often have even negative impacts on social inclusions, human development and other sustainability dimensions, and solely focus on low-carbon development and industrial green growth through limiting environmental degradation (Cavicchi, 2016). This analysis is not trying to establish causality, but rather investigates the periodic development of representative indicators that have been identified through former reviews and then been put into context. This can result in identifying if the CRGE is having the expected effects in fostering holistic rural development or if the trends show the opposite, that is has not yet delivered what it is supposed to.

6.1 Economic Dimension

To analyze how the agricultural sector has developed in Ethiopia since the implementation of the CRGE, it is useful to look at the bigger picture, how the market has developed itself, to later boil down and go more into detail. In the background section of the Ethiopian case it has been shown that, similar to large parts of Sub-Saharan Africa, smallholder agriculture still is the primary livelihood source, engaging 85% of the Ethiopian population, especially in non-mechanized and rainfed agriculture, with a strong focus on livestock. In the CRGE strategy the Ethiopian government is stating that well into the foreseeable future, agriculture will remain the core sector of the economy and provide employment for the vast majority. The projections are that more than 8% of annual agricultural growth is needed to not only increase the majority of households’ income, but also provide food security and increase direct exports of agricultural products and products that require agricultural input (Federal Democratic Republic of Ethiopia, 2011). The total Ethiopian Gross Domestic Product (GDP) sharply increased, while the agricultural share of the GDP declined (See Figure 6.1) (Statista, 2019a) (Statista, 2019b), which shows the diversification of the economy in other sectors such as manufacturing and services. In 2016, formal employment and salaried workers scored exceptionally low, being 11.2% of the total employment in Ethiopia (World Bank, 2019b). In 2016, the formal employment in the service sector is 22% (17% in 2011), 9% in industry (7% in 2011) and 69% in the agricultural sector (76% in 2011) (World Bank, 2019b). The aim to produce higher paid jobs in the service sector through the CRGE has not yet seen major successes, due to the fact that solely 11.2% of the total employment are formal, even in 2016.

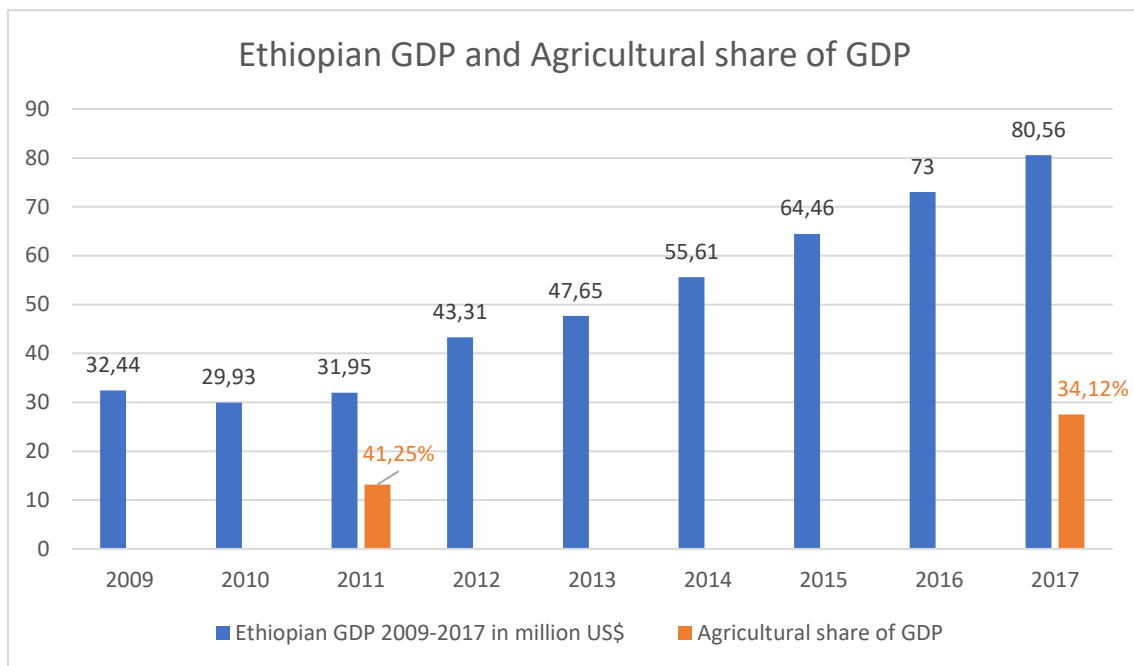


Figure 6.1: Ethiopian GDP 2009-2017 in million US\$; Agricultural share of GDP in %, Statista (2019a,b)

