The perceptions and experiences of urban dwellers, regarding the transition from an agrarian to an urban society

A qualitative interview study conducted in Urban Babati, Tanzania.

By: Elin Björklund and Oscar Segermark Viström

Supervisor: Kari Lehtilä
Södertörn University | School of Natural Sciences, Technology and Environmental Studies.
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Abstract

This study investigates how farmers, authorities, day laborers and full-time employees experience and perceive the transition from an agrarian to a more urban society in Babati, Tanzania. It is an interview-based essay, and an inductive thematic analysis method has been used to analyze the perceptions and experiences about the transition, and to profoundly examine the main environmental, social, and economic benefits and challenges that follows.

The results of the study show how the economic challenges govern the development compared to the social and environmental challenges, that are less prioritized in Babati. The results also show how urbanization was perceived as something good that increases prosperity and the number of social services. The society in Babati is still very connected and dependent on agriculture. Though the study explains possible future scenarios that indicates further rifts between the producer and the consumer in the food production as agriculture is being more rationalized, with the justification of primarily solving the situation regarding food security.

Key words: urbanization, agriculture, perceptions, Tanzania, Babati, Global South, sustainable development, Metabolic Rift Theory.

Sammanfattning

Denna studie undersöker hur bönder, offentligt anställda, daglönearbetare och heltidsanställda upplever och uppfattar övergången från ett jordbrukssamhälle till ett mer urbant samhälle i Babati, Tanzania. Det är en intervjubaserad uppsats där en induktiv tematisk analysmetod har använts för att analysera uppfattningar och erfarenheter av övergången, men också för att djupgående undersöka de huvudsakliga miljömässiga, sociala och ekonomiska fördelarna och utmaningarna som följer.

Studiens resultat visar hur de ekonomiska utmaningarna styr utvecklingen i Babati, jämfört med de sociala och miljömässiga utmaningarna som prioriteras/prioriterats lägre. Resultatet visar också hur urbanisering uppfattades som något bra, som ökar välstånd och tillgången på sociala tjänster. Samhället i Babati är fortfarande mycket beroende av jordbruket, men studien redogör för möjliga framtidsscenarier som indikerar ytterligare klyftor mellan producenten och konsumenten i livsmedelsproduktionen. Detta sker i takt med att jordbruket rationaliseras, då livsmedelssäkerheten i landet är av högsta prioritet.

Nyckelord: Urbanisering, jordbruk, uppfattningar, Tanzania, Babati, globala syd, hållbar utveckling, Metabolic Rift Theory.

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Abbreviations

(ADBG) African Development Bank Group

(BTC) Babati Town Council

(LIC) Low-income country

(MIC) Middle-income country

(MRT) Metabolic Rift Theory

(NBS) National Bureau of Statistics

(SSA) Sub-Saharan Africa

(TDP) Tanzania data portal

(UNA) United Nations Associated

(UN) United Nations

The cover photos are taken in Tanzania, by Elin Björklund in 2023 and the illustrations are made by Oscar Segermark Viström.

1. Introduction and the research problem

Currently and globally, more people live in cities and urban areas than in rural ones, an ongoing trend that is predicted to continue according to the United Nations (UN) (2019). If the years 1950, 2018 and 2050 are being compared - although the last year is a prediction - the global population went from 30% urban to 55%, and is predicted to reach a percentage of 68% by 2050. However, there is a substantial disparity between the levels of urbanization attained by various geographical areas (UN 2019). The urbanization as a concept is contextualized as an effective, positive progress and as a sign of development by many scholars in the literature mentions African Development Bank Group (ADBG) (2022). Often, highlighted in terms of economic growth, which has been the case for the nations in Sub-Saharan Africa the last decades (ADBG 2022). Anyway, it always reshapes the spatial patterns and the demographic dynamics of a society (Satterthwaite, McGranahan & Tacoli 2010) and comes with social, environmental and economic consequences that affect agricultural production (National Bureau of Statistics (NBS), Ministry of Finance 2013). Carter (2016) highlights a thought worth thinking about the global population situation as following quote:

> The sustained population growth of the past forty years and growing human prosperity suggest that humanity has remained much further from its natural limits than [once] predicted. … We do not know for certain how many people Earth can support, and it is possible that humanity has already set the age for its future demise. But that date still seems far off (Paul Sabin 2013, p. 58).

There is also clear evidence regarding how urbanization can be associated with today's situation in the relationship between production and consumption of agricultural goods in foremost the Global North, with a declining number of food producers compared to an increasing number of food consumers as a result of an more urbanized world (Satterthwaite, McGranahan & Tacoli 2010). This study is written to investigate how farmers, authorities, full-time employees and day laborers in Babati perceive and experience the transition from an agrarian to a more urbanized society, and how the urbanization impacts the agriculture (see *figure 1*). Further, to examine the main environmental, social, and economic benefits and challenges the transition brings.

Figure 1. The illustration visualizes a graphic arrow, it aims to show the transition from an agrarian to an urban society, with a connection to the research question (Oscar Segermark Viström).

1.2 Purpose statement and research questions

The purpose of the study is to contribute to the field of knowledge about how the transition from an agrarian to a more urban society develops in the Global South and particularly, with understanding within the countries with similar characterization and state of development as Tanzania. By examining and analyzing the perceptions and experiences of the transition from an agrarian to a more urban society in Babati, Tanzania in the light of the already existing knowledge situation in the field. Further, based on empirical data acquired through interviews in the early 2023, conducted in the urban and semi-urban areas of Babati. By analyzing the inhabitants' perceptions and experiences with various connections and dependencies on agriculture, with the target to contribute with valuable perspectives and information that hopefully strengthens the state of knowledge in the subject area. The research questions are examined based on the three sustainability perspectives: socially, environmentally (ecologically), and economically (see *figure 2*). The following questions are intended to be answered.

- What are the urban dwellers' perceptions and experiences regarding the transition from an agrarian to an urban society in Babati?
    - Which social, environmental, and economic benefits and challenges are addressed?

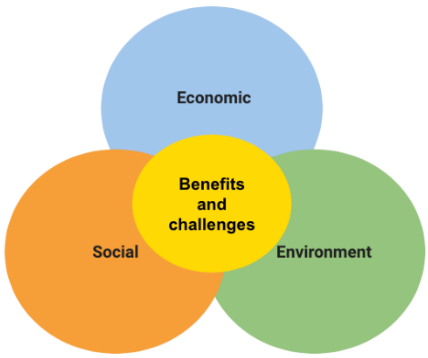

Figure 2. The illustration shows the three sustainability perspectives in balance, where them all play an important role to maintain sustainable development. Benefits and challenges in each of the perspectives will be reported in the study (Oscar Segermark Viström).

2. Background and theoretical framework

The background and theoretical framework chapter is comprehensive and provides an in-depth introduction for the reader as an historical overview of how urbanization and agriculture were linked and started 200,000 years back in history. Followed by an introduction to urbanization and agriculture; today, globally, in Africa and in Tanzania with elements such as sustainable development and the Metabolic Rift Theory (MRT). The purpose is to give the reader a comprehensive introduction in the discourse, which is a broad and interdisciplinary field of knowledge and adjoins several different disciplines. *Figure 3* give a broader view and illustrates all the included parts in the chapter.

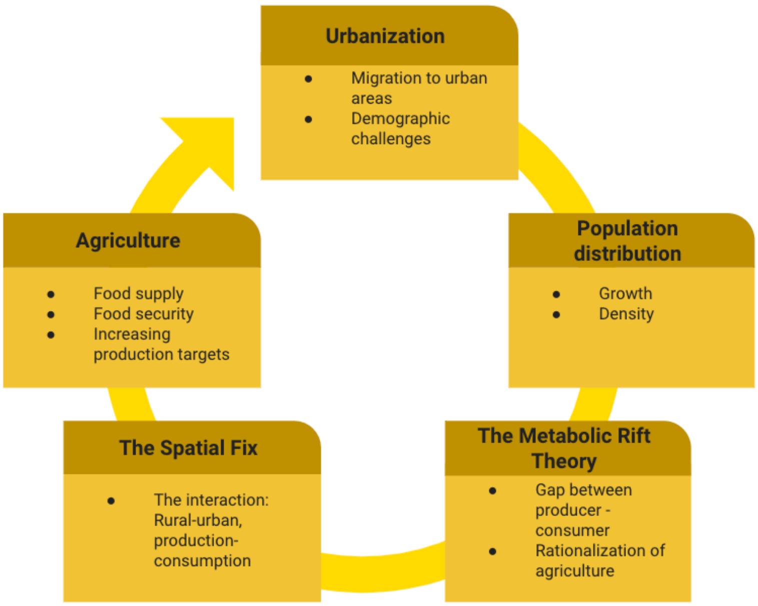

Figure 3. An illustration of the content in the background and theoretical framework chapter (Oscar Segermark Viström).

2.1 The emergence of urbanization, agriculture, and population growth: a historical review

The global population growth has occurred in different characterizations and shapes over time, but of mankind's 200,000 years of history on this planet (see *Figure 4*), we were foremost arranged in small groups of a few dozen up to around 100 individuals according to Carter (2016). It took almost 190,000 years before the global population reached 1 million people and at this stage we lived as hunters and gatherers. Since around 10,000 years b.c. started the Neolithic agricultural revolution in the Middle East and in the coming 1000 years it spread to Europe, Asia and Africa and thereafter it reached North- and South America. The reason why the change occurred at this time is explained by the domestication of animals and plants, forced by the lifestyle of the time and how it exceeded the carrying capacity[1] of the local environment. It becomes clear when the cultivation of animal feed and foodstuff took place in big quantities. Grains such as wheat, barley, rice and corn, could now be produced in relatively small areas, compared to nature's own supply, which has formerly been the pantry for mankind. The food production generated a surplus, which enabled the start of the population growth that still occurs nowadays. The existence of the human species was no longer limited to the same extent by high death rates that kept populations relatively small.[2]

During the 17th century it became more common to use plows, irrigate and rotate the crops, whereupon the population growth was a fact and the increase resulted in a global population of 600 million. In the middle of the 18th century and the beginning of the 19th century the industrial revolution took off. A new era had started with increasing agricultural production because of the new technical inventions such as the iron plow, the seed drill as well as the threshing machine. Once again, the food production increased which enabled a growing population that in turn, created a demand for a higher production. Enough food was produced in the urban settlements to the urban population that grew up around the increasing number of factories in the cities. Low death rates, the development of agriculture and the increased global food supply caused the population to rise further to one billion around 1800 a.d. It took 200,000 years to reach one billion people on earth and then only 130 years - around 1930s - to reach the second billion. The third billion was reached in 30 years, in 1960s. During these 160 years, industrialization and urbanization accelerated the population growth. Between 1960s-1990s the population growth was even faster; it took approximately a decade to reach one more billion (Carter 2016).

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[1] Carrying capacity means that the population pressure does not exceed the maximum number of people that the geographical area can support. The resource consumption cannot be higher than what the nature naturally has time to reproduce. Namely, the number of individuals that can sustainably feed on the resources within a specific geographical area is within the limit of the ecosystem's carrying capacity. If the limit is exceeded, it naturally results in a population decrease, as far as humans are concerned (Carter 2016).

[2] Through time there have been plenty of epidemics, wars and other external events which have inhibited population growth at different rates (Ibid).

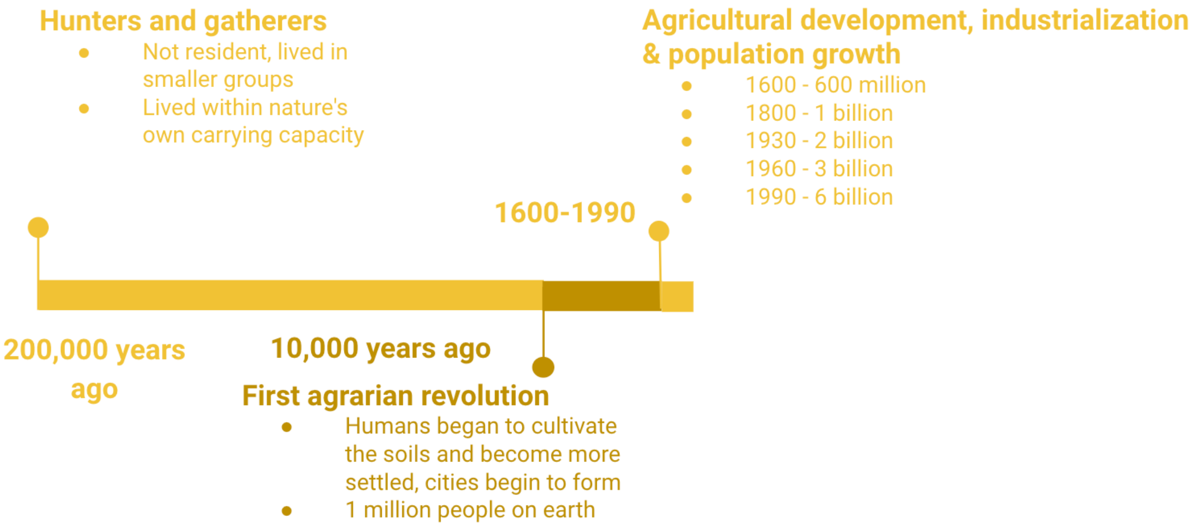

Figure 4. The illustration presents a timeline of the population growth from about 200,000 years ago to 1990. It highlights crucial historical events which contributes to the contemporarily population situation on the planet (Oscar Segermark Viström).

