



# Gender Dynamics in Smallholder Vegetable Production: Insights from Tanzania



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## Abstract

The presented study investigates gender dynamics in vegetable producer's households as related to labor, income and expenditure allocation – as field that has not yet been sufficiently covered by research. It is conducted in cooperation with the “Africa Research in Sustainable Intensification for the Next Generation” (Africa RISING) project funded by the United States Agency for International Development (USAID) and led by the International Institute of Tropical Agriculture (IITA). The study focuses on farmers in Babati, Kiteto and Kongwa districts in northern and central Tanzania.

Quantitative data was collected during a survey with 403 male and female farmers in nine villages. Later on, we conducted focus group discussions with sex-separated farmer groups and expert interviews with male and female extension officers. Thus, we validated the quantitative data, investigated on underlying causes for gender inequalities and identified entry points for additional research and development interventions.

The survey results show that men and women have different perceptions of labor, income and expenditure allocation within the households. Following this, the qualitative research revealed that both men and women keep information on their individual income confidential in order to strengthen their position in intra-household negotiations. Moreover, both complain about their partner's lack of contribution to the household economy and production activities. Nevertheless, both qualitative and quantitative data indicate that men have higher income and are in power when it comes to money-related decisions, while women remain economically dependent. Women explain their dependence with men's control of access to land, financial capital, knowledge and markets. Men on the other hand named women's physical limitations and poor money management skills as reasons that prevent them from progressing economically through vegetable farming. Both stated that domestic labor prevents women from getting more involved in farming activities. The analysis shows that distrust and low cooperation within the households constitute obstacles for food security, poverty alleviation and women empowerment. Therefore, we emphasize the necessity of including men in gender-transformative approaches in agricultural research and development.

*Keywords:* gender dynamics, smallholder agriculture, vegetable production, income security, women empowerment

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# 1. INTRODUCTION

## **Rapid changes and dynamics in the agricultural sector in Sub-Saharan Africa: opportunities vs. insecurities**

Agriculture constitutes the basis of millions of livelihoods in developing countries all over the world, and particularly in Sub-Saharan Africa (World Bank 2009: 1). Furthermore, numerous internal and external influences are causing changes and dynamic shifts within the agricultural sector. Demands and markets for agricultural products are changing and technological development is advancing (ibid: 1). This may lead to new opportunities for farmers (ibid: 1). However, the World Bank emphasizes that the access to new opportunities and chances is not equally distributed between different actors within the agricultural sector, and consequently concludes that “although the changes in agriculture create new sources of opportunities for livelihoods and food security, they also pose significant uncertainties.” (ibid: 1). In addition, environmental changes, such as climate change, affect water supply and weather conditions (ibid.: 1). Migration processes, mainly poverty-driven or due to natural disasters or violent conflicts, are changing the composition of rural households, as men are more likely to migrate in search for better economic opportunities, while women are more likely to be left behind with the full burdens of agricultural production and domestic duties (ibid: 1). A trend towards a “feminization of agriculture” is observed, meaning women are getting more involved in agricultural work, while men seek income opportunities outside of the agricultural sector (Laven et al. 2012: 3, Rauch et al. 2016: 39). In this regards, Rauch et al. (2016) state that even though women’s involvement and importance in agricultural work is increasing, this does not necessarily go along with an improvement of their social position, as women still face numerous disadvantages in the agricultural sector (Rauch et al. 2016: 39).

### **1.1 Research problem and relevance**

#### **Gender issues in agriculture**

While agriculture constitutes the foundation of rural livelihoods in Sub-Sahara Africa and especially in Tanzania, opportunities within the agricultural sector are not equally distributed between men and women (World Bank 2009: 1). Research on gender issues within agriculture identified a wide range of factors, in which women’s disadvantaged situation is manifested. These are: control over household income or even one’s own personal income, access to land

and land ownership, access to water, infrastructure and technologies, access to credits, extension services and markets, or lower salaries and limited opportunities in labor markets (Rauch et al. 2016: 39, World Bank 2009: 2). In addition, women bear the burden of unpaid labor within the household, suffer from a higher illiteracy rate, and lack bargaining power, which results in further economic disadvantages (Laven et al. 2012: 2).