The gross production value of the agricultural sector has slightly increased from 10,465,403.64 (in 1000 IS) in 2011 to 12,227,903.41 (in 1000IS) in 2016 (FAO, 2019), with more than 70% of the average farming activity being livestock due to its resilience and for risk-coping with its ‘near-cash’ value (Dagerskog et al., 2018). Beside of this rapid increase in GDP in just four years, agricultural productivity still remains exceptionally low with a poor annual value of crop production of 707 US\$, below Sub-Saharan Africa averages, which results from limited use of irrigation, regular droughts and limited use of improved seeds or fertilizers (Dagerskog et al., 2018). Poor land management has led to severe land degradation which goes together with low agricultural productivity. Connecting these figures back to the declined share of agriculture in the GDP while the overall GDP almost doubled, one can argue that agricultural productivity has not increased significantly since the implementation of the CRGE. The average small-holder farmer income in 2018 is 1246 US\$ and the average head count of a family is five, which makes an average of 1.46US\$ per day per person (FAOSTAT, 2019), which is exceptionally low after the implementation of a national green growth strategy that is aiming at raising farmer’s income.

It must be kept in mind that farmer’s income is not always a reliable measure especially in developing countries, because income can change quickly, while poverty does not and thus measure income must be used with caution and consideration. The low agricultural productivity is interesting to analyze, especially knowing that the Ethiopian state has nationalized land in order to scale up agricultural productivity (Mousseau & Moore, 2013). The fact that most Ethiopians that engage in agriculture and farm on subsistence level to secure their livelihoods contradicts the fact that the Ethiopian government is aiming at using agriculture as an engine for green growth,

to sell land to foreign investors. It is obvious that this discrepancy is creating tensions over land ownership, which will be taken up in the social dimension.

Another important indicator in the economic dimension is food security, which can serve as a complementary indicator to farming income. From 2011 until 2016, Ethiopia’s Global Food Security rapidly decreased from 39.4 to 36 (The Global Food Security Index, 2019). This latest index ranking of 2016 puts Ethiopia on place 100 out of 113 globally, which indicates extremely high food insecurity (See Figure 6.2).

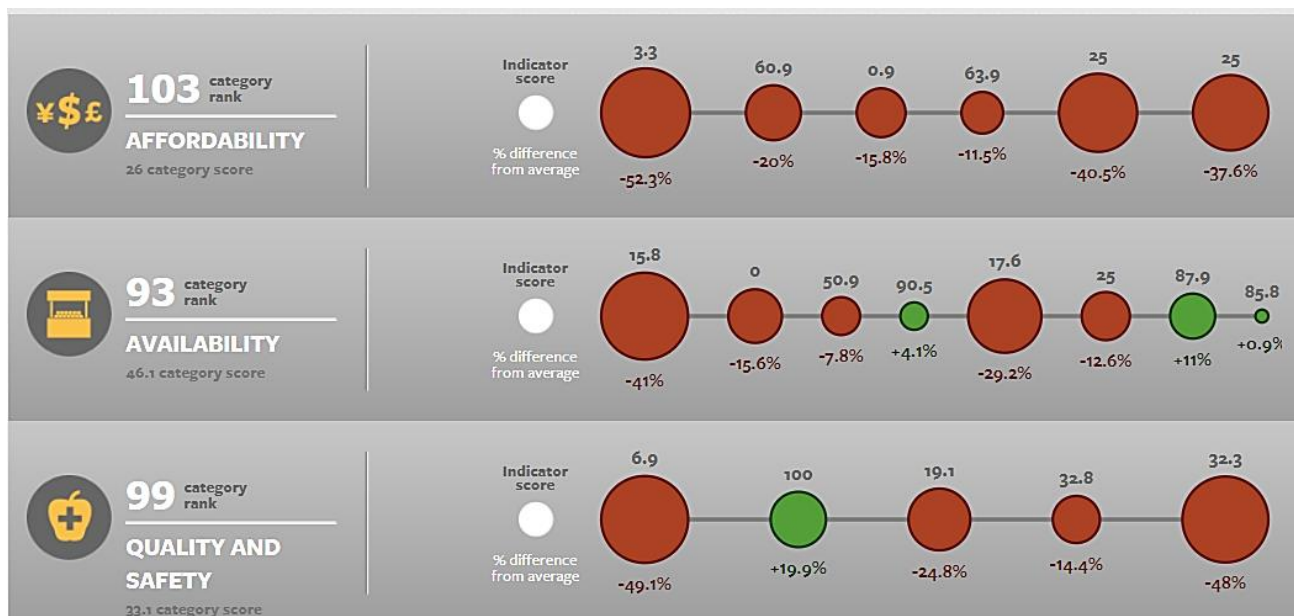


Figure 6.2: Categorical Global Food Security Index Ethiopia 2016, retrieved from Food Security Index

Ethiopia is especially ranking low in the category of affordability, being placed on rank 103. In this category the food consumption as a share of household expenditure, the proportion of population under global poverty line and agricultural import tariffs are exceptionally negative, which has big impacts on the livelihood security of smallholder farmers. In the category of availability, Ethiopia ranks on place 93 with a drastic lack in sufficiency in supply, high risk of political instability and high corruption. These indicators show that the infrastructural and political environment surrounding the agricultural sector is not developed well and frequently being shaken by political difficulties such as corruption. The third category addressing quality and safety ranks lower again on place 99 with the major issues being diet diversification and food safety. These different categories and indicators clearly show that Ethiopia’s agricultural sector has not yet been transformed enough to ensure food security for its population and especially for the vulnerable smallholder farmers. Reasons for that can be many, but it is important to keep in mind that a big aim of the CRGE is to increase livelihood and food security for its people, which has not yet been successful.