Urbanization took off simultaneously as the progression of the Neolithic Revolution and the main reasons are derived to location-based food supply and industrialization, which together accelerated the accumulation of people in cities and reshaped the geographical distribution of people (Carter 2016). Since the beginning of the industrial period, urbanization has become a more prevalent phenomenon. Due to increased opportunities to enter the labor market in the cities, people began to move from rural to urban areas (Moore 2010). Technological developments in agriculture - in terms of mechanization and modification of crops - is also heralded as a significant driver of urbanization, writes Carter (2016). The outcomes of the developments result in less need for human labor in the agricultural sector. Simultaneously the cities become the hub for investments, entrepreneurship and service which increases the need for labor in the urban areas. That is probably the reason for the strong association between urbanization and economic development; the increase of work opportunities when the towns are growing. In a context with an ongoing urbanization, parallel to population growth, the outcomes could be retold by this following quote that Carter (2016) highlights.

> Rapidly expanding populations can keep nations mired in a cycle of poverty and contribute to social and political unrest. And biodiversity is lost when plants and animals are crowded out to make room for more development. Population growth stretches natural resources to their limits. Deforestation, food and water shortages, and climate change are all intensified by the addition of over 80 million people a year to the world's population (Population Connection 2015, p. 58).

Urbanization is followed by several ecological consequences as Eeckhout and Hedtrick (2021), explains. Big cities often have high pollution levels, a large amount of garbage is produced, and the energy use is high. But when a certain level of urbanization is reached some positive societal effects can be reached, and it is then mentioned as green urbanization. The western world has reached a level of urbanization where environmental benefits can be achieved; electricity use and waste production decreases as the population in urban areas increases. Another benefit of larger cities is that the productivity per person increases in comparison with less populated areas. The total energy use of a system of bigger cities - with high population density - is lower than it would be if the dwellers are spread out in smaller cities (Eeckhout & Hedtrick 2021).

Degree of urbanization means Morley, Mcentee and Marsden (2014) differ in the world, as a result of that most low-income countries (LIC) in Global South, do not have advanced agricultural technology to the same extent as nations in Global North has. This leads to a greater need for labor in Global South, whereupon the degree of urbanization is expected to remain lower - than in Global North - for some time to come (Morley, McEntee & Marsden 2014).

2.2 Global population distribution

The level of urbanization 2018, according to UN (2019); Northern America was the most urban region in the world (82% of the inhabitants lived in urban settlements) followed by Latin America and Caribbean (81%), Europe (74%), Oceania (68%) and Asia (around 50%). Africa has a bigger rural population. The urban population was 43% of the dwellers 2018 (UN 2019).

2.2.1 Current global urban population distribution and future projections

Of the global urban population almost a majority live in settlements with less than 500,000 residents and approximately live only one of eight in a megacity, points UN (2019) out.[3] In 2018, 20% of the global urban population was concentrated in one nation; China with the largest urban population in the world (837 million dwellers), followed by India (461 million) and USA (269 million). Just over 50% of the world's urban population was distributed among these three nations and Brazil, Indonesia, Japan, and the Russian Federation in 2018. An additional 14 nations contributed in total to 70% of the world's urban population that year. The same number of nations, but in a different composition - is estimated to constitute to 70% of the projected

[3] Urban areas are divided by the UN (2019) as follows; urban areas are used when discussing regions with less than 500,000 habitations, while cities are a term used when regions have 500,000 to 1 million habitations. Medium-sized cities refers to regions with 1-5 million habitations, large cities refer to regions with 5-10 million habitations while megacities are the biggest ones with 10 million or more habitations (UN 2019, s.58).

global urban population in 2050. Tanzania was not a particularly notable nation in 2018 but stands out in the projection to 2050 (UN 2019).

The global urban population is predicted to increase by nearly 2,5 billion people by 2050. India, China, and Nigeria are predicted to collectively contribute to 37% of the increase of people living in urban settlements. In these nations the increase is predicted to be between 31-50% urban citizens (189-416 million people), between 2018-2050. According to projections, seven additional nations - the Democratic Republic of Congo, Ethiopia, Tanzania, Bangladesh, Indonesia, Pakistan, and USA - will collectively account for another 20% of the total increase in the urban population between 2018-2050. These nations are predicted to contribute with more than 50 million people to the urban increment each (UN 2019).

2.2.2 Current global rural population distribution and future projections

With 893 million rural residents, India had the largest rural population in the world 2018, highlights UN (2019). China follows with 578 million rural residents. Combined with Indonesia and Pakistan, these countries are home to more than 50% of all rural people on the planet. If the nations with more than 36 million rural residents each get included, they all together are 15 nations that are home to 70% of the world's rural population. These nations are Bangladesh, Nigeria, Ethiopia, Viet Nam, USA, Egypt, the Philippines, the Democratic Republic of Congo, Tanzania, Myanmar, and Kenya. The prediction indicates a global decline of the total number of rural dwellers 2018-2050, from 3,4 billion to 3,1 billion people. In two thirds of the world, it is predicted a decline, and in one third; an increase of rural dwellers and in some of these nations the expected growth is substantial (UN 2019).

2.3 Urbanization and sustainable development

With continued urbanization, the future development - in terms of sustainability - is more dependent on how efficiently the urban expansion will be managed, points UN (2019) out. Particularly in LIC and low-middle-income nations as the anticipations indicate that the fastest rate of urbanization will occur 2018-2050. Most the world's largest urban agglomerations used to be in the developed nations, compared to today's large cities which are found in Global South. There is a need for integrated policies that deepen the connections between urban and rural parts in a nation and expand on their already-existing economic, social, and environmental relations to enhance the standard of living for both urban and rural residents (UN 2019).

2.4 Urbanization and food supply

Although some predicted the effects of urbanization even hundreds of years ago, the trend has continued globally and some of the scholars such as Marsden and Morley (2014), still argue that it is a good force and a sign of development and progress for nations. On the other hand, there are still many unanswered questions around the topic of how urban and rural areas are interconnected to agriculture today. Questions like food security, justice, sustainability, allocation of goods, consumption and population growth belong in the discourse. The main goal and pursuit in this field is typically a construction of a resilient and sustainable development and food system, although the path forward is often characterized by contradictions and ambiguities (Marsden & Morley 2014). Because of growing cities in terms of populations - in conjunction with national population growth - the risk of exceeding the number of inhabitants in relation to the capacity to produce provisions could end up in tangible consequences like; conflicts, diseases, starvation, or higher mortality (Carter 2016).

2.5 Urbanization in Africa

Although the migration of people from rural to urban areas is a global phenomenon and has been going on for a long time, the Sub-Saharan Africa (SSA) region within countries south of the Sahara Desert has been identified by many scholars such as Saghir and Santoro (2018) as a region with an accelerating urbanization today. This region has already undergone a fast urbanization transition and is expected to do so even more in the future, as a persistent trend when the countries continue to develop. A certain amount of urbanization is frequently required for a country to transition from being a LIC to experiencing increased prosperity and economic development and becoming a middle-income country (MIC), seen from a neo-liberal perspective. But the movement has not always led to sustainable development; many of the nations have serious deficiencies in a diverse range of areas, and economic growth has not always increased, in addition, there are also many social and environmental challenges linked to urbanization (Saghir & Santoro 2018). And one of them is rapid population growth - which has occurred over the past few decades in most African countries - as a recurring issue in relation to urbanization. In 2018 there were three megacities in Africa, a number that is expected to grow with two until 2030. Large cities are also anticipated to grow in Africa under the same timeframe, from five to 13 (UN 2019).

The future prediction in Africa is further urbanization, in all places and the level of urbanization in the area is expected to remain significantly heterogeneous. By 2050, all the African nations are expected to have a population that is at least 25% urban, although eight of the continent's most populated nations will have a share of the population that is less than 40% urban. But in most (76%) of the nations and regions the urban population is predicted to be at least 50%, which applies to 44 of them. In 16 nations or regions the population will be urban to an extent of at least 75% (UN 2019).

2.6 Agriculture

As the urban population increases, the demand of food and the food production increase, mentions Satterthwaite, McGranahan and Tacoli (2010). The food production has though become more resource- and emission-intensive. And despite the higher production, hundreds of million dwellers are malnourished in the world. Most of the global urban population lives in the biggest cities in LIC and MIC where food security is a common topic. These nations also have a higher demand for agricultural labor compared to high-income nations where approximately just 1-2% engage in agriculture production, even though 15-30% live in the rural areas (Satterthwaite, McGranahan & Tacoli 2010).

In food production, cereals have an important role as it is a type of crop that has been produced in a high amount but with a big price-tag on the environment, mentions UN (2012). The agricultural development has come with a great cost in terms of deforestation, groundwater use, pollution as well as biodiversity losses. Improvements are needed in the food and agricultural systems to decrease the impact on the ecosystems, the chemical and energy use, and to increase the health and accommodate future challenges. An example could be climate change as it has a big impact on the agricultural sector. One important addition is that agriculture globally contributes to a proceeding of climate change with devastating consequences on primarily small-scale farmers. In 2050, the UN and the Food and Agriculture Organization (FAO) predicted a global population close to 10 billion, which comes with a 60% higher demand for food. Simultaneously, that puts a higher pressure for a development to a more modern and sustainable farming approach, compared to "farming-as-usual", which will mean a big impact on the natural resources and the climate (UN 2012).

2.7 Agriculture in Africa

A part of the ongoing development in Africa, includes the growing issues - and increased awareness - of land degradation as well as the environmental costs that come with clearing forests to expand agricultural production, means Jayne, Snapp, Place and Sitko (2019). These things - in combination with fast population increase and the reduction of farm sizes - has resulted in a pressing need for sustainable productivity growth within agriculture. But it is of importance that this occurs on already cultivated land to not increase the pressure on the environment any further as some nations already have converted the maximum of available land to agriculture. Most experts concur that in order to promote sustainable intensification throughout the majority of Africa, a significantly more intensive use of inorganic fertilizer - per hectare - will be required to increase the crop performance. Which is an ongoing process as the commercial demand gets higher. Some nations use subsidy programs along with increased incentives to increase the output value per hectare, where an expansion of cultivable land areas has reached its limits. In SSA the use has gone from 9-16 kgs/ha between 2000-2016 (Jayne et al. 2019).

Other common changes in Africa since 2000, are a fast economic transformation and changes to the demographic patterns in shape of the urbanization movement where rural dwellers leave for urban areas. At the same time an ongoing switch occur to other occupations from work connected to agriculture. In areas where that is more common, it puts pressure and pushes the rural wage rates upward, which has remained steady around 1 dollar per day for agricultural labor (Jayne et al. 2019).

Further Jayne et al. (2019) highlights that as a change takes place in agriculture - from that the most was made by hand to that machines are a bigger part of the food production - chemicals are getting cheaper and the price of labor rises. If Mali is given as an example; the price of using herbicides to get rid of weeds at one hectare costs half the price compared to hiring laborers to do it. Another thing that enables and motivates rural farmers to leave the agricultural sector is mechanization, a process that is capital intensive as well as labor saving. The demand of mechanization services (like renting a tractor) has increased among small-scale farmers, which contributes to a more effective production. Increasing agricultural productivity throughout time will aid in the diversification and transformation of local economies. Farmers in SSA-nations will need to be able to apply integrated soil and non-soil management strategies that can increase the effect of fertilizer used on crops to be able to sustain the increase in agricultural productivity in the region to keep on the development (Jayne et al. 2019).

Previously in Africa there was not any conflict or problem with the availability of land, for instance land was abandoned because of lack of labor and money. But now there have been changes in trade of land because of increased populations and higher population density as the ability to inherit land has stopped in some rural parts, for example in Kenya. This causes an increased need of money to be able to keep on doing agriculture for generations as well as it puts a bigger pressure on the young to secure their livelihood (Jayne et al. 2019).

The following decades a lot of changes are predicted to occur, but most of the African dwellers will continue to work with agriculture - and be depending on it for their livelihood - despite the fast economic change. There is expected a transformation where less rural dwellers will be depending on doing agriculture themselves to maintain their food security. There will also be a greater variety where more different occupations are practiced (Jayne et al. 2019).

Sulemana, Nketiah-Amponsah, Codjoe and Akua (2019) show evidence on how income inequalities in SSA between 1996-2016 correlates with urbanization. The income inequalities could be declared even if the economic development has risen in the region within the timeframe (Sulemana et al. 2019).

2.8 Theoretical framework; the Metabolic Rift Theory

Moore (2010) describes MRT as a problematization of the relationship between humans or the society and nature, as well as between the urban and rural areas in a nation after the progress of urbanization. One of the main causes of the current gap between consumption and production in the food system can be attributed to urbanization. The movement is related to the MRT that Karl Marx identified, and it can be explained as a decoupling process between production and consumption as a result of capitalism. The stamp of capitalism on agriculture results in an industrialized agricultural system that revolves around capitalist ideas. The metabolic interaction as formerly existed between man and the earth, was disrupted as the countryside came to produce food for the growing urban population. The urban population lived further away from agriculture than before, whereupon agriculture got delocalized. Over time, this came to mean consequences like a clearer distancing from food production. The withdrawal of energy and nutrition that came to be exported to the city and eventually ended up as waste was also damaging to the long-term fertility of the soils. As a result, the human influence came to have a significant impact on the natural cycle and the reintroduction of leftover products to the soils. Capitalism also affected agriculture in such a way that it became urbanized (Moore 2010). [4]

The origin of the metabolic rift is debated, but somewhere in between the development of the capitalist era before the industrial revolution (around the 17th century) and the second agricultural revolution (in the 20th century), the phenomenon is predicted to have started. The theory emerged simultaneously as Marx contemporary ecological concern - because of the rise of capitalism and its transformation of agriculture - the problem of soil fertility. He also means

[4] That agriculture gets urbanized means that it was subjected to the capitalist system, an increase in productivity, changed production and specialization in agriculture is expected by the farmers (Moore 2010).

that progress in terms of increasing the fertility of the soils in a short time frame is an event that spoils the fertility in the long-term. Over time the metabolic rift has widener (Moore 2010).