Leavens and Anderson (2011) analyzed gender issues within agriculture in rural Tanzania, with a focus on gender-based labor division and access to land (Leavens and Anderson 2011). They conclude that women suffer from a lack of land access caused by customary laws, and from gender responsibilities in domestic and agricultural work, which place a heavy unpaid work burden on them (ibid: 10). Furthermore, they emphasize that improvements in production technology and economic opportunities may even worsen the women's situation, as they potentially support gender inequalities (ibid: 10). Hence, gender issues have to be addressed in order to make sure that development interventions benefit men and women equally.

Laven et al. (2012) argue that denying women the same rights and opportunities as men is not only in contradiction with social justice, but also a missed opportunity for approaches of poverty reduction and economic development (Laven et al. 2012: 2). Disregarding the potential of women leads to reduced profits and decreased efficiency (ibid: 2). The World Bank (2009) also refers to economic reasons, the basic human right of gender equality, as well as the negative effects of gender inequalities on food security and household welfare as reasons to address gender issues (World Bank 2009: 3).

### **Why gender issues have to be addressed in order to design suitable development interventions (relevance of gender analysis for agricultural research for development)**

As the relevance of the agricultural sector for rural livelihoods is understood, as well as dynamics and gender issues within this sector, the question remains of how to address these issues. Numerous sources underline that understanding gender issues and gender inequalities is crucial for the planning of suitable development interventions which benefit both men and women.

The World Bank (2009) for instance, emphasizes that the different roles of men and women have to be recognized and gender inequalities addressed, in order to ensure that both men

and women profit from arising opportunities and potential growth within the agricultural sector (World Bank 2009: 2). Furthermore, addressing gender issues is directly linked to the achievement of Sustainable Development Goals, such as poverty reduction, gender equality, food security, as well as child and maternal health (ibid: 2-3).

Jost et al. (2014) also underline that development initiatives can only be successful if the different opportunities and constraints of men and women are understood. Male and female actors may have different capacities, different access to, and control over resources, and different rights and opportunities (Jost et al. 2014: 33). Therefore, they conclude that understanding these conditions, as well intra-household power relations and their consequences, is vital for the planning of successful development initiatives (ibid: 33).

Kruijssen et al. (2016) highlight that understanding gender inequalities and its underlying causes is indispensable in order to be able to develop gender-transformative interventions (Kruijssen et al. 2016: 46). Here, gender-based labor division in productive and reproductive work, social and gender norms, social relations and influencing policies, laws and other institutions, are named as categories, which can cause gender-based inequalities in how to participate and benefit in agricultural value chains (ibid: 46).

Doss and Kieran (2014) argue that a better understanding of gender issues and providing women the equal access to resources as men, could contribute to increasing productivity, poverty reduction, and improved food security (Doss and Kieran 2014: 2). Consequently, they emphasize the necessity to include gender analysis in agricultural research, and to address the underlying causes of gender inequalities (ibid: 2).

## 1.2 Africa RISING

Under the Africa Research in Sustainable Intensification for the Next Generation (Africa RISING) Initiative<sup>1</sup>, experts from the International Institute of Tropical Agriculture (IITA) and the World Vegetable Center (AVRDC) are conducting research in order to examine gender

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<sup>1</sup> Africa RISING is a multi-stakeholder agricultural research-for-development (R4D) program funded by USAID under the Feed and Future Initiative. Launched in 2011, the program identifies scalable opportunities for sustainable intensification in local farming systems in sub-Saharan Africa (Mali, Ghana, Malawi, Tanzania, and Ethiopia) in order to enable farming households to step out of poverty and hunger (IITA et al. 2012:2). Based on action research, Africa RISING seeks to improve the food, nutrition, and income security of farmers, with a particular focus on women and children, while at the same time conserve (or improve) the natural resource base (ibid.). In Tanzania, the program operates in Babati and Kiteto District (Manyara region) as well as in Kongwa District (Dodoma region).