Thinking back to the literature that was explained, one may agree with Bauer et al. (2015) in their argument that the Ethiopian concept of a GE stays (in 2019) in the boundaries of macroeconomic growth as a market liberal growth strategy that is mainly focusing on technological and economic parameters, especially on the economic level. It shows that at least on the economic level, the CRGE is used to create a low-carbon industrial sector and strengthen growth of the economy, while not considering the importance of the agricultural sector as a security of livelihoods for marginalized communities and farmers that on average live of 1.46US\$ a day. The effects of building a GE through the CRGE and the expected trigger-down effects have not yet been distributed to much of the population. Even though Ethiopia is not necessarily following a market liberal growth strategy but rather has an authoritarian controlling regime, its aim is to become a MIC by 2025, which implies strong expected growth patterns in GDP. This does not specify where the growth comes from and Ethiopia is clearly aiming at the growth coming from industrial processes, while its main population is highly dependent on and formally and informally employed in a different sector, agriculture.

The growth of the economy is also an essential feature for the financing of the CRGE. It was explained briefly in the background section that the implementation of the CRGE is expected to cost 150 billion US\$ between 2011 and 2030 with an expected annual spending of 7.5 billion US\$. Up until now, there is no financial monitoring available to track the expenditure, how and where the money is going, which indicates a clear lack of transparency in the execution. This is not uncommon in the development sector, especially when many international funds and donors come together. For the CRGE, 440 million US\$ are supposed to be covered annually by national resources while several tens of million US\$ are supposed to come from international sources, annually. Additionally, Ethiopia’s government is strongly counting on attracting climate-related investment and climate finance as capital investment (Federal Democratic Republic of Ethiopia, 2011) (See Figure 6.3)

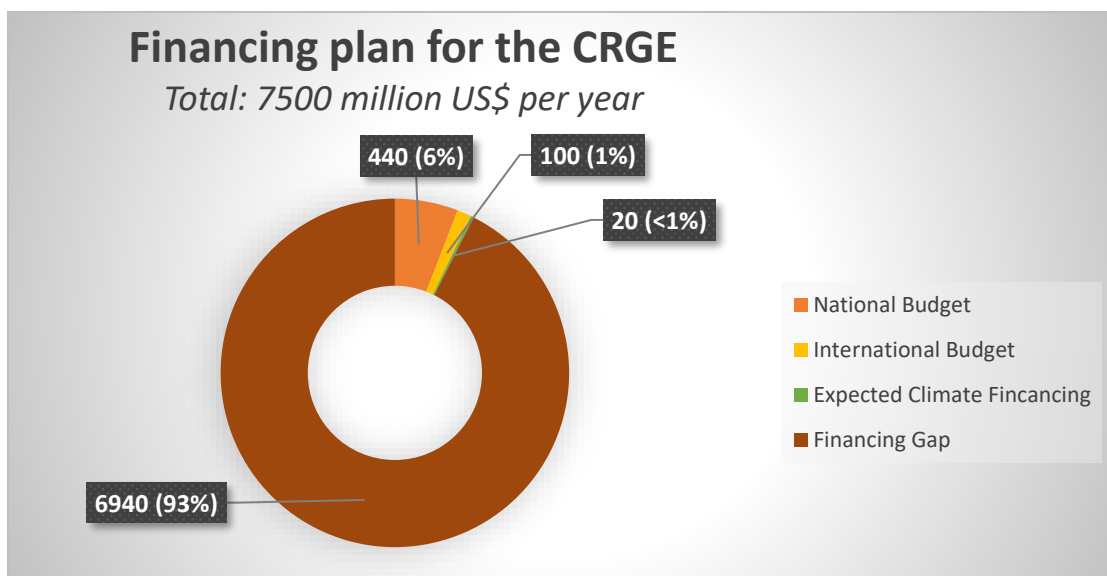


Figure 6.3: Shares of required budget for CRGE per year in million US\$, retrieved from the CRGE strategy

There is a major financing gap that can be detected. With the official formulation of ‘several tens of millions of US\$’ expected from external sources that derives from the official document, it is unclear how much exactly is needed. It becomes nevertheless clear that there is a financing gap between 440 million US\$ + several tens of millions and the expected 7.5 billion US\$ of spending per year. It is questionable where this amount of money is supposed to come from to successfully run the CRGE strategy. This puts an immense pressure on the government to execute the CRGE with the aim in the back of the head to tap into international climate financing without having the full money to execute it (Eshetu, et al., 2014). Up until 2019, 174.4 million US\$ of climate funding have been approved by different international donors (Climate Funds Update, 2019). Having an expected 7.5 billion US\$ on annual spending makes a required 60 billion US\$ in eight years, while having an approved sum of 174.4 million US\$ up until 2019. Resulting, this amount of approved climate finances does not quite cover the financing gap pointed out in Figure 6.3, which does with a high possibility show in the quality of execution of the CRGE. This financial pressure for investment is often a big problem for developing countries and receiving international financing from institutions or countries (here in the case of climate financing), can have severe impacts for the local population