One of the founders of the KRAV-certification;[5] the agricultural expert Gunnar Rundgren (2016), highlights and makes visible the contemporary problem surrounding the phenomenon as follows in one of his published books, *The Major Eating Disorder*[6];

> The increasing mental and physical distances have since way back end up in loss of connection to the surrounding landscape; a wide rift has occurred between the modern human and the earth. It makes us not feel the smell of the clover, do not hear the roar of the animals, do not see the larks in the field, nor do we taste the soil. We have become ecological illiterates who can no longer interpret what the landscape tells us. It also means that we do not understand how to heal the earth, but believe that it is through consumption that we must change things for the better (Rundgren 2016[7]).[8]

Morley, McEntee and Marsden (2014) argues that less physical mankind involvement within agriculture has opened for food systems that primarily rely and are based on global trade and capital. It has also become factors that the world's most developed countries rely on for their food security. On population level it implies a shift away from food production - both physically and mentally - sanctions on community level in terms of lack of knowledge about the most fundamental human needs: knowledge about food production. Lower participation in agriculture also results in a lower level of understanding of how food is grown, produced, and processed; something that was acquired over generations when agriculture was passed down and most of the population were farmers. Regarding the complex production chains that have occurred to be long and non-transparent - in some cases - has affected citizens' transparency when it comes to food manufacturing. This has also affected the understanding of the environmental effects of the production. A future prediction is that the expanding metabolic rift will be a threat against global food safety (Morley, McEntee & Marsden 2014). The modern humans in more developed civilizations - strongly characterized by industrialization and globalization - are so separated from the food production that the knowledge of their

[5] The Krav certification is a sustainability label for food in Sweden that aims to be part of shaping a more sustainable food chain, where the main goals aim for the goods to contribute to a cleaner environment, reduced climate impact, increased biodiversity, better health, animal welfare and working conditions (KRAV 2021).
[6] The book-title is directly translated from Swedish by the authors of this paper.
[7] The quote can be found on the cover page.
[8] The citation is directly translated from Swedish by the authors of this paper.

dependency on the earth in form of arable land[9] as well as the continued usability, is long forgotten, mentions Fogelfors (2020). This explains why the protection of arable land is neglected. Increasingly, urbanization competes the food production on productive cultivable land in favor of the expansion of the towns. A future with more tangible climate changes with negative consequences for agriculture, is to be expected because of an increased pressure on food production and land use changes, all driven by the expected population growth. In countries with a low priority of emergency preparedness issues, the food security can be significantly affected subsequently (Fogelfors 2020).

3. The study region; the United Republic of Tanzania

Zanzibar and the mainland of Tanganyika are combined to form Tanzania (see *figure 5*), according to United Nations Associated (UNA) Sweden (2021a). Zanzibar has its own constitution, administration, and parliament that decide on issues that exclusively affect Zanzibar; the island nation of Zanzibar is self-governing. The Union Parliament, which adopts legislation governing the entire country of Tanzania, is in the capital city of Dodoma (UNA Sweden 2021a). Between 1950 and 2018, Tanzania's population increased by 51.3 million from 7,7 million inhabitants to 59 million (UN 2019). The total population is today 63 million people which comes with challenges in combination with high population density and greater pollution. The consequences are seen primarily in the cities (UNA Sweden 2021a), as the proportion of residents living in urban settlements rose from 3% to 34% in between 1950 and 2018 (UN 2019). Tanzania is one of 37 nations the UN identifies as having the fastest growing urban agglomeration: Dar es Salaam. The average annual rate of change between 1990-2018 was 5% and is predicted to slightly fall to 4,8% between 2018-2030. The prediction is that the city will reach 10 million inhabitants by 2029. The nation also places itself at place six out of 30 nations when it comes to the largest increases in rural population projected between 2018-2050, which is an estimated increase of just above 57% (UN 2019).

The country faces environmental issues like soil degradation and desertification; a problem as most of the people are working with small-scale farming. Simultaneously, there are goal conflicts according to land use (UNA 2021a). Most dwellers have a work connected to agriculture – commonly as farmers - but many urban dwellers rely on other occupations to make a living (NBS 2013).

[9] In an agricultural context is arable land defined as land suitable for growing - permanent as well as perennial - crops, whereupon examples could be already existing fruit plantations but also land that is used for livestock grazing (NBS 2013).

Tanzania has for a long time experienced consistent and stable economic growth. However, the poorer segment of the population has not benefited from this since the country still is one of the poorest globally with substantial wealth and poverty disparities (UNA Sweden 2021a). By the year 2018, nearly 45% of the inhabitants was assessed to live in extreme poverty[10] (UNA Sweden 2020b). According to human development and the Human Development Index[11], the country places itself far down on the list with an 157th place out of 188 countries (UNA Sweden 2021b). In terms of the health of the population, the numbers are not either encouraging as just above 25% of the inhabitants was malnourished[12] in 2019, an increasing number seen in recent years (UNA Sweden 2020c).

3.1 Urbanization in Tanzania

Human settlements are a term that describes all the human activity processes that are organized in one place to the smallest unit of habitation by humans, means NBS (2011; 2013). The human settlement works as a system whereupon the physical structure supports it and they could be separated into rural (villages) and urban ones (minor towns/towns/municipalities/cities/mega cities).[13] Since human settlements are where dwellers gather in terms of where they live and work it is apparent that the planning and the designs of these places, as well as the construction and later the operation are of importance for the competitiveness and productivity of the nation's economy. It also affects the quality of life - in terms of social sustainability - for the dwellers as well as it has an impact on the ecological spatial sustainability. Which are aspects that may be overlooked in conjunction with a rapid urbanization movement that also increases the population density (NBS 2011; 2013). But as they present it; it is the way a modern society develops - the growth of human settlements (cities). Urbanization is also described as a complex progressive phenomenon that includes a change to an urban way of living, as it changes the social organization and the traditional social structures in a society as well as the settlement patterns in the nation (NBS 2013). It is common that rural-urban migration occurs because the urban life is often seen as a goal picture of a better life (NBS 2011). Another reason for the

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[10] Extreme poverty defined as people live on less than 1,9 dollar each day (UNA Sweden 2020b).

[11] Human Development Index (HDI) is a summary of the country's achievements in the categories of life expectancy, education, and income expressed as a measure of Gross Domestic Product (GDP), per person (UNA Sweden 2021b).

[12] Malnutrition is measured by the UN's Food and Agriculture Organization (FAO) and the statistics are compiled from three different variables: physical access to food, caloric needs of the individual and actual food intake.

[13] Villages have less than 10,000 dwellers, Minor Towns has between 10,000 to 29,999 dwellers, Towns; between 30,000 to 99,999 dwellers, Municipalities; between 100,000 to 499,999 dwellers, Cities; between 500,000 to 3,999,999 dwellers and Mega cities; 4 million dwellers or more (NBS 2013).

urbanization movement is that dwellers gathering around trading places and markets as bigger cities give rise to urban centers and that kind of meeting places as well as work-opportunities in industries or mines. The cities can also offer better infrastructure - like the construction of roads as an example- and better supply of services like food processing businesses, hospitals, schools, and religious gathering places. The urban centers become the center point of social and economic development and emerge in places that were previously rural but that now gradually grow into urban centers (NBS 2013).

In retrospect of a fast - and ongoing urbanization process - it appears clearly that the lack of consideration to socio-economic variables as well as protection and conservation of the environment is neglected. That is a price paid by the nation's most poor dwellers as a consequence of the lack of planning and financing of human settlements in the mainland which has increased poverty problems in both urban and rural settlements. It has also contributed to an unsustainable development. The urbanization has also meant that the settlements have a lack of services and infrastructure, which have become a case that is threatening the productivity and health of the dwellers living there. The non-sanitary conditions are a problem in both urban and rural areas. Unplanned communities and slums are growing as a result of the rising trend of dwellers moving from rural to urban settlements for economic reasons. Urban infrastructure is under constant pressure because of the quick urban and suburban growth, which also affects and increases the crime-rate. Urban living serves as an illustration of the strain that rapid population increase will have on the towns' and cities' physical and social infrastructure (NBS 2013).

The population of the mainland in Tanzania has been growing while the nation's land area has remained unchanged at 833,303 km^2. This indicates that both in urban and rural areas, the population density has been rising at varying rates; the population growth rate in urban settlements is 5,2% each year, whereas it is 1,8% in rural settlements. The average population density was 35 dwellers/km2 in 2009 (between 2,167 dwellers/km^2 in Dar es Salaam to 12 dwellers/km^2 in the least populated region) and increased to 51 dwellers/km^2 in 2012 (NBS 2013). In urban areas there has been a fast change to a higher population density because of the rural-to-urban urbanization movement of dwellers. Land disputes have frequently been a result of high population densities, a fact that has arisen in the mainland in both urban and rural areas. Each day on the mainland, as much as five land conflicts occur and in three of these one part in the conflict is a powerful investor. Conflicts in urban settings are typically brought on by urbanization, which is a common phenomenon in unplanned human settlements. Due to the depletion of natural resources as well as the decreasing land area for grazing, there is also an increase in conflicts between farmers and livestock keepers in rural areas. Inadequate state planning are also factors contributing to the rise in land conflicts. Rapid land use expansion, out-of-date land laws, the incapacity of land courts to settle disputes, dwellers lack of knowledge of their own land rights prevents dwellers from fighting for justice. Animal keepers' rights are not protected by laws or land policies, which also frequently results in disputes between crop producers and nomadic pastoralists (NBS 2011; 2013).

3.2 Agriculture in Tanzania

The largest sector in the nation's economy is agriculture which means that it has a direct impact on the economic wellbeing and the poverty levels among other things in the nation. Among the poor rural dwellers 70% depend on agriculture for their livelihood (NBS 2013). The agricultural sector also provides employment to the biggest extent and accounted for close to 27% of the nation's GDP, means The United Republic of Tanzania (URT) (2021). It also plays an important role for the nation's foreign earnings, for the provision to industries with raw materials as of course for the domestic need for food production. The sector is originally divided into three parts; crop production, a combination of crop production and livestock keeping and only livestock keeping, while in recent times fish farming has become a source of income. Most households[14], a bit more than 64%, are engaging in crop production, approximately 33% in a combination of crop production and livestock keeping and 2% work merely with livestock keeping followed by approximately 1% engaging in fish farming. This indicates the importance of crop production as it also contributes to more than 15% of the nation's GDP - after an increase of 5% - in 2020. Livestock keeping contributes to the GDP by around 7%, forestry accounts for close to 3% and fishing for close to 2%. The livestock sub-sector is a reliable protein source and an important element to achieve food security as well as it also contributes to the crop sub-sector in the form of drought help in the fields and manure. Keeping livestock is also a source of income as well as it decreases the need for fertilizer on the fields if the households provide both occupations. And fisheries are a source of protein with high-quality (URT 2021). Livestock production can also be seen as a store of value that is free from inflation and a store of wealth as well as a source of cash incomes (NBS 2013).

The sub-sector crop production can be divided into cash crops as well as food crops where these have different meanings to the society, but the most common production is food crops that stands for 85%. Cash crops have a value for the national income and are shown in

[14] A household is an arrangement of dwellers or just one which ensures that they can supply themselves with food, non-dependent of their economic source (URT 2021).

the GDP-number because of export to nations in the EU; the United Kingdom is a big importer followed by Germany and Netherlands. Principal export crops are coffee, cotton, cashew nuts, tobacco, tea and sisal in decreasing order of export value. On the other side is clove, the most common crop for export from Zanzibar where 90% is produced only on one island. Coffee represented close to 18% of the nation's total agricultural exports the year 2009/2010. Other crops that usually go for export but result in a lower total income are oil seeds, horticultural crops, pyrethrum, fresh cut flowers and spices. In recent years a new trend has occurred; an increase in investors that are able and interested in financing large-scale farming, which has increased the production of cash crops - tobacco, cotton and pyrethrum - to make profit. This is a consequence of higher use of fertilizer and insecticides among other farm inputs, enough precipitation, as well as the subsidy of fertilizer that the government does, improved seeds and an increase in the number of engaged farms. The increase of other crops is predicted to occur if it is made possible to increase the use of modern farming techniques and improved seed to a higher extent. An example that really shows the importance of a good harvest and how extensive the consequences get when the opposite occurs, it happened in 2009 when the sub-sectors crop production grew by 3,4%, a decrease of the growth rate relative to the number of 5,1% from 2008. The explanation lies in the lack of sufficient precipitation in the north, which imply poor harvests - the same as, - less food and income as well as lack of water to the livestock and decreased amount of animal food (NBS 2013).

On a lower level the importance of agriculture in the nation, appears clearly as around 7,8 million households have agriculture as their main occupation and income. Close to 98% of the families can be localized on the mainland. 7,8 million households correspond to almost 41 million individuals in 2019/2020- with an even gender distribution - from a 10 million increase since 2007/2008. Of these constituted 44% of the agricultural population of miners below 15 years of age (URT 2021). In agriculture dependent nations with many children per woman, that means more farmhands and perhaps increased income and greater prosperity for agricultural households (Carter 2016). The general number of family members on the mainland is 5,2 persons, a number that is higher in Zanzibar, according to (URT 2021). If the households divided after whether they are located in rural or urban settlements, the numbers are 80,7% respectively 19,3%. Between the turn of the year 2007/2008 until the turn of the year 2019/2020 it appears clearly that the development goes against that more households engage in agriculture activities as the number has increased by close to 2 million. The trend is showing an increase of crop production, a combination of crop production and livestock keeping as well as for livestock keeping since the measurements 2002/2003 respectively 2007/2008. A decrease is though seen according to the number of households that engage in pastoralism[15] (URT 2021).