relations in smallholder agriculture in the Babati, Kiteto and Kongwa districts in Tanzania (Fischer et al. 2017: 1). The project links a value chain approach to gender analysis, and explores male and female actors' differential opportunities and constraints based on their division of labor, income allocation, and access to and control over productive resources (ibid.: 1). The gained insight provides entry points for further research and informs development interventions along the examined value chain.

By the beginning of 2017, two surveys had been conducted. The results of the first survey are discussed in a paper, soon to be published (Fischer et al. 2017). The analysis of the data of the second survey constitutes the entry point for this thesis. While the first survey included farmers and traders, the second survey focused on farmers. It was conducted in order to provide measurable answers on how much time men and women allocate to different farming activities, how much income is earned by husbands and wives by different activities, and how much money is contributed to different household expenses. Consequently, this survey provides further quantitative data regarding the relation between participation in terms of labor in the production process, and gains from this involvement between male and female actors.

While the Africa RISING program gave me access to the survey data, the results of my analysis of the data, as well as the qualitative findings gathered during my research, contribute to a better understanding of the investigated issues.

### **1.3 The aim of this study**

While the initially collected quantitative data provides insight on the relation between participation in terms of labor within the production process and gain in terms of income and expenditure allocation from the involvement, it cannot provide explanations for the unequal distribution of participation and gain between male and female actors (Fischer et al. 2017). While it shows where balances and imbalances within the farmer's households occur, a qualitative approach was needed in order to investigate underlying causes of these imbalances, as well as dynamics within these gender relations (Fischer et al. 2017).

Consequently, the objective of this study is to contribute to a better understanding of gender inequalities and dynamics within the investigated communities in the Babati, Kiteto and Kongwa districts. Therefore a gender analysis is conducted, which is investigating the current

situation of male and female vegetable farmers, with regard to gender-based differences in opportunities and constraints of vegetable farmers. Identifying these gender inequalities and their relations will be the first goal of the study. Furthermore, the underlying causes for these gender inequalities shall be identified and examined. Finally, gender dynamics within this sector and within the investigated gender relations are investigated. In this way, I aim at insights that not only improve the understanding of the current situation of men and women, but also the underlying causes and processes that are determining gender inequalities. These have to be addressed in order to ensure that men and women benefit equally from development interventions.

***In order to achieve the objective of the study, the following research questions were developed. These questions guided me during the research:***

- 1) How do opportunities and constraints, in regard to equal levels of participation and gain of men and women, differ among male and female vegetable farmers in the investigated communities?
- 2) What are the underlying causes which determine the observed gender inequalities and how are these shaped and perpetuated?
- 3) Which gender dynamics can be observed in vegetable farming in the Babati, Kiteto and Kongwa districts?

## 2. THEORETICAL FRAMEWORK

In order to achieve the objective of the study, a combination of theoretical concepts and models are applied. These frameworks will be presented in the following chapter. The focus lays on basic concepts of the approaches that are relevant for this study, and how they are going to be applied in order to investigate the research questions.

### 2.1 The basic understandings of gender analysis

Of major importance for this study is the understanding of what is meant with *gender roles, responsibilities, rights and opportunities, gender inequalities, gender relations, and gender analysis*. First of all, *Gender* is understood as a set of socially constructed roles and responsibilities connected to being male or female in a certain society at a certain time (March et al., 1999: 18). Therefore, gender roles and responsibilities are highly context-specific and flexible (ibid: 18). Contrary, the concept of a person's *sex*, refers to the biological difference between men and women, which is manifested in physical differences and constant in different cultures, countries, or societies (ibid: 17-18).