6.2 Environmental Dimension

In order to switch agricultural practices to more sustainable ones, proper infrastructure and large-scale access to technology and finance is a necessity. Therefore this section is focusing more on environmentally related indicators that are connected to the social sphere, e.g. access and distribution of clean energy, than purely environmental figures such as quality of soil etc. The environmental assessment of the whole agricultural sector is out of scope, and therefore solely relevant environmental-social indicators have been used. Reminding of the quote mentioned in the CRGE strategy section, the Ethiopian Prime Minister said in 2009 that:

“We will soon reach a goal of 100% renewable energy and then we want to start exporting the electricity ... we are embarking on a carbon-neutral path.”

With the aim to tap into climate financing by reducing GHG emissions, the total emissions (CO₂eq) from the agricultural sector were 86.94 Mt in 2011 and rose to 100.49 Mt in 2016 (FAOSTAT, 2019). With the sharply increasing GDP mentioned above, the less strong increase of CO₂eq emissions from the agricultural sector indicates that the carbon-intensity of the industry is decreasing, because the GDP grew faster than the total GHG emissions from agriculture. Thus, the decrease of the carbon-intensity while seeing a decline in agricultural share of the GDP, the trend of decreasing food security indicates a prioritization of low-carbon development.

It sounds logical to first reduce carbon-intensity and switch energy production to renewable energy and then export green energy to other African nations – a common green growth tactics. In 2016, 92% of Ethiopia’s electricity generation came from waste & biomass sources (World Bank, 2019a), with a planned expansion on hydropower (the very controversial Gibe III Dam project) and solar photovoltaic (PV) (not enough financial capacity and lack of quality) (Eshetu, et al., 2014). The plans sound good so far, but the problem is a different one. In 2016, solely 42.9% of the total Ethiopian population had access to electricity. Of this number, 14.6 % lived in rural areas and 85.4% lived in urban areas. In the same year, 80.08% of the population were living in rural areas on subsistence agriculture, while the remaining 19.92% of people lived in urban areas (Trading Economics, 2019) (See Figure 6.4).

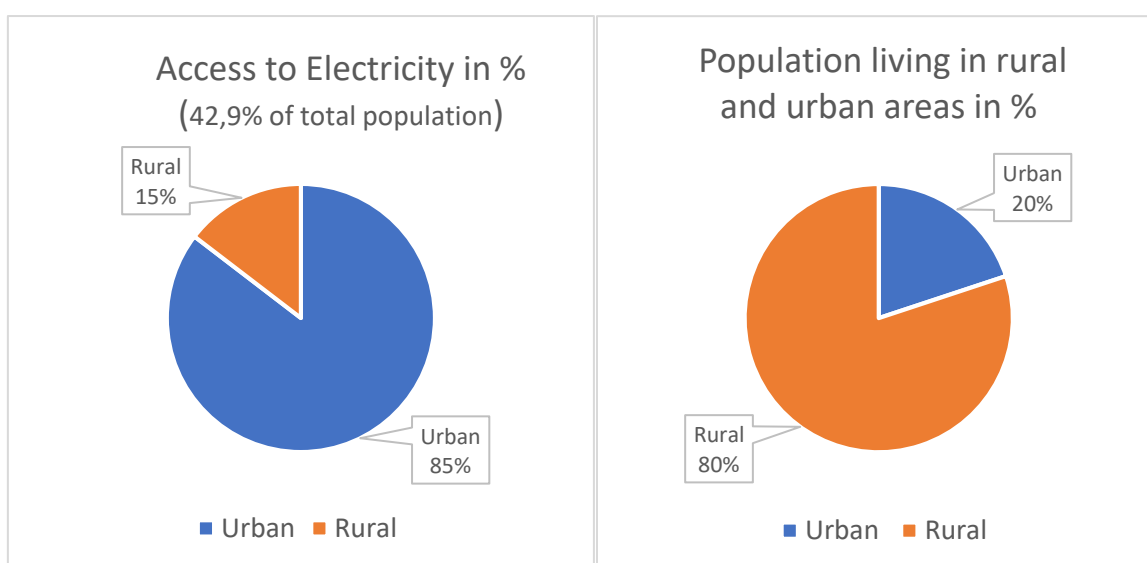


Figure 6.4: Access to electricity and rural-urban distribution in 2016, Trading Economics (2019)

Just to highlight this again, in 2016, five years after the implementation of the CRGE, 80.08% of the population had 26.5% of the energy access (rural) while 19.92% of the population had 85.4% of the access (urban) (Trading Economics, 2019). Here the argument can be applied that the transition to green economies should not just focus on implementing technology to lower emissions but should rather focus on socio-technical transitions that benefit the population.