The percentage of available arable land for farming by 2020 was 44,6% of the entire land surface (UNA Sweden 2020a). The available amount of land that smallholder farmers have at their disposal is nearly 21 million ha, corresponding to an average of 2,7 ha/household, according to URT (2021). The reasons why suitable land for agriculture is not used for agriculture is because it is not accessible because of the lack of infrastructure like roads or that it is covered with forest, that it is hard to handle because of the terrain, uninhabited, invaded by tsetse flies or that the precipitation is not reliable. The land could also be protected in the form of reserves or national parks (NBS 2011), which preserves around a third of the country's total land area (UNA Sweden 2021a). Other things that hinder the use are soil degradation as well as drought proneness (NBS 2013). But if the actual used surface is considered, it is corresponding to an average of 2,1 ha/household, which leaves 67% of the agricultural households with an insufficient area compared to their needs (URT 2021). Despite this, over the past ten years the total land used for agriculture has greatly expanded (NBS 2013); the development of agricultural output causes the nation to lose 3500 square kilometers of forest every year (UNA Sweden 2021a).

Changes in land trade have occurred in Tanzania as the value of land has doubled between 2008-2014 in a lot of rural places (Jayne et al. 2019), which indicates that land is an economic good with rising value, according to NBS (2013). It contributes significantly to the process of eradicating poverty through the generation of wealth and so improving people's quality of life. The social as well as economic development for farming dwellers - to a great extent - rely on that there is enough land available for their use. All the land is kept and owned by the president, but it is pointed out that the land is held in trust and that it is a public property (NBS 2013).

The availability of food in the nation's mainland is not abundant because the need for food is just covered by the production. The demand for staples lays around 11 million tons covered by the production of corn and rice to 50%, which is low numbers compared to an average in Africa. Because of the nation’s high reliability to precipitation, as well as a low use of improved seeds, fertilizers, insecticides and adequate agricultural equipment are all contributing factors to the low productivity (NBS 2013). But the harvests are overall low due

[15] Pastoralism is a term for nomadic livestock keeping, which includes seasonal movement to increase the ability to supply the animals with water and grazable land. Households that are engaged in this kind of livestock keeping are referred to as pastoralists (NBS 2013; URT 2021).

to the low level of artificial irrigation systems, and with limited capital invested in agriculture of small-scale farmers[16], that is the biggest engaged group in agriculture, means URT (2021). Only around 20% of the cultivated area is fertilized and approximately 60% are inorganic fertilizers. 5,4% of the households that engaged in crop production uses irrigation systems. The difficulties the farmers tell are primarily the consequences of climate change, as well as thefts followed by cost of agricultural inputs, land access, a weakened price-picture of agricultural goods. Hand cultivation continues to be the principal method of land cultivation, as the use of oxen is mostly restricted to regions with high populations of cattle. The most common tools used in agriculture are therefor hand hoe (a usage rate of roughly 95%), followed by; sword (89%), oxen (close to 28%), ox plough (nearly 27%), hand sprayer (nearly 18%) and tractor used by approximately 10% of the farmers (URT 2021). Of the small-scale farmers in five regions with economic dynamism, just above 20% had the ability to rent mechanization services the year 2014/2015 and the number was close to 4% in more rural regions in the nation (Jayne et al. 2019). Local seeds were used to a much higher extent than improved ones that only were used on approximately 22% of the 11,8 million ha cultivable land 2019/2020. In small-scale crop production, the most common one produced is corn. Out of the close to 10,8 million tons of cereals produced, corn represented 6,5 million tons of the production (URT 2021). The farmers in the nation grow both annual and perennial crops like sorghum, groundnuts, millet, potatoes, wheat, beans, cassava, and paddy, besides corn. Other food crops grown in smaller amounts are sunflower, plantains, sesame, coconuts, cowpeas, soya beans, and green gram (URT 2021; NBS 2013). The most common fruits and vegetables grown are banana, mango, watermelon, orange as well as tomatoes, amaranth, onion, pawpaw, and cabbage. Corn, paddy, and sunflower are examples of crops that get agro-processed[17] (URT 2021).

Regions like Dar es Salaam - with big populations and high population density - have a high crop production since it is common for urban dwellers to practice agriculture outside the urban area and in other regions (URT 2021).

Concerning livestock management, 99% of the ones that keep livestock are traditional (small) owners, which leaves the remaining 1% of livestock keeping to big ranches as well as dairy farms, mentions NBS (2013) and URT (2021). It is more than twice as common among

[16] The definition of small-scale farms in the source is that the either are crops grown on 25 m^2 (at least) or that the set of livestock includes one cow, or five smaller animals like; goats, pigs or sheep or 50 even smaller animals like; chickens, ducks, turkeys or rabbits (URT 2021).

[17] The term agro- processing implies the change of a plain crop by households to increase the value of the agriculture output that is made to accommodate the market needs (URT 2021).

the dwellers to engage in agro-pastoralism[18] than just pastoralism, but the livestock keeping sector is increasing just above 2% each year and is conducted by just above 2,7 million households. The most common livestock to keep and reared is indigenous chickens (close to 88 million animals in the nation), cows (close to 34 million), goats (just above 24,5 million), sheep (just above 8,5 million) and pigs (approximately 3,2 million). Fish kept for fish farming is not documented, but nearly 27 thousand households were engaged and 78 large scale farms[19] in 2019/2020. Which is an increase bigger than 100% (of households) compared to in 2007/2008 (NBS 2013; URT 2021). Less common livestock animals - in descending scale - are ducks, donkeys, rabbits, and turkeys where the total number of each livestock in the nation is approximately between 83 thousand to 1,2 million. In the north of Tanzania there is more common and traditionally to engage in pastoralism as the climatic as well as soil conditions are not favorable for crop production. In 2007/2008 there were 16 million animal units whereupon the predicted carrying capacity in the area is around 20 million animal units. As they mention; this is an unused potential for scaling up the livestock industry, increasing the number of livestock and conducting better animal care (NBS 2013).

The keeping of livestock and production of livestock products increase in importance as meat, milk and eggs are eaten in higher proportion, as the production increased between 2000-2012. The produced meat is mostly consumed in the nation, but with some exceptions as the living livestock is shipped to bordering nations as well as to the Middle East, when the demand in the nation is saturated and there is an annual surplus. The annual production of milk rises to 1,85 billion liters whereupon the largest production (68%) is from rural areas and comes from indigenous cattle, meanwhile the rest of the milk production (32%) comes from improved dairy cows which produce 5-9 liters more milk per cow and day. Most of the produced milk is directly consumed or seen as waste according to the lack of collecting and storage possibilities, while 10% enters the market annually (NBS 2013). In the year 2019/2020 the amount of cow respective goat milk produced in the nation had increased and was approximately 3 billion liters and 21 million liters (URT 2021). The egg production comes from both indigenous as well as commercial chickens. Whereupon they are eaten to various extent; in rural areas all eggs eaten are from indigenous chickens meanwhile only 20% are eaten in urban areas and a majority

[18] Agro-pastoralism is a combination between keeping livestock and doing crop cultivation (NBS 2013).

[19] Large-scale farms are a term used as the engagement in agriculture accommodate 20 hectares (at least) to produce crops or that 50 herds of cows are kept, or 100 smaller animals like: goats, pigs or sheep. But it could also classify as a large-scale farm if 1,000 chickens are kept. They also need to produce with help of machines and to be able to sell most of the output as well as the farm should be engaged in continuously and have one person employed permanently (URT 2021).

comes from commercial chickens as the production only can be found in big cities like Dodoma and Dar-es-Salaam (NBS 2013).

A prerequisite for being able to farm is to be able to finance all the costs that are incurred which can be accomplished by taking loans. The primary goal is to maximize agriculture output in terms of improving production, but only nearly 4% do so. The money is usually spent on manpower, seeds, fertilizers and very few spent the money on establishing and maintaining fish farms. The main reasons to not borrow money - in the mainland, among other things - is that it is not necessary to be able to continue with agriculture, that it is not an available resource or to not get into debt (URT 2021).

3.3 The government

As a solution - to the increased development of unsustainable human settlements - the government has started to build house units in urban areas, on the mainland to abolish the slums and the number has risen to more than 17,500 buildings according to NBS (2013). The government also intends to improve the development of human settlements by gathering investors and stakeholders in conjunction with the implementation of a current or a future initiative. The aim is to improve the life quality of all dwellers (NBS 2013). Until 2025 a new vision should be implemented where other parts of the needs of the dwellers are met (regarding livestock keeping), but the new vision is built on one of the out-of-date land laws. The vision is presented as a development turning point that will contribute to fulfilling both economic as well as social development goals that the government has, like playing a part in the eradication of poverty. Land usage should be both productive and in line with sustainable development and the state undertakes to pay out immediate, fair, and comprehensive compensation to all land users when the state revokes the use or negatively affects it (NBS 2011; 2013).[20]

Out of all households that engage in crop production 2019/2020, only nearly 7% got agricultural advice and out of the households on the mainland, close to 7% got practical help according to URT (2021). The availability of advice and services should increase as well as the quality of them to be able to increase overall crop production. Low crop productivity - compared to what it can be - is advised to handle with increased use of fertilizer, improved seeds and chemicals as well as the availability of it. But to be able to get the most out of the changes the irrigation needs to increase from the 2,5% of the crop growing area today. As a solution to insufficient cultivable land there is a need to be able to increase the output. The national solution

[20] How this should be done is not further explained (NSB 2013).

is that the government needs to come up with a strategy and methodologies that is an intensification of the crops and not the land area under cultivation. When it comes to livestock keeping and more specific pastoralism - as the engagement decreased - the promotion should increase to enable growth of the commercial part of the livestock industry. To meet the increasing meat demand, promotion is necessary to increase the engagement in fish farming to enable the industry to grow. An increased awareness about collecting centers for milk and promotion is what the government sees as a solution to more trade and to commercialize the milk industry (URT 2021).

3.4 Manyara Region and Babati

The Manyara Region (see *figure 5*), consists of five municipalities; Babati (with the regional administration), Hanang, Embolo, Kiteto as well as Simanjiro (Tanzania data portal (TDP) 2012). The region has a total population of just above 1,4 million dwellers, where 86,3% live in rural settlements and the rest; 13,7% in urban settlements, which is an increase of 0,1% since 2002 - 2012 (NBS 2013). Manyara region consisted in 2002 of 45,820 km^2 land area with a population density of 23 dwellers/km^2, a rise from 13 dwellers/km^2 in 1988. The population density has risen further; to 32 dwellers/km^2 in 2012 (NBS 2011; NBS 2013). The total agricultural area in the region is estimated to be 608 ha (TDP 2012), and more than 70% of the available land area for agricultural activities is used. Manyara is one of the regions where it is least common to borrow money for agricultural activities (URT 2021).

Babati Town Council (BTC) includes 13 departments and agriculture is included in one of them together with Irrigation and Co-operatives. In the department, in total 28 employees are working. And the major work activities in Babati are connected to agriculture. More than 75% of the urban dwellers are employed or involved in agricultural activities. The kind of activities in the industry from producing to consumers of agricultural goods involves a wide variety of tasks, as example; the cultivation in the first step by farmers, secondly the processing and marketing, and lastly the trading process (BTC 2021).[21]

In Babati there is 25,648 ha of arable land, but because the soil is encrusted with lava, the soil becomes very sensitive to erosion. The crop production is customized to the three types of land in Babati; lowlands, midlands, and highlands - which is three different agro-ecological zones. These are different heights above sea level, differences in temperature over the season, they have also different soil types and land use patterns, as well as different precipitation

[21] The value chain is even commonly longer, and transportation and other steps - like trading inputs - are not given in any further detail in this example (BTC 2021).

patterns both in volume and duration of the rains. The soils all have high quantities of humus, and that makes them suitable for a variety of crops. The most common crops produced and traded in general are pigeon peas, beans, cassava, sweet potato, vegetables, corn, bananas, and sorghum, whereupon the most common cash crops produced are edible mushrooms, lablab, simsim, coffee beans and sunflower seeds. To increase the food production; 700 ha of the arable land could be irrigated, but today irrigation is used at only 212 ha to be able to grow vegetables. The land is divided into; Dawar, Himiti- Managhat belt (150 ha), Maisaka (80 ha), Hanadeco (80 ha), Kwere (50 ha) and by the Kiongozi river (50 ha) (BTC 2021).

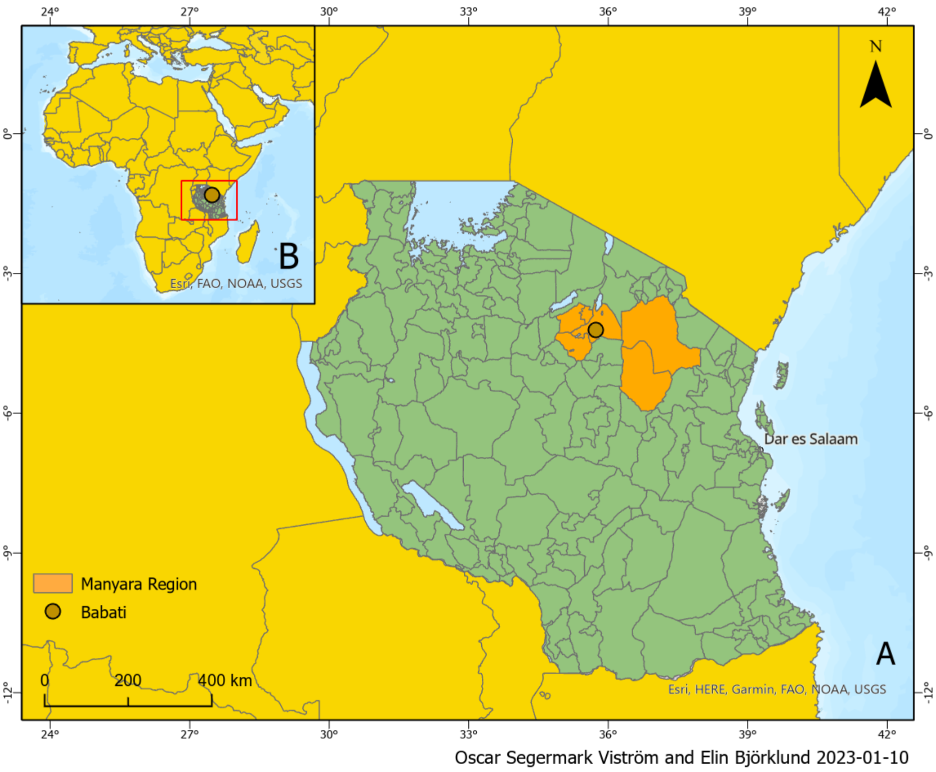

Figure 5. Depicts the study area from an international (B) and national perspective (A). Tanzania is represented by the green area; the orange areas are the Manyara region. The brown dot is located where Babati town is (A).

4. Methodology

The following chapter explains the methodology.

4.1 Methodological approach

The study includes qualitative data which aims to explain how some farmers and citizens with differences in both dependency and connection to agriculture experience and perceive the transition from an agrarian to a more urban society in Urban Babati. We strived to give the respondents the opportunity to talk about their perspectives in a relaxed conversation manner and to provide a description, a reasoning and talk more profoundly about the circumstances.

The study will both include primary data collected at the study area by the interviews and secondary data from earlier studies. The secondary data is intended to generate comprehensive background information about the topic and the investigated area.

4.2 Choice of method for empirical collection

The topic is by nature characterized by complexity and tends to be discussed in a great multifactorial manner. To investigate it profoundly we decided to use interviews to gather the study's empirical material, because in that case it was not relevant to have more respondents and short answers. The choice of doing an interview study enables respondents with writing or reading difficulties to participate as the questions were asked. A semi-structured interview guide was created to answer the research questions, where the questionnaires differ depending on the intended respondent categories (see *Appendix 1*). The study is done in early 2023 and 20 interviews are accomplished; five in each of the target groups: farmers, authorities, day laborers and full-time employees. The interviews took between 28-65 minutes. The gender distribution among the respondents was 70% men and 30% women.

Because the language was an obstacle in conducting the interviews, we had the ability to get help with the translation of the questions from English to Swahili - from a field assistant organized by Södertörn University - as not all the respondents manage English enough to understand and be able to respond to the questions. Of the interviews were 19 out of 20 recorded, as it was okay for the respondent. That enabled the possibility to listen to the answers again to ensure that nothing got left out or misunderstood.

4.2.1 The selection and delimitations

Four target groups were selected for the interviews to be able to cover different groups in the society - with different connections to agriculture - as well as a range of livelihood activities to be able to reach different socio-economic groups. The selection of individuals to each group were made by our field assistants with local knowledge, that were given the trust to find representative individuals to each group. When the individuals were found, a short introduction of them was presented to us to be able to double-check that they met the requirements to be interviewed in the intended group. If the person met the requirements the field assistant reached out to set up the interview. For the interview to fit in the farmer-category the person had to work with agriculture as their main income for livelihood whereupon the full-time employees instead should be working with something else and be employed. This could be by for example an organization, a business, the municipality or by self-employment if they had an own company.

Persons in the day-labor category should not have a permanent work or employment but should instead work as a day-labor which indicates that the work is temporary and not guaranteed for a longer period, like until it is time to retire. The authority-category included criteria such as that the person has any kind of insight into how the municipality or government work with questions regarding urbanization and agriculture, or that the person has had. It could also be the case that the person worked as some kind of authority or was in a position of great knowledge and insight about urbanization and agriculture. Authorities were asked from a professional point of view and not in characteristics of a citizen.

The selection was also done from a geographical point of view, given the possibilities for transport, the timeframe, and the limited available time with the field assistant. As we stayed in Babati the delimitation started there and continued to the urban and semi-urban parts of Babati that also has some rural parts on the outskirts, by visually defining the characterization of the landscapes and not checking the administrative boundaries. As the possibilities to farm increased with the distance to the town core it enabled us to research both the urban and more rural understandings of urbanization and the impact on agriculture as the impact could vary in areas with different degrees of urban development. Regarding the administrative boundaries in the region, we accomplished interviews within the districts which belong to the Babati Urban. Although the administrative part of the region is named as Babati Urban, the characteristics of the landscape - as mentioned earlier - were quite different between the outskirts compared to the core of the town. Closer to the center of the town the landscape was characterized with dense settlements, buildings, shops, traffic, and less fields used for agricultural purposes, and contrary in the outskirts.

4.3 Analysis method

Eleven interviews were transcribed word by word and seven interviews were transcribed in a more concise and summarized manner. This was done due to the timeframe. During all the interviews notes were taken by hand and during the one we could not record we were extra careful to summarize the notes immediately after. We also compared and united both our notes to make clear that nothing got missed. *Figure 6* aims to visualize the methodology in a five-stage approach.

To be able to draw conclusions and present what we found, the respondents' responses were firstly analyzed in three themes: contradictions, trend patterns, and reasonings with outstanding characterization. A thematic analysis method was applied, and the collected data was analyzed in an unconditionally manner with undetermined categorizes except recently mentioned characterization. By established a coding process, the respondents' answers and points of views of the subject, shaped the labels of the categories.

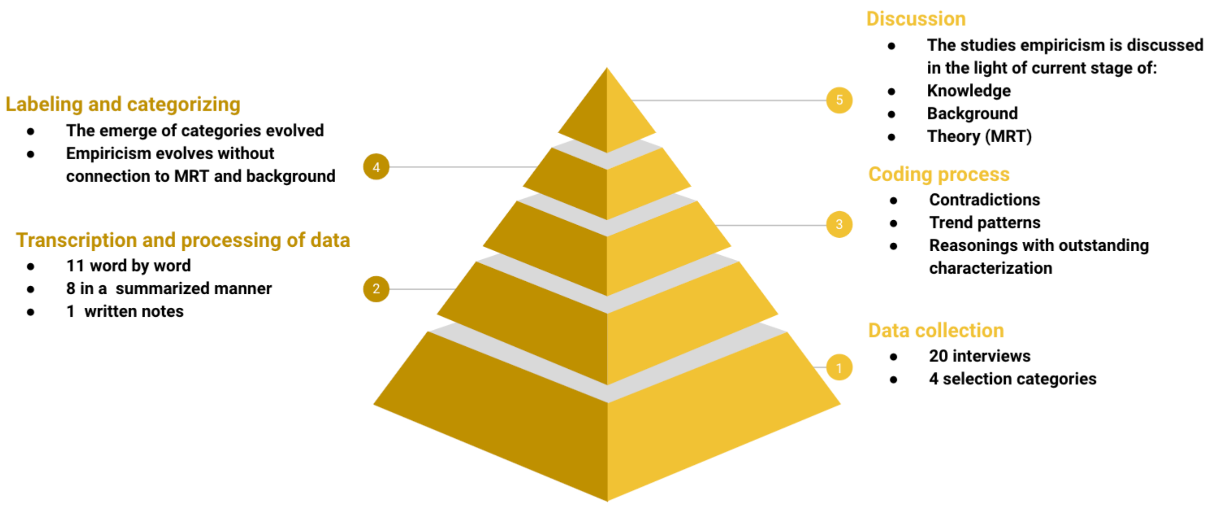

Figure 6. Depicts parts of the methodological approach, with start from the data collection stage to the discussion stage, a five-stage illustration (Oscar Segermark Viström).

The approach was inductive, and Bryman (2016) describes how the findings/observations in that approach shapes the theories or concepts of the results (see *Figure 7*), without any pre-determinations (Bryman 2016). We analyzed the empirical data and conceptualized it in the emerged categories in chapter *5. Results and analysis*. In chapter 5 we have chosen to analyze the respondents' perceptions and experiences without any connection to previous research, background, or theoretical framework. We have chosen to combine the analysis and results to minimize the risk of being repetitive. Lastly, we discussed the presented empiricism of the study in the context of previous research, theoretical framework, and the current state of knowledge in chapter *6. Discussion and further research*.

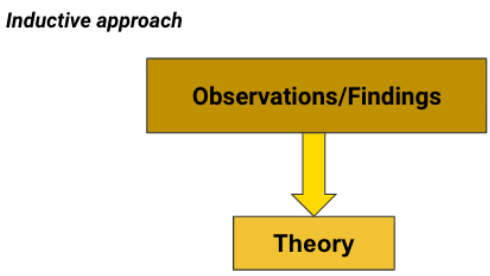

Figure 7. Illustrates the steps in the inductive approach, in order to arrive at conclusions, the inductive approach entails moving from the specific to the more general (inspired by Bryman (2016) and made by Oscar Segermark Viström).

4.4 Method discussion

The selective choice of carrying out the collection of field data in Tanzania, Babati is based on the thesis course - which the study is carried out within - was solely aimed at Tanzania on which that sample was included as the course was selectively taken. This choice was carried out because it opened for this research to be made in a nation where many of the dwellers still engage in agriculture, compared to the Global North. This has given a different perspective of the study compared to if it would have been completed in Sweden, where we as the authors study. But it comes with a challenge to understand and get an overview about a new country and its culture in a short time frame.

At the time of the interview, the intention was to be as flexible to accommodate the person to be interviewed where the interview took place at the most favorable location for the interviewee. This entailed that it was possible to be able to have the interview even if the person only had a limited amount of time or felt more relaxed if the interview were located at a place where they felt comfortable, like their homes. If the interview instead was held at our starting point, it was completed at Södertörn Conference Center in Babati.

A challenge was to make sure that nothing got missed in the communication because an interpreter was involved. To minimize the risk, we instructed the interpreter to always try to translate as closely as possible to the respondent's statement and we often told our field assistant to retell a sentence if anything felt unclear. We also asked the respondent to be more precise or explain again if we felt unsure what the respondent meant. Despite that, it is still a risk that some important data could both have got missed or even misinterpreted.

The characteristics of the questions were mostly categorized as open ended to navigate the participating respondents to feel free and answer the questions in a nuanced and based on their own knowledge and perspective, as well as sharing as much information as they wanted to. We wanted to avoid answers that could be predetermined and avoid questions which could be pressuring the respondents. The questions were therefore reviewed several times and changed a little after they were tested to make them as concrete and easy to understand as possible. Even if we knew and tried to avoid getting not truthful answers it is unavoidable to know if the respondents spoke about it in that way, pressure from outsiders or for example the state can always occur in such situations that we do not know about.

The study is addressed to the interested one, students in the same field, to the respondents and other dwellers of Tanzania and Babati that are curious on the topic and to the Tanzanian government. It is also addressed to potential investors and stakeholders that would like to start working in the nation, whereupon this paper could give a hint on potential development areas. The choice is made to begin by introducing the topic and give a broader introduction to the subject in a global context. This to refresh the memory of readers who are familiar with the subject and to invite the ones that are not. Later the study narrows down to the investigated area and topics connected to that, to give more detailed information regarding the research questions.

4.4.1 Ethical Considerations

In this study we had to consider risks associated with an unknown culture for us as authors. It implies challenges for us to get understandable, accepted and respected by the respondents. To avoid linguistic misunderstandings, we had the opportunity to get support from interpreters who speak both Swahili and English organized by Södertörn University. We also had a short language lesson in Swahili, a week before we arrived headed off to Babati. The lesson contained some general important information about the culture and country that was very helpful and made us feel more ready to enter Tanzania and start the project. We developed a word list on Swahili to be able to communicate and greet with the respondents (see *Appendix 2*).

The study is not characterized by particularly controversial or sensitive topics in our culture, but as mentioned above, it is always challenging to get to know a new culture. At class we learned that social norms and gender roles are different in Tanzania compared to the Swedish culture. By following their attitudes and behavior it becomes easier to be respected even if we do not sympathize with everything. Otherwise, the possibility to become uncomfortable or end up in dangerous situations could have increased.

By anonymizing the respondents, we minimize the risk of leaking confidential information. We have not exactly framed where the interviews were conducted and where the respondents lived, as a part in the anonymization process.

5. Results and analysis

The respondents were divided into the categories: farmers, authorities, day laborers and full-time employees. This was made to investigate the purpose of the study with perceptions and experiences from different levels of socioeconomic characteristics and connections or dependencies to agriculture. Anyhow, much of the perceptions and experiences about the transition from an agrarian to a more urban society were described quite similarly within the groups. But we could also find differences and contradictions, which are most clearly presented and characterized in separate categories. In this chapter we will therefore, in the first part explain most of the respondents' view about the transition without or with less separation between the categories. The first part of the results is presented within the subheadings belonging to; *5.1 The perceptions and experiences about the transition from an agrarian to a more urban society.* Differences or phenomena between the groups are most clearly described separately, so we have thereafter created subheadings for each category of respondents. In the last part of the *5. Results and analysis* chapter, we summarize the results and visualize it in *Figure 8*.

5.1 The perceptions and experiences about the transition from an agrarian to a more urban society

The urbanization trend is clear in Babati, some people move from the rural areas but even inflow from other towns occur as well. Overall, the picture about how most of the respondents view urbanization as a phenomenon is clearly retold by a quote mentioned by a farmer, respondent 9, *"It's like honey in the urban areas - something good"*. The metaphor may not problematize the phenomenon to a deeper sense but gives a clear picture of how urbanization was perceived by many respondents. The image of how the society is changing from agrarian to more urban was expressed as something positive was further strengthened when most respondents believed that urbanization means increased prosperity.

5.1.1 The advantages

People frequently highlight good opportunities for agriculture (especially in the more rural areas), businesses, favorable weather conditions (related to the topographic features such as high elevation above sea level, surrounded by mountains, changing weather, and relatively high rainfall compared to many other places where drought is even more of a problem). Where all factors the respondents associate with Babati and as reasons for moving to or staying in the area.

The population growth trend in the more urban area of Babati could be declared by most of the respondents. Many advantages were mentioned as outcomes from the ongoing transition, and improvements in social services were constantly recurrent in terms of better access to water, education, infrastructure (like better roads), electricity and hospitals. But the most common mentioned advantage was the increase of businesses in areas with big populations which directly increases the business and then the work opportunities. Many respondents explained how the good life was found in the urban parts of Babati compared to the more rural villages.