This example goes in line with the difficulty of transition processes in the developing world that according to Franco-Garcia et al. (2018) seem to undermine the well-being of many and strengthen the privileges of few, reproducing the patterns of social exclusion by not dealing with proper distribution of the benefits. It is clear that building infrastructure for energy distribution is not a small task when limited finances are a burden, but when it comes to a country implementing a GE strategy, the benefits also need ways to be channeled to the local population, which is in this example not the case. Another interesting link to make is with Okereke et al.

(2019) who uncovered the dominant ‘industrialize first and clean up later’ mindset of the Western world. In Ethiopia’s case it seems to be an ‘industrialize first and distribute later’ philosophy, which does not seem to be sustainable when a major part of the population lives under the poverty line. It gets even more interesting when it comes to sustainable fuels and technologies for cooking that Ethiopia’s government has shortlisted as an urgent initiative in the CRGE. In 2016, solely 3.51% of the population had access to clean fuels and technologies for cooking (Trading Economics, 2019), such as new small household stoves that operate with clean fuels (here biogas). The discrepancy between rural and urban population is unknown for this figure, but the pure fact that the government heavily emphasizes the distribution of clean cooking technologies to reduce emissions and reduce deforestation and the distributional figure is still at 3.51%, speaks for itself. How Cavicchi (2016) is arguing, green energy supply often leads to higher energy prices (if even accessible) and thus has unsustainable effects on the ground, and in this case, there can be a similar trend detected. Energy production is fairly green and is aiming to be resource-efficient, but problematic is that it is unavailable for the majority of the population and thus socially and environmentally unsustainable.

In terms of environmentally friendly practices, it can be concluded that smallholder farmers need to be provided with appropriate infrastructure, methods and practices to be able to engage in more environmentally sustainable agriculture. It is also about holding large-scale farmers (mostly foreign investors) accountable of their impact on land and be forced to farm responsibly and socially inclusive. In Ethiopia, access to infrastructure and sustainable practices is drastically lacking, most of the rural population is still cooking with firewood collected from forests, due to the lack of electricity and technology. After the major drought in 2015, UN’s Alahoury Diallo declared that this drought in 2015 “is not just a food crisis – it is, above all, a livelihood crisis” (World Weather Attribution, 2015). This quote underlines that major crises are due to the lack of appropriate infrastructure not just a sectoral crisis, but often develop to be livelihood crises. The CRGE strategy aims high at lowering emissions by protecting forests and green agricultural intensification but is at the same time in their actions not concerned enough with access and distribution, which allows the conclusion that the CRGE does not help to strengthen livelihoods and to foster holistic development on this level.

6.3 Social Dimension

Since the whole green growth paradigm is taking place on a political level, it is a necessity to consider the social implications on the ground. This research is not concerned with the governance of transition processes, but rather with practical outcomes, that are aiming at fostering rural development and increasing rural livelihoods. There is especially one core issue that has been distilled from the qualitative sources, namely the issues revolving around land ownership and land

distribution that come from the political level yet have severe impacts on the local level. This has to do with a very controversial development program, the authoritarian state has taken in 2010. In the frame of the GTP I, which was also aiming at lifting the country to a MIC in 2015 (unsuccessful), the government executed a so-called ‘villagization-program’ (Mousseau & Moore, 2013). The government used the land to sell it to large-scale agricultural firms, mostly all foreign firms, in order to spur the industrialization of agriculture and increase productivity (Mousseau & Moore, 2013). This resulted in 2.43 million hectares of land being leased or sold to nearly 5,700 domestic and foreign firms and investors in 2011, just one year after the start of the program, and resulted in extreme land degradation. The effects were the forced relocation of 1.5 million people that are dependent on agriculture and pastoralism for subsistence. Major effects were increased food insecurity, destruction of livelihoods and the loss of cultural heritage. The Ethiopian government made deliberately use of violence, intimidation, political coercion and denial of governmental assistance as tools in forced resettlement of ethnic and pastoral communities (Mousseau & Moore, 2013).

Forced relocations in the name of development is not a new phenomenon, but it always has to be kept in mind how the government is achieving its goal, with which tools and on which expense, in the name of growth, or again, of ‘sustainable capitalism’ (Fischer & Freudenburg, 2001). ‘The end justifies the means’ is a common set phrase, correlating often with the mindset of governments for the sake of (economic) development. This villagization program has taken place from 2010-2013, thus in the time when the CRGE was implemented. These two programs took place side-by-side. Even though the villagization program did not take place in the frame of the CRGE or vice-versa, the effects on the social context cannot be dismissed since it had major effects on livelihood security and caused social upheaval. There is evidence that this villagization program created a major social issue, yet land ownership is not mentioned in the CRGE strategy at all, and also has not been addressed after the finalization of the villagization program either. Thus, the CRGE by dismissing landownership as a livelihood security allows this major social issue to flourish. An important conclusion to draw of these incidences is that agricultural modernization like the Ethiopian government did and is still doing, in the absence of land tenure for the local community, results in state-supported land grabbing. This happened in the time frame when the CRGE was already implemented, and land grabbing, enacted and allowed by the government, is clearly not a technique to foster holistic rural sustainability in the agricultural sector, nor to protect the land nor its people.