5.1.2 The challenges

On the other side, some challenges or disadvantages of urbanization were mentioned too, for example and mostly recurrent in terms of - the life in town requires constant access to money - and if you do not make it and are prepared for it - it could end up in tragedies. Tragedies like prostitution for the women and an increased risk of engaging in crimes for the men, were both something that has been occurring more frequently nowadays compared to the past. Even phenomena like traffic accidents with deadly outcomes were often presented as something that has increased nowadays because of the gathering of people and more traffic.

Food security and a tough labor market were also both topics that addressed the challenges and concerns among the respondents. The question about food security was mainly centered around how to secure and increase the food production. Urbanization and the increase of people in general was on the lips in this dialogue, but even more frequently mentioned and could not be omitted to be retold in this part was the concern about the weather changes (related to climate change), and how that affects the harvests. The farmers were foremost affected by the weather situation in terms of securing their income, but even the other respondents expressed a concern about it, in terms of food security and how it could contribute to price volatility on the foods. The farmers must deal with weather changes and increased production targets to sustain the food security as well as other challenges that are further presented in the subheading *5.2 Farmers.*

The situation at the labor market could be summarized as multifaceted. The most frequent perception was how many inhabitants in both the urban and rural areas struggled with insecure working conditions, low wages, and inequalities in assets between poor and the wealthier households. By comparing the full-time employees and day laborers we recognize a clear tendency which indicates a wide difference in both working conditions, wages and working hours between the groups. Although no statistical estimations have been done and no significance can be retold, the difference was notable and the full-time employed were usually more satisfied with the earlier mentioned factors about the situation on the labor market compared to how the day laborers expressed it.

The status of being a farmer was perceived as equated as hard work with low benefits and economic compensations compared to other occupations according to many respondents. Within this dialogue many expressed how the economical profits in the producer/supplier value-chain was unbalanced - *"the profit will foremost end up in the middleman instead of the farmers and the farmers remain poor"* - a quote from respondent 4 in the category with authorities. The situation on the value chain is further analyzed in the sub-heading *5.1.6 Value-chain imbalances in terms of economics*.

5.1.3 Perceptions on the social effects caused by the transition

A pattern in the responses was that there is no such thing as segregation between rural and urban dwellers as well as that the risk of it was not a big concern. It was explained with arguments such as, even if the urbanization trend is clear, there is still a strong dependence on each other. In terms like, most of the agriculture production occurs in the rural areas and the markets and economic activities are accumulated in the town - where the agricultural goods foremost get consumed. Contrary, a minority among the respondents problematized the question about segregation and expressed a risk. One respondent in the group of authorities, respondent 1, mentioned how the urbanized citizens tend to *"forget where your origin is. That is how the urban destroys the rural",* the dialogue was also centered around how urbanization tends to *"be a killer to the culture and the traditions"* according to the respondents' perceptions. It was more common in the group of authorities to express a risk of segregation between the rural and urban dweller compared to the other groups of respondents.

Furthermore, on the other side of the perceptions, those who do not see any risk of segregation, several respondents mentioned how they still are connected to the rural areas in a social manner because they have relatives and friends there, or even their origins.

Respondent 18, a middle-aged man in the category full-time employee, acknowledged a gender equality problem which occurs in some rural areas, where the wives were not allowed to speak before the man, in dialogue with others. That kind of behavior is not an issue within the more urban areas according to his experiences and perceptions.

5.1.4 The connection and dependency to agriculture

The dependency on agriculture was not unexpected, most clearly noticed in the group of farmers, but dependency could also be found on different levels in the other categories. Most of the respondents explained some kind of connection and dependency even if it was not their primary source of income and many respondents were doing agriculture on a small scale for self-consumption, only. More detailed information about the respondent's connection and dependency to agriculture are described later in each of the subheadings; *5.2 Farmers, 5.3 Authorities, 5.4 Day labor and 5.5 Full-time employees.*

5.1.5 Land use changes and ecological effects

The most frequent answers on the question on how urbanization affects agriculture within all the groups was answered in terms like, how the transition reshapes the spatial patterns in the region and foremost the urban parts by land use changes. The land change trend was clear, and almost all the respondents declared that the pastures and cropland had to be moved to leave space for settlements and urban development. The farmers expressed concern about the land changes and how it will affect them in the future, but on the other hand, many expressed how they enjoyed the urban expansion and the outcomes it has brought along. Favorable changes mentioned was better roads, more close hospitals and access to water in comparison to the past when Babati was more like a rural village. The ecological effects that were mostly expressed were concerns about soil degradations, eutrophication in Lake Babati foremost caused by industrial fertilizers used in agriculture and concerns about climate changes which contributes to less precipitation and more droughts. Further ecological effects are addressed in the sub-headings *5.2 Farmers* and *5.3 Authorities.*

5.1.6 Value-chain imbalances in terms of economics

Recurring in the interviews, the profitability situation in the value-chain between the farmer and the supplier, the picture of the situation was clear and homogeneously described. The farmers struggled with production expenses for the seeds, fertilizers, pesticides, and other necessary costs to secure a good harvest, and the compensation was often barely covering the production costs. A lot of the work was made by hand and the work was perceived as hard by many, and unfortunately as poorly paid. The supply and demand set the price for the commodity and the farmers were usually not selling the products to the end customer at the market. Instead, it was a middleman or many middlemen in the value-chain who distributed the foods to the market. The middleman was described as the big winner in the chain and the one who got the big financial profits. To combat that problem the government has now established a cooperative union, with the aim to cut the value chain and increase the compensation to the farmers. But still they have not succeeded according to the respondents' perceptions and the problem remains. The farmer sold the goods to the middleman for very low prices which barely cover the cost of the production and then the middleman stored it and waited until the demand increases and the supply decreases to put it on the market with a multiple pricing. The farmer was often in a stressful economic situation after the harvest, and lack of capacity to manage the storage, transport and the opportunity to distribute the products to the market, which explains some of the reasons why the situation remains.

5.2 Farmers

The government has taken land that was once utilized for agriculture and is now being used for urban development, which has affected almost all the farmers personally in some way. But foremost by the farmers who lived closer to the core of the town compared to farmers in the outskirts of Urban Babati. Today, the farmers that get affected by land reduction by the government are compensated economically, but that has not always been the case, back in the days and the case for one of the respondents has experienced reduced land without any compensation. However, some farmers also complained about the amount of money they get compensated nowadays. A recurrent concern by the farmers about the future was related to the expansion of the town and the land changes it comes with. Consistently and contrary, all the farmers also expressed many advantages that come with urbanization, such as better social services and the increase of people which increase the demand for their products. An example, as a response of increasing township, a 26-year-old farmer (respondent 9) had begun to speculate about the farms future and has started to "*rethinking on how he can overcome life*". He also explains how he now was in a transition phase from utilizing traditional farming to do more commercial farming methods and choice of crops, as an adaptation to a more modern approach and to increase the production.

Many of the farmers expressed how in recent years a lot has changed in farming methods and techniques, the changes could be summarized as a more commercial farming compared to the traditions. By mentioning some of the changes more specifically, many have changed from traditional and indigenous species to more commercial species with better yield and higher value at the market. More industrial fertilizers and pesticides had to be used compared to the past. The weather has changed and less rains are occurring, some combat that with irrigation systems and some use other kinds of species with more resilience for droughts. One of the farmers has dug for years with only his own hands in his backyard to find groundwater without any success yet, and the stress of less water was tangible to many farmers.

Legislation in the urban part of Babati makes it more challenging for farming activities compared to the rural areas. Farmers were not allowed to grow crops higher than one meter and as a livestock keeper you were not allowed to have free ranging livestock. The law about the height of the crops was motivated by security reasons: if the crops are too dense and high it will make it easier for thieves to hide in there. The law about the free grazing livestock was motivated in terms of limited space in the urban areas and some expressed how the roads made of asphalt get destroyed by the animals.

5.3 Authorities

The authorities' perceptions and experiences that was protruding compared to the other categories was how they addressed the transition to a more urbanized society in Babati in a more adequate manner. First on the agenda was how the perceptions of the transition in terms of food security stressed the need for more improvements in agriculture to meet the production targets related to an increasing population. Technical improvements were desired such as irrigation systems and more modern machinery, the use of more industrial fertilizers and pesticides were stressed as necessary and were seen as a part of the solution of the challenge. Many of the respondents within this category and the other categories explain how the governments support the farmer with subsidies with 50% of the price on fertilizers, almost all the asked respondents talked about that instrument as something that was necessary, and they knew about the support they could get. On the other hand, the pesticides could also be subsidized by the government, but it was a very little number of the respondents who knew about that which could indicate a communication gap between the farmers and the authorities.

Many of the authorities expressed it was a big challenge to reach and consult all the farmers and spread necessary information. It was an impossible task to meet everyone in person. One of the authorities, an agricultural extension officer within the BTC was responsible for more than 1500 farmers and was working with consulting at four of the workdays at the fields and with administration at the office the fifth day. To meet the communication, challenge some agriculture extension managers have now started to use smartphones to communicate with applications which have a group chat function. A contradiction to earlier mentioned communication challenges, another authority, an environmental management officer, perceived it was not hard to reach the farmers and give the advice, the challenge was to get them to listen and apply new methods and approaches. Many farmers wanted to do as they always had done according to their traditions and the officer expressed how the farmers sometimes answer the advice with *"show me your farm"* when a person in the authorities tried to give advice.

Majority of the asked authorities problematized the increased requirements connected to meet the production targets as something challenging in terms of external effects on the ecology. Soil erosion, eutrophication and uncontrolled spread of pesticides could be a scenario. But the need to secure the production targets to secure the availability of food for the inhabitants was perceived as more prioritized.

An ongoing conflict between the livestock keepers and farmers (which only do cultivate) was retold by the authorities and primarily a challenge in the urban areas, the reason why the occurring conflict was related to the decrease of areas for keeping the livestock at free grazing or if the land should be used for agricultural purposes.

5.4 Day labor

The respondents in the day labor category have all of them experienced easy access to find work and money and relates that to the increase of people and the occurring urbanization. Four out of the five respondents identify themself as disconnected to agriculture and the fifth of them was dependent on agriculture in terms of cultivating for self-supply and as daily worker at other farms. Many explained how they struggle with low salaries that barely cover the cost for the basic needs even if the workdays could be many hours. For instance, respondent 12 regular workdays start at 4am in the morning as a butcher until 7am, and then around 8am as a mechanic until late and that proceeds Monday to Sunday. Respondent 15, who commonly worked as day worker at other farms expressed a big variation between the wage for similar work effort between the urban and rural areas. The wage was expressed as low and the estimated compensation was 1500 Tanzanian shillings (approximately 0.60 €/7 SEK) for a day of weeding in the more urban parts of Babati, it was barely enough to buy a loaf of bread after one day of work, and after a week of work it barely covered to buy 20 kg of maize which a family of four could finish in less than a week.

5.5 Full-time employees

In this category, the respondents were either graduated at university level or self-employed and own their own businesses. Some of them were connected to agriculture and cultivates for self-supply and some had no cultivation at all, the distribution was almost 50% each. Their salaries were enough to only buy the food at the market and all of them were commonly doing it even if some also engaged themself in farming. The respondents who engaged themself in agriculture were not doing it to secure the income to the family, their reasons regarding it were more like an extra income source than a necessity to secure their living. They usually hire day laborers to manage the cultivation process, if not in all steps, at least in the most energy and time-consuming moments according to the cultivation.

5.6 A summarize

To summarize the result and analysis chapter, *figure 8* below was created.

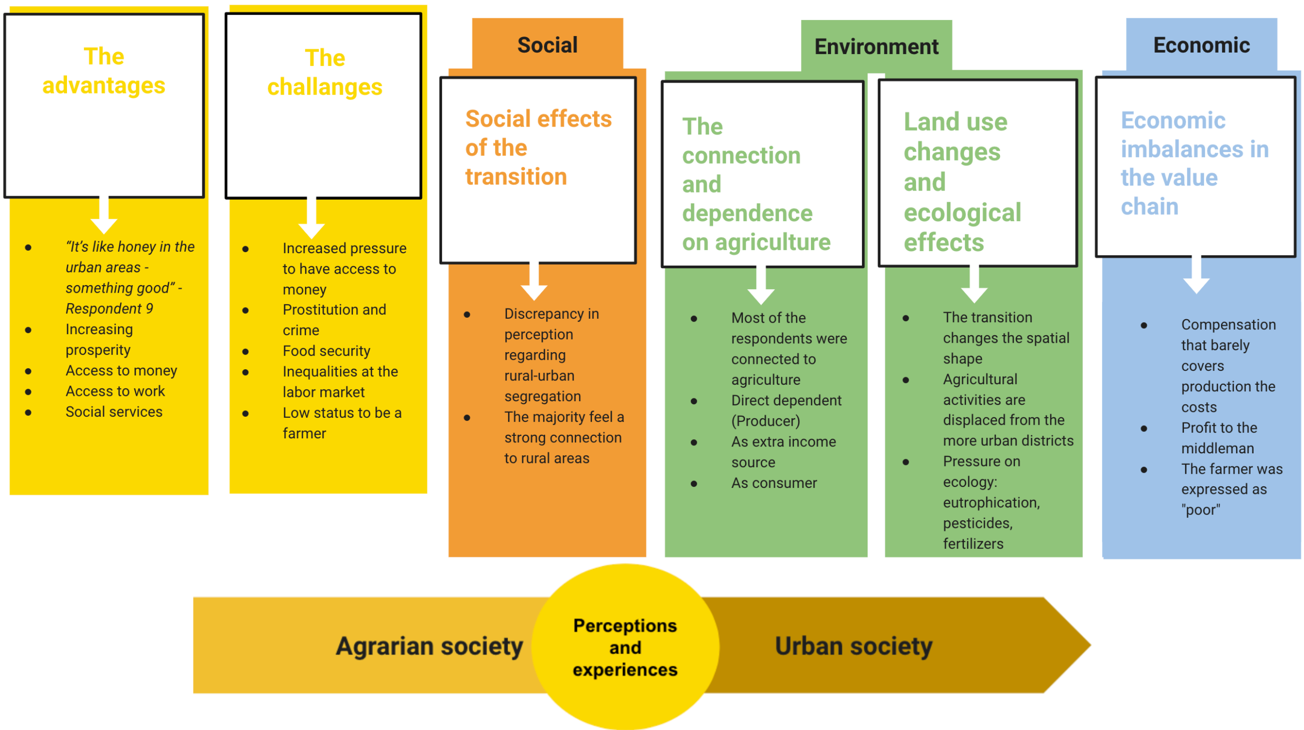

Figure 8. An illustration of the result in bullet points, organized by the research questions were the overall advantages and challenges - presented to the left in the figure - are divided into the sustainability perspectives - to the right in the figure. In the bottom of the figure the overall purpose statement is illustrated, whereupon the dwellers perceptions and experiences are presented above (Oscar Segermark Viström).