The World Bank is indirectly funding the controversial hydropower dam project mentioned above, that is aiming at becoming the largest dam on African soil. This dam is nevertheless not just providing electricity (to the few ones that have access) but will also be used to irrigate the large plantation that is being usurped from ethnic communities (Mousseau & Moore, 2013). The ‘architecture of repression’, how Mousseau & Moore (2013) call it, has led

even to the point that political freedom and freedom of speech are not tolerated much in Ethiopia. The ‘anti-terror’ initiative of the government is using the ‘terrorist’ label as a way to justify the cracking down on civil rights and to explain anti-government stands (Mousseau & Moore, 2013).

“Next time I travel to Ethiopia, I may be arrested as a terrorist. Why? Because I have published articles about Ethiopian politics.”

Tobias Hagmann, scholar of Ethiopia and Somalia (Mousseau & Moore, 2013, p.8)

It can be seen that the government is using its authority and its control as a tool to force their development strategies through. This has been seen in the GTP I and II and the villagization program, which was later described by the UN as the highest abuse of human rights, including arbitrary killings, torture, beating, mistreatment, arrest, detention, sexual abuse, illegal searches and many more (Mousseau & Moore, 2013). The Human Rights Violation Index shows that since the implementation of the CRGE in 2011 (and the ongoing of the villagization program), Ethiopia’s Human Rights Violation index has slightly increased from 8.5 (out of 10) up to 8.7 in 2013 (Our World in Data, 2019a). This trend goes in line with the human rights violations that the UN has acknowledged, and thus Ethiopia is in need of fostering inclusive growth and equality, which is not detectable in their CRGE.

It is interesting to connect this back to the role of the state that is assumed in a GE. Bauer et al. (2015) argue that a GE highlights the importance of centralized (and maybe even authoritarian) and national state actors to drive change. In the case of Ethiopia there is an authoritarian state regime that is supposed to drive change, which it does. Yet these changes are enacted by dominance, exclusion and even foster violence, while the state does not manage to secure the livelihood of its people. Rather the authoritarian nature of the government and its economic interest in growth even creates more vulnerability and dependence of its citizens, and this development is in regard to the purpose of the CRGE not holistic nor social inclusive, and also does not foster environmentally friendly agricultural practices nor protection of land. It rather fosters and prioritizes large-scale industrial agriculture, that is well known to have severe impacts on the environment, when the sole purpose lies on increasing profit while lowering GHG emission. It at the same time fosters land grabbing by foreign investors which is highly socially unsustainable and leads to high social insecurity, vulnerability and higher food insecurity.

Having mentioned the importance of land ownership and rights in Ethiopian history, the necessity to consider the latter in a national Ethiopian green growth strategy seems strangely obvious. The access to land, the right to use and own the land and (re)distributional issues should be identified in a green growth strategy whose main pillar is, exactly, agriculture, especially with the history of the fairly badly executed villagization program. Yet the strategy has not gone

beyond monetary measurement nor behind GHG reduction measures which indicates a tendency to rather dismiss the socio-cultural and historic background of the sector, and rather promote economic growth as the non-plus-ultra engine to bring Ethiopia to a middle-income country. Coming from a development studies point of view, there is not much argue that economic growth alone (let it be low-carbon or at least less carbon-intensive) does not automatically lead to an inclusive and holistic development path. Aligning with Cavicchi (2016), it needs to be coupled with a well-designed redistribution system that make the economic benefits reach all levels-including smallholder farmers – which is eight years after the implementation of the CRGE not the case yet.

The average land holding in Ethiopia’s agricultural sector is small, with 60% of the farms being less than a hectare in size in 2018 (Dagerskog et al., 2018). This makes it difficult for the farmers to pass the threshold of subsistence farming and forces farmers to utilize their available land as intensive as possible which leads to environmental degradation. Therefor many farmers engage in livestock production, which is knowingly one of the biggest contributors to GHG emissions and strongly contributes to land degradation, but gives the farmers some ‘near-cash’ capital stock in the case of common crises such as droughts and famines (Bass, Wang, Ferede, & Fikreyesus, 2013).

It has been mentioned already that livestock is one of the main agricultural activities of the Ethiopian population, but also contributes to 40% of the national GHG emission (FAOSTAT, 2019). Therefor the government has proposed in the CRGE to support the consumption of lower-emitting sources of protein, e.g. poultry instead of beef, and after their projections a share of poultry in meat-consumption up to 30% appears realistic (Federal Democratic Republic of Ethiopia, 2011). This shift sounds logical but is in reality incredibly challenging. Two factors that would make such a low-carbon development fairly unsustainable is one, the danger for increasing prices which would exclude the majority of farmers by denying access to poultry livestock or increase the market price and thus exclude the majority of consumers, which goes in line with Cavicchi’s (2016) argument of counterproductive trends on the ground. Another problem that arises is that due to the small sizes of subsistence farms, farmers need to use their rangelands as optimal as possible to get by on a subsistence level (Bass et al., 2013), which is not automatically the case through poultry, and forced changes in livestock mean decreasing livelihood security for smallholder farmers. This cultural discrepancy between reducing GHG emissions and livelihood security is especially important in a country that has such strong socio-cultural boundaries like Ethiopia does (Bass et al., 2013), since radical changes are harder implementable, even though enacted by an authoritarian state. These two factors show how complex and intertwined social practices are, but also how existing pre-conditions and market conditions influence green transitions and therefor do not just require a low-carbon development, but especially a locally-

applied, socio-technical transition that considers the norms, the practices, the historic context, and especially support for vulnerable communities by the government.

By analyzing how effective the CRGE strategy is to foster rural development in the agricultural sector in Ethiopia, one factor becomes evident. Land is a fundamental asset for agriculture and for rural development. A secure land ownership system would encourage farmer to use the land more efficient and effective as an asset to human development, which is not included in the CRGE.

Further, an identified problem is that rural poverty is often highly connected to women's lack of control over productive resources, which inhibits women's participation in commercial agriculture and negatively impacts on nutrition and health. Many scholars in development studies agree that women play an immensely important role in rural development and in agriculture (Cole et al., 2015). In the CRGE strategy, to boost productivity while lowering emissions, women should clearly play a core role in execution – also in planning. In 2017, 59.4% of formal female employees were employed in agriculture (75.78% males), of the 11.2% of total formally employed in 2016 (Trading Economics, 2019). This indicates a lack of inclusion of females in the agricultural sector, who are historically more vulnerable towards crisis and more dependent on agricultural activity (Cole et al., 2015). In 2011, The Women's Economic Rights Index ranked Ethiopia on the lowest level 0, which stands for zero economic rights for women in law and the government tolerates high level of discrimination (Our World in Data, 2019b). Therefore it is not evident why women and gender have not been mentioned in the CRGE strategy that is supposed to foster inclusion, lead to low-carbon development and lift the whole of Ethiopia's society to a middle-income country by 2025 (UNDP, 2007).

Another interesting issue to look at is the overall cultural perception of agriculture in society. The Ethiopian population is projected to double before 2050 (Populationpyramid, 2019) and this means a youth bulge is expected. The relatively low urban population at the moment is projected to boom and nearly triple to 42.3 million people by 2037 through rural-urban migration (Index Mundi, 2019). This would present a huge opportunity to shift the structure and location of economic activity from rural agriculture to larger and more diversified urban industrial and service sectors. This opportunity comes nevertheless with immense pressure for the cities in providing jobs, infrastructure, service and housing. The major cause of these urbanization challenges is the unbalanced growth between rising urban population and expansion of cities. Connecting this back with the earlier formal employment figures of solely 11.4% (Trading Economics, 2019) and most of it stemming from agricultural activity, this will be a major challenge for Ethiopia in the near future. The CRGE is strongly counting on the agricultural sector as an engine for green growth but has not considered the pressure of creating and diversifying the job market for the rural population. The potential loss of cultural meaning in agriculture and the unattractiveness of staying in rural areas due to the lack of jobs, health care and education will

have impacts on the agricultural sector and its planning today but is not considered in the CRGE strategy. There is no plan in the CRGE on how to make the agricultural sector and its work more attractive to younger people in the future, which indicates a lack of consideration of future perspectives on the cultural level. The absence of gender and women and also of demographic changes in the GE strategy is a sign itself and paints a rather old-school than modern picture of Ethiopia's current development trajectory.

6.4 Discussion

The carbon intensity of Ethiopia's economy and agricultural sector has decreased since the implementation of the CRGE in 2011, while the overall GDP has increased, and poverty has been drastically reduced. The economy has diversified but the CRGE's aim of producing more higher paid jobs in the service sector to take pressure off the agricultural sector has not yet been successful with extremely low formal employment (most of it stemming from agriculture). The vast majority of Ethiopian population is still living of subsistence farming, which is clashing with the government's goal to industrialize the agricultural sector by large-scale industrial foreign investors taking the land off the local communities, even enacted forcefully through violence.

The livelihood security of the agricultural sector is contradicting the idea of seeing agriculture as an engine for green growth, how it is described in the CRGE. Food security has decreased significantly since the implementation of the CRGE and has left many smallholder farmers vulnerable to crisis but also towards the authoritarian government. One has to keep in mind that the aim of the CRGE agricultural sector plan is to increase livelihood and food security for its people, which has not yet been successful. The trend of decreasing food security indicates a low-carbon development of the industry on the expense of securing the livelihoods of smallholder farmers or securing a proper distribution. The green growth approach of the CRGE does up until 2019 not secure the agricultural sector as a security of livelihoods for marginalized communities and farmers that on average live of 1.46US\$ a day. The effects of building a GE and the expected co-benefits have not yet been distributed to much of the population. It can be stated that the execution of the CRGE has so far undermined the well-being of many and strengthen the privileges of few by avoiding redistribution issues and rather focusing on lowering emissions. The problems with redistribution and channeling of the benefits to the population has been largely dismissed since the implementation of the CRGE.