6. Discussion and further research

The purpose of this study was to examine the experiences and the perceptions about the transition from an agrarian to urban society and the addressed economic, social, and environmental benefits and challenges it comes with. The aim is to contribute to the understanding about how urbanization affects agriculture and food production, knowledge that is of great importance for developing sustainable and resilient societies in the future.

6.1 The advantages

The results presented in part *5.1.1 The advantages* could be summarized as respondent 9 mentioned; *"It's like honey in the urban areas - something good"*. The increased urbanization in Babati and its effects on agriculture were not problematized in a deeper sense. The outcomes in terms of improvements in social services were desired by the participants and the increase of businesses, but by applicating the MRT described by Moore (2010) on these perceptions, it is unavoidable to not discuss if the results could be interpreted as a risk of greater gaps between city and country but also between production and consumption of foods. We interpret it as a forecast and a possible future scenario in Babati. When development has taken place in a capitalist manner, the transition from an agrarian to an urban society has ended up in a greater gap between the producer and the consumer and the city and country. On the other hand, the perceptions about the transition were mentioned as something desirable, it is interesting to impugn if the capitalist system shapes the most sustainable and desirable solutions for as many people as possible in the end, or if the social and economic inequalities which are presented in *5.1.2 The challenges* will persist in the future. Something worth adding to this discourse is the perspectives from Saghir and Santoros (2018) research, which contains arguments seen from a neo-liberal perspective. They advocate some kind of urbanization for an LIC to become an MIC. But on the other hand, they mean it also comes with a lot of ecological and social challenges and they point out that the outcome of urbanization does not always lead to economic growth. Whether that is the case in Tanzania or even Babati can be further discussed, and it is a topic that advantageously can be investigated further. More precisely whether the prevailing conditions in the nation and in Babati are following the path that other nations - with a greater level of urbanization today - have walked or if the predicted future of Tanzania and Babati is nothing alike. Which could give an indication whether the consequences in this case are similar or not to the consequences other developed nations have experienced.

6.2 The challenges

The challenges are divided in three different parts: constant access to money, food security, the labor market, and its inequalities. Firstly, the transition from agrarian to urban society increased the press of a constant access to money for the respondents' perceptions and stories with tragic endings such as prostitution and increased crime were on the agenda. Carter (2016) argues the consequence of growing cities as a risk of exceeding the number of inhabitants in relation to the capacity to produce provisions could end up in tangible consequences like, conflicts, diseases, starvation or higher mortality. Our findings may not be able to relate to all the consequences stressed by Carter but in some way, it resonates with each other and tells us that there are inherent problems that need to be fought in the future.

Secondly, food security, the results show different levels of concerns and perceptions between the group of farmers and the other groups. Where the farmers expressed a clearer concern even if the other groups addressed some concern, the differences between the groups will not be a particularly strange or unexpected result, as dependence and connection to agriculture varies. Anyway, the mainly addressed challenge in this subject was about how to increase the production to an increasing urban population. And by relating that problem to Jayne et al. (2019) research, and how the increased rationalization in agriculture pushes closer to the ecological limits. They discuss how to meet the production targets by using more industrial fertilizers. On the other hand Jayne et al. (2019) also discuss how the production targets should be reached without any expansion of cultivable land to not harm the environment in terms of land changes - but its unavoidably to not thinking - that instead will result in other ecological problems - such as eutrophication, soil degradation and issues related to industrial fertilizers, which many of the authorities in this study also expressed as an big concern in Babati. By solving one problem and creating another, it may not be the most optimal solution and the way forward, even if the food security situation also must be solved.

Thirdly, the labor market and its inequalities. The results show a situation on the labor market as multifaceted with challenges as insecure working conditions, inequality in income and working hours. The results resonate with Sulemana et al. (2019) findings, which declared how income inequalities have increased as urbanization has risen in SSA. Despite the economic growth in the last decades in the SSA nations, related to an increased urbanization according to the ADBG (2022), it seems not to contribute to a more equal income situation which our study also indicates. The results indicate instead of a distribution problem of assets.

6.3 Perceptions on the social effects caused by the transition

This is where the tricky part begins as many of the mentioned advantages and challenges come with social effects as well as economic and environmental phenomena do. The example of prostitution has probably mental and physical consequences for the individuals involved who offer the services as well as for society. An increasing group of young women from rural areas who see prostitution as the only way to achieve a good life are a decrease in - for example - the rural labor capacity for agriculture. They could instead be part of securing the food supply due to the country's strong dependence on sufficient harvests. But on the other hand, as it is seen as the way to achieve better conditions in life, the strength they show can probably be the inner force in people to achieve the change from an agrarian society to an urban society that hopefully meet their needs in a close future. A feature that Saghir and Santoro (2018) means will contain increased prosperity because of urbanization. But on the basis that the design of human settlements has a strong impact on the quality of life for the dwellers - in terms of social sustainability - according to NBS (2011) as well as that they are aware that the movement rural to urban are made in search of a better life it occurs odd that more is not done to counteract the society changes with negative impacts. But including aspects such as the nation's economy and that the main perception is that the way a modern society develops is through the growth of human settlements - according to the earlier mentioned source - it appears more understandable that other issues are addressed to start with. The NBS (2013) points out that it appears clearly that the lack of consideration to socio-economic variables when human settlements are growing, have a big impact on the nation’s most poor dwellers. They mean that this is followed by increased poverty problems in both urban and rural settlements as well as it has contributed to an unsustainable development in the nation. Carter (2016) points out that ongoing urbanization, parallel to population growth, can keep nations mired in a cycle of poverty and contribute to social and political unrest. This could be a factor of impact as the population is expected to continue growing according to the NBS (2013). Which are statements that are not in line with the perception of the respondents. The NBS (2013) also mentions that the settlements have a lack of services and infrastructure, which has resulted in a health-issue with non-sanitary conditions in both urban and rural areas as unplanned communities and slums are growing. With an increase in crime-rate, which is in line with the respondents’ perceptions and experiences. According to URT (2021) one of the hard thing’s farmers mention in connection to agriculture is just the thefts that have an impact on the economics as well as the food supply. In the long run will probably the food production and food security get impacted too, as young men leave the rural agrarian life as well with a decrease of labor and people in the next generation that is supposed to carry out agriculture in the future. If certain consideration is made to the government's visions and future targets an expansion of large-scale agriculture is just in line - according to URT (2021) - which we assume will be the solution to the decrease of labor in the rural areas. Overall if the process of urbanization did not occur at the fast rate it does today or if the human settlements had been better prepared for the pressure from the change the negative consequences shown could maybe have been mitigating. Because if the change that is supposed to come with good consequences comes with the same amount bad ones - just other ones - the change is probably not worth it. The nation somehow right now handles the current issues but is not prepared to handle the ones they have not yet encountered, whereupon the ability to handle them could be even lower. But the government has taken action to counteract the slums and the intention is to improve the development of human settlements to improve the quality of life of all Tanzanians now.

To continue the social effects on agriculture from urbanization, the next topic to highlight is the question regarding segregation - whether it is a phenomenon or not in Babati - according to the respondents. A clear majority agreed that the risk of segregation - because of urbanization - was not of concern as they pointed out that there is no segregation between the rural and urban dwellers. Which they meant was due to a strong dependence or a close emotional connection. This could maybe be explained by that the development the nation is going through is economic centered as Carter (2016) mentioned. In combination with the urgent issues mentioned by UNA Sweden (2021a; 2021b; 2020b; 2020c); that 45% of the dwellers live in extreme poverty in the nation, wealth and poverty disparities, low ranks of human development and that above 25% is malnourished, it does not seem to be a question of concern either. It also seems that the development has not reached far enough to be able to implement Moore (2010) theory about a metabolic rift fully today according to the spread dependence on agriculture (URT 2021) as the respondents also point out. But at the same time the group authorities, day labor and full-time employees stand out as they expressed a risk or gave an indication that the process has started and most common was it in the authority category. One authority also pointed out that the urbanized citizens tend to forget where their origins are, and that is the way how urbanization process destroys that connection, as well as what is rural - in the form of culture and traditions - and changes these patterns. Among day laborers 80% of them gave a picture that they are disconnected to agriculture as 50% of full-time employees also did. The other 50% did agriculture but not because of dependence on it, rather as an extra income. Considering the mentioned information as well as what Satterthwaite, McGranahan and Tacoli (2010) presents, the development tends to go in that direction, even if that is not something the longing people can or would like to see as the economic aspect weighs heavier. But as the UN (2019) puts a light on; there is a need for integrated policies that deepen the connections between urban and rural parts in a nation. This to expand on their already-existing economic, social, and environmental relations to enhance the standard of living for both urban and rural residents (UN 2019). It could therefore be a thing to take under consideration to be able to mitigate negative consequences as the ones Moore (2010) presents but also to work towards favorable improvements. But as Morley, Mcentee and Marsden (2014) comments; the development of the urbanization degree will probably remain lower in LIC in the Global South - for some time - compared with the Global North as the access to advanced agricultural technology is lower. This could be an indication that a metabolic rift as well as segregation, will take some time and occur later as the UN (2019) predicts further urbanization in the whole Africa. As well as it is notably not a thing or a concern that a majority experience.

Another perception that a respondent pointed out was that urbanization gained gender equality which in line with that the urbanization recreates a more modern society - according to NBS (2013) - could be a more visible change the nation will perceive in the future.

6.4 The connection and dependency to agriculture

The results shows that many of the respondents in some way was dependent or connected to agriculture, the farmers were not unexpected most connected in a more direct way, but within the other groups the connection was still there for many as part-time farmers to get an extra income without a dependency to survive on it for self-supply. On the other hand, one of the day laborers was dependent on it for both self-supply and as an income source as day worker on other farms. The connection and dependency the respondents expressed was in line with the statistics from the BTC (2021), which says it was more than 75% of the urban dwellers who are engaged in some agricultural activities today. The dependency and connections to agriculture in the results and the statistics from the BTC (2021) together means that the MRT mentioned by Moore (2010) does not be applicable to its fullest sense today. But, on the other hand, other parts of the result such as how the migration pattern between urban and rural dwellers, imbalances in the value-chain and ecological effects linked to increased rationalization of agriculture can be more clearly associated with the MRT.

6.5 Land use changes and ecological effects

As primarily the farmers experience land reduction by the government - related to that Babati town is expanding and to make room for more development - the farmers are left with less land to cultivate but an economic compensation. And just land access is mentioned as one of the worst difficulties that the farmers face according to URT (2021). Some of the respondents in this study also mentioned that they feel that the compensation is too low - in combination with land being an economic good with rising value (Jayne et al. 2019) - it can be hard to buy more land to be able to secure the need for food. URT (2021) adds that 67% of the agricultural households have a cultivable land area that is insufficient compared to their needs. So, since the nation faces environmental issues like soil degradation and desertification (UNA Sweden 2021a), the amount of arable land decreases. Urbanization also competes the food production on productive cultivable land in favor of the expansion of the towns (Fogelfors 2020). A big problem as most of the people are working with small-scale farming. Fogelfors (2020) continues that the effects of climate change in the future will be devastating for agriculture, simultaneously as an increased pressure on food production due to the expected population growth. In countries with a low priority of emergency preparedness issues, the food security can be significantly affected subsequently (Fogelfors 2020). But as most of the authorities mentioned; it is challenging to meet the crop production targets in an ecological friendly way, but that the need to secure the availability of food for the dwellers is of a higher priority as they perceive it. This really shows how vulnerable the food production system is, and how important it is to be able to fill the basic needs to have space left to concern about the environment. But as many of the respondents see a lot of advantages with a change to an urban society it can somehow be dangerous as the backside of the development is overlooked or turned a blind eye to. Which totally makes sense as the possible individual opportunities to do something about it, is probably small as well as they are in a dependence position to the change. One farmer was speculating on how he can keep the farm and farming in the future and how to overcome life, whereupon the changes he already had made was to go from utilizing traditional farming to more commercial farming methods. He also thought that the choice of crops was of importance. All together to be able to increase production, which from his point of view was the way to overcome life in a changing society. Probably a start to a national scaling up process to commercial industrial large-scale production and following the development in the western world. Which also include that less dwellers engage in agriculture as less of them in Tanzania and Babati will have the ability to keep up with the fast agricultural development change in terms of financing. The western change also includes a wider gap between the producers and the production to the consumers, a potentially big threat to the nation's food security adaptations in a changing world. In the same time Morley, McEntee and Marsden (2014) predict that the expanding metabolic rift will be a threat against global food safety. Whereupon globalization and global food trade cannot be something to expect to rely on in the future as the development in the nation proceeds. An opportunity earlier developing countries could to a bigger extent. To go through the development later than other countries gets the nation left with the negative consequences not just from their own development but they also get to experience the consequences of the change in the rest of the world. While having the other nations eyes on them, they will be watched in the whole developing process as the wish from other nations will be the least number of negative consequences that they can be affected by. But it also enables support to a greater extent that early developing nations did not have access to.