An example for this problem is that the energy production is green and is aiming to be resource-efficient, but problematic is that it is unavailable for most of the population and thus socially and environmentally unsustainable. Concluding, for a GE strategy to be successful, smallholder farmers need to be provided with appropriate infrastructure, methods and practices to be able to engage in more environmentally sustainable agriculture in order to avoid major

livelihood crisis like the drought in 2015. The financial pressure for investment is often a big problem for developing countries and receiving international financing from institutions or countries (here in the case of climate financing), has had severe impacts for the rural Ethiopian population, which resulted in large-scale and state-supported land grabbing. Green economy strategies also often dismiss the dimension that rangelands must be used optimally, especially on the level of subsistence farming, which has not been considered in the CRGE. Gender and women have not had any space in the planning and execution of the CRGE, which has major downsides on social inclusion in Ethiopia that is already prone to high gender inequality. Bringing back Death's (2015) argument, one can say that by legitimizing big infrastructural and intensive commercial agriculture in the name of green growth, Ethiopia's government is exacerbating highly inequitable and even ecologically damaging growth patterns that have negative impacts on livelihood securities. Further, Okereke et al. (2019) stressed the need to connect environmental sustainability agenda with development goal such as poverty reduction, social justice, local community development and broader good governance. Despite poverty reduction that has been targeted already before the implementation of the CRGE, the goals of social justice, local community development and broader good governance have not been fostered by the green growth approach, but rather suffered under the dominance of growth as an engine for development. The result of this research is that low-carbon development like it is promoted through the CRGE in the last eight years has not been successfully locally applied, not considered social inclusion and not fostered human well-being on a small and large scale, especially in the short-term.

7 Conclusion

The TPL approach defines that the intersection of the environmental and the economic dimension must be viable, the intersection of the environmental and social dimension must be bearable and the intersection of the economic and social sphere must be equitable, in order to make a policy or a product properly sustainable. The UNEP's definition to a GE economy is that it is a "form of economy that can improve human wellbeing and social equity while reducing environmental risks and ecological scarcity" (UNEP, 2019) and the transitioning process as such must secure the long-term feasibility while providing the rural areas with social and environmental benefits (Cavicchi, 2016).

Based on the analysis and in line with Bass et al. (2013), the CRGE approach seems to be rather a 'map', than a destination of becoming a green economy front-runner and a MIC by 2025. Limited and violent governance capacity, the lack of transparency and the lack of monitoring and data of the progress are crucial indicators that show that the CRGE on a national level is too ambitious for such a short time frame, and the execution as such must drastically change for the CRGE to become sustainable on the ground. Clashing interests between local

communities and the government can be detected, especially between green growth as an engine for growth and holistic development imperatives, which makes the CRGE on the social level unsustainable and exclusive. The compromise of economics and unsustainable practices for attracting finances to fill the financing gap are hindering the prioritization of social development and livelihood security, and rather indicates that the environmental and economic intersection is not yet viable. Overall the CRGE approach has hugely missed people-centred problems and inclusive growth and thus makes it not equitable between social and economics. Significant improvements must be done in the areas of inclusion, human-well-being, in considering environmental limits and in solving the financial problems.

Based on the analysis it can be said that the economic growth parameter is highly prioritized in Ethiopia's CRGE approach, which has negative impacts on the social dimension. The lack of infrastructure and equal distribution of benefits results in improper execution and has negative effects on the environmental and social sphere. To answer the posed research question, this analysis shows that the CRGE in Ethiopia is not effective in fostering sustainable rural development, analysed through the TPL approach. Reasons for this are plenty, but the impacts of the CRGE are not fostering sustainable rural development which it is aiming at. Therefore, Ethiopia's CRGE has been found ineffective in fostering sustainable rural development in its agricultural sector, and even to be counterproductive towards achieving holistic sustainability. Ethiopia is a country battling with many complex and persistent development challenges. To conclude this research, it can be stated that it is difficult and often not possible to achieve holistic rural development through a green growth strategy in the developing context, like it can be detected in the case of Ethiopia's CRGE strategy in its agricultural sector, due to the lack of infrastructure for the distribution of the benefits.

Many sustainable development initiatives have had unsustainable impacts on the local level and are thus not helping in contributing to an alternative and sustainable development trajectory. Therefore, there is a huge need for further research to investigate sustainability transitions, especially in the developing world, to uncover dominant development paradigms and lead countries on a greener and especially more inclusive development path to improve human well-being.

Total Words: 17.751

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