So, in the end the discussion could go in the direction whereupon it is about a trade-off between the dwellers' possibility to achieve a higher well-being and to increase the development in the nation in contrast to the food production and food supply in terms of land use. As the urbanization process proceeds, the agriculture development as well as food supply will probably keep up and follow the development, but the cushion is until what cost the agrarian develop will proceed as poverty is widespread in the nation. Will 70% of the poor rural dwellers that are completely dependent on agriculture (NBS 2013) - or the close to 45% of the inhabitants that are assessed to live in extreme poverty (UNA Sweden 2020b) - survive a rapid change or even can be a part of it? Somebody is paying the price for the development, and it does not seem to be the wealthiest part of the dwellers in the nation. But as Morley, Mcentee and Marsden (2014) points out: the capacity in LIC in Global South - in the shape of necessary advanced agricultural technology - is not that high whereupon the degree of urbanization will remain lower than in Global North. But hopefully the most important needs and wishes will have been achieved. On the other hand, the nation is experiencing consistent and stable economic growth, however, the poorer segment of the population has not benefited from this since the country has substantial wealth and poverty disparities (UNA Sweden 2021a). If the money from the economic growth were reintroduced in the nation's agricultural and food production and reached the lowest level in society, it could gain the society. It could hopefully also turn the trend with increasing poverty because of the urbanization of agriculture today. A trend that is expected to worsen, whereupon there is no time to lose and time to act - to be able to fight the high malnutrition numbers and increasing the human development in the nation.

To spin further on the first reasoning where it was stated that there is a decrease in arable land, the total amount of land used for agriculture has greatly expanded in recent years (NBS 2013) on the behalf of agricultural development and more precisely deforestation (UNA Sweden 2021a). And at the same time the urbanization phenomenon takes up more space (UN 2019; NBS 2013; Saghir and Santoro 2018; Carter 2016) and the pressure of a growing population as well as a continuing increase of population density (UN 2019; Carter 2016; NBS 2011). An aspect that needs to be taken under account is that these changes occur on the nation's land area that is remaining unchanged in size (NBS 2013). These changes each have a negative impact on nature, which gives an indication that land use changes together have a big impact on nature and on the natures carrying capacity as well as the biodiversity. Carter (2016) adds light to the discussion by reminding the sustained population growth and an increasing human prosperity are factors that separate humanity from the natures natural limits and that the carrying capacity is unsure. And that, the future demise could be a fact. Eeckhout and Hedtrick (2021) mentions ecological consequences like high pollution levels, that a large amount of garbage is produced and a high energy use in big cities because of urbanization. Whereupon the NBS (2013; 2011) adds that the protection and conservation of the environment gets neglected, and that urbanization has an impact on the ecological spatial sustainability. At the same time as the population density increases it gives consequences like greater pollution, primarily in the cities (UNA Sweden 2021a). To summarize, Carter (2016) mentions consequences like that nations with poverty problems get a hard time getting out of it, that deforestation as well as food and water shortages, and climate change will intensify. He also points out that "*/../ biodiversity is lost when plants and animals are crowded out to make room for more development. Population growth stretches natural resources to their limits /../*" (Carter 2016). Which gives a clear what kind of impacts these changes have both in short and long term. The respondents mentioned changes in how the transition reshapes the spatial patterns as well as changes in land use like that the pastures and cropland had to be moved to leave space for settlements and urban development. And these days they are supposed to get economically compensated as the government that owns the land takes it back according to the respondents, in terms of the farmers source of livelihood (UNA Sweden 2021a). Which they get nowadays, but some farmers pointed out that the amount of money was too low. The government aims to ensure that the money is paid out immediately and fairly to all affected land users (NBS 2011).

On the behalf of agriculture, the urbanization process takes place in the nation. And on the behalf of the future sustainability a long-awaited change is happening. But the question is probably mostly not whether the changes should occur - or if developing countries have the right to go through these changes seen to the consequences that get global - but mostly whether the price for the change is higher or lower than the outcome, the great benefits of urbanization and the societal changes. However, the dwellers as well as the government will get affected in the long run by the globally seen consequences whereupon managing them is just as important to be able to keep the good association to urbanization. And that, it does not mean increased land use conflicts as the farmers already express concern about the land changes and how it will affect them in the future. UNA Sweden (2021a) and NBS (2011; 2013) points out that it is already a widespread phenomenon as a frequent result - in both urban and rural areas - with high population densities. But as the government has planned to act against this, but not mentioned how (URT 2021), the challenge will be to come up with solutions that decrease the negative impact on nature. As well as to make sure to be able to implement them and to implement them, as quickly as possible. And without compromising with the food supply, but still protect natural resources so as not to trample on the carrying capacity that sustains the dwellers in the nation.

6.6 Value-chain imbalances in economic terms

The respondents highlighted the struggle with high production expenses necessary to be able to secure the biggest output while the income of the sales of crops barely could cover the expenses. URT (2021) highlights that the biggest difficulties for the farmers are the cost of agricultural inputs and a weakened price-picture of agricultural goods - among other things - totally in line with the perceptions of the respondents. As well as having to deal with an increasing crime rate and thefts as mentioned before, that is a threat to food production. Overall, the respondents wired the handmade work as hard and with poor pay. They were also pointing out that the supply and demand set the price for the harvested crops but as the farmers after the harvest are in an even higher demand for money, as it has been a long time since the last harvest; they need a fast affair. This results in others buying the harvest at as low price as possible. The farmers do not have economic possibilities or capacity to manage storage, transports, or the opportunity to distribute the products to the market, but that is something an upper-wealth middleman in the value-chain have according to the respondents. Which is an indication that the distance between the producer and the consumer - a metabolic rift - is getting wider as economic strong actors get more power and cut the ties between the producer and consumer. This resulted in that the trade is no longer happening between them, whereupon they do not meet, and the production becomes more delocalized as the consumer do not get any contact with the producer. The respondents also pointed out that the middleman got the big financial profits as the goods could be stored and sold when the demand increased and sell it on the market for the multiple pricing. Which is another blow to the individuals who make sure to provide for the whole society as their food costs rise. To summarize: as long as the economic situation among the farmers proceeds, the imbalances in the production chain will remain - as there is no possibility for the farmer to act differently as most of them have very few assets, which is explained by the respondents as one of the reasons why the situation remains. But according to the respondents, the government has acted against this problem with the aim to cut the value chain and increase the compensation to the farmers, but without results. To be able to break the cycle, support the most vulnerable dwellers and to encourage the agricultural sector more measures should be taken. The government's vision to 2025 includes that they should meet both economic as well as social development goals, like that land usage should be both productive and in line with sustainable development, according to NBS (2013). The state also undertakes to pay out immediate, fair and comprehensive compensation to all land users where the state revokes the use or negatively affects it (NBS 2013) but is not enough as the ground to the vision is outdated and the approach is not mentioned. Through further research it is possible to investigate a potential suggestion that takes all the three sustainability perspectives: socially, environmentally (ecologically), and economically, into account. That could enable a pathway that benefits more than one part or more than one type of societal goals.

6.7 Conclusions

The aim of this study was to contribute with valuable knowledge in the research field about how a society transitions from an agrarian to a more urban society, and which economically, socially, and environmentally challenges and benefits it comes with. The main findings are summarized as follows.

Even if the degree of the transition from an agrarian to urban society was considered as low in the results (see *figure 9*), which interprets as a less relatability with the MRT. The theory is related to other perceptions and experiences in the results, such as:

- Value-chain imbalances in economic terms (farmer-middleman).
- The rationalization of the agriculture and its ecological effects.
- Migration patterns between rural and the urban areas.

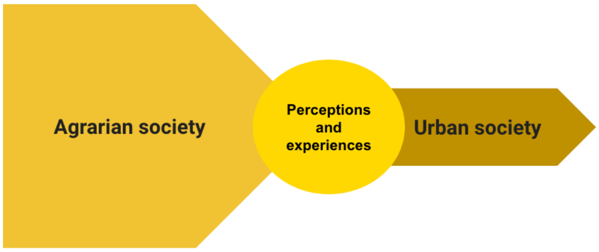

Figure 9. Illustrates the ongoing process from an agrarian society to a more urban society - just like *figure 1* does - but the proportion in this illustration reflects that consideration is given to the outcome of this study. The transition to a more urban society was embarked, but a fundamental and varied dependency and connection to agricultural activities within the selection groups was distinctly noted (Oscar Segermark Viström).

The results show also, how the inhabitants perceived urbanization as something good, and foremost economic benefits were mentioned in terms like, increased prosperity, better access to money and better social services. Conversely, the economical inequalities indicate a distribution problem of assets.

- Social challenges such as increased crimes-rates and prostitution and competition in land use affects the farmers' possibilities to continue with their activities.
- Soil degradation and eutrophication in Lake Babati caused by increased use of industrial fertilizers to secure food security are the mainly recurrent ecological challenges, which tend to be overshadowed by the production targets.
- The three pillars in a sustainable and resilient development, economic, social, and environmental should be equally weighted but the economic targets seem to be the main prioritization in the future, shows the results (see *figure 10*).

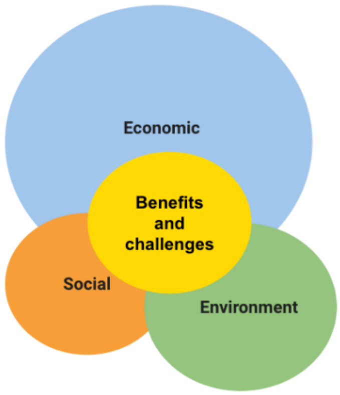

Figure 10. The illustration visualizes how the sustainability perspectives are unbalanced in Babati; the economic point of view is more prioritized compared to the other sustainability perspectives (Oscar Segermark Viström).

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Appendix 1.

Interview template

In the beginning of each interview, we presented ourselves and said that we came from Sweden to look into the perceptions and experience of the dwellers in Babati about if urbanization had an impact on agriculture. There was also an explanation on why the theme was chosen; in the light of our studies in environmental science and development at Södertörn University as a part of our bachelor thesis. We told the respondent that we would not write any names in the paper and that they would be anonymous. We also asked if we could record the interview to be able to go back and listen once again to what they said to ensure that we understood - from the best of our knowledge - that what we later wrote would mirror what they said.

Interview questions for farmers, day laborers and full-time employees

The first questions were gender, age, education and work (if they were full time farmers, whether they had multiple jobs and what the main income source was). We also asked if they had cultivable land and, in that case, how big the land area was, if they used a tractor or plow and if they hired day laborers to help them out. And if the crop production were for their own self-supply or if they sold crops at the markets. As well as a question about if they kept livestock and in that case what kind of livestock and how many. The full-time employee's category we also asked if their household could survive only on their wage or salary from the occupation.

Followed by questions regarding either agriculture or urbanization, as follows.

Agriculture

1. What is your connection to agriculture? Are you depending on it?
2. Have you noticed any changes regarding farming methods nowadays compared to the past (other crops are grown, other fertilizer methods, more less people in the field vs. machines, large vs. small production, monocultures)?
3. Do you feel that more and more people are starting to work with things other than agriculture to a greater extent?
    a. Additionally: Like what?
4. Do you feel that urbanization affects agriculture?
    a. Additionally: In what way and are there positive or negative consequences?
5. Does the government work to strengthen agriculture and food production in any way? Something that is notably at the local level?

Urbanization

1. Were you born in Babati, or have you moved here?
    a. Additionally: What made you move?
2. Do you see an increased accumulation of people in urban Babati?
    a. Additionally: What advantages and disadvantages do you see?
3. Do you feel that more people are moving from the rural areas to urban ones?
    a. Additionally: What advantages and disadvantages do you see?
4. Why do you think people choose to leave the countryside and move to urban Babati, and the opposite around; why do you think people choose to stay in rural areas?
5. Will the next generation live in cities or rural areas? Why do you think that?
6. Do you think urbanization means increased prosperity? Why?
7. Additionally question only to the respondents in the day labor category: Has urbanization made it easier for you to get a job and make money?

Interview questions for authorities

Authorities were asked from a professional point of view and not in characteristics of a citizen. The first questions were gender, age, education, and work title followed by questions regarding either agriculture or urbanization, as follows.

Agriculture

1. How do you work with agriculture issues?
2. Which are the ambitions or goals on the national, regional, and local level?
3. Is there a direct dialog or a direct collaboration with the farmers or how are the ambitions implemented?
4. Do you see any consequences of urbanization on agriculture?
5. How do you think future agriculture will be affected by urbanization?
    a. And what is the forecast between the rural and urban population distribution?

Urbanization

1. What key factors have you identified as crucial for people moving into urban Babati?
    a. Do you have any idea what differences it makes to people who move?
2. Do you work with urbanization in any way?
    a. Additionally: How?

3. What positive and negative effects do you see of urbanization from a societal perspective?
    a. Do you feel that there are any consequences that stand out?
4. Do you see that there is an increased risk of segregation between the urban and the rural population?
    a. Additionally: What are the consequences?
    b. Do you see that there is an increasing knowledge gap as a consequence?
5. Do you think that the citizens are of the opinion that they believe that urbanization means increased prosperity?
    a. Additionally: Why?

Appendix 2.

Word list Swahili

Svenska	**Swahili**
Hej	Habari
Hejdå	Kwaheri
Tack	Asante
Vänligen	Tafadhali
Ordagrant saker. Turist. Hälsning.	Jambo
Hälsning till människor i liknande ålder.	Hujambo
Hälsning till människor i liknande ålder.	Hamjambo
Hälsning till äldre	Shikamo.
Urbanisering	Ukuaji wa miji