Regarding the concept of gender analysis, this study is inspired by the following publications:

Cozzarelli (2011) expresses her understanding in an US AID paper on how to conduct *gender analysis*. According to this paper, *gender analysis* “examines the different roles, rights, and opportunities of men and women and relations between them” (Cozzarelli 2011: 2) and “is used to identify, understand, and describe gender differences, and the relevance of gender roles and power dynamics in a specific context” (Cozzarelli 2011: 2).

Doss (2013) describes *gender analysis* in an IFPRI discussion paper as examining “how the roles and rights, and responsibilities of men and women interact and how that affects outcomes.” (Doss 2013: 1). Furthermore, she links gender analysis to agriculture and adds the aspect of decision making, when she states that “in agriculture, gender analysis provides insights into how socially constructed roles and responsibilities shape the myriad decisions around agricultural production and processing.” (Doss 2013: 1).

In another publication by Doss and Kieran (2014), they emphasize, that the different roles and relationships of men and women develop and interact in various contexts and therefore cannot be analyzed in isolation from each other (Doss and Kieran 2014: 2). Consequently, they

conclude that it is indispensable for Gender analysis, that both men and women are included during research.

In an older publication, March et al. (1999) defines *gender analysis* as an analysis which “explores and highlights the relationships of women and men in society, and the inequalities in those relationships” (March et al. 1999: 18).

Based on these publications, this study applies the following understanding: men and women are equipped with a certain set of gender-specific roles, responsibilities, and rights, which affect their opportunities and constraints in a certain society. These gender roles, responsibilities, and rights are highly context-specific as they may vary from society to society, from context to context. Differences between gender roles, responsibilities and rights, and the resulting opportunities and constraints of men and women, are understood as gender inequalities and their relations as gender relations. Finally, gender analysis is the analysis of these gender inequalities and gender relations, their interactions, and how they affect decisions and livelihood outcomes of men and women.

## **2.2 Coles and Mitchell on gender and agricultural value chains**

In order to develop an understanding of gender inequalities in vegetable farming households, a concept of Coles and Mitchell will be applied. Coles and Mitchell are presenting an emerging conceptual framework on gender and agricultural value chains. They argue that in the current discourse on the topic of gender and value chain development, economic empowerment of women is seen as the central issue, and in this context, empowerment means the process of reducing inequalities regarding people’s ability to make life strategic decisions along that value chain (Coles and Mitchell 2011: 4). According to them, these inequalities exist on two levels: on the one hand, not all participants of the value chain can freely choose how to participate in the value chain, and on the other hand, the extent to which participants benefit from their involvement differs (ibid: 4). They are speaking of different levels of *participation* and *gain* (ibid: 4).

Furthermore, these levels of participation and gain are determined by a complex set of factors, which are often gender-related and highly context-specific, so that generalizations can rarely be made (ibid: 5-6). However, they state that the participation of male and female actors in the production process is determined by their access to the value chain (ibid: 5). Unequal

access to land and financial capital, as well as unequal access to education and particular social norms, can limit the actors' participation (ibid: 5). The extent to which an actor benefits from participation is merely determined by intra-household power relations (ibid: 6). Control over income and expenditures determines to what extent an actor benefits (ibid: 6). Therefore, the relation between participation and gain can be highly flexible and "participation does not necessarily produce gains" (ibid: 6).

During this study, their approach is applied on one node of the value chain – the vegetable farmers. Gender inequalities among vegetable farmers are examined by studying the gender relations of participation and gain, meaning the relations of how actors participate and how they benefit from one or different activities. The levels of participation and gain are analyzed by examining gender-based inequalities in labor allocation (participation) and in income and expenditure allocation (gain). The leading questions in this regard will therefore be:

- Who (men / women) participates in which way? (Gender-based labor allocation)
- Who generates how much income from which activities? (Gender inequalities in income generation)
- Who allocates how much of his income to which kind of expenditures? (Gender inequalities in income control and benefit from generated income)

Investigating and understanding the gender relations of participation and gain, shall help to understand the different opportunities and constraints among male and female farmers.

### **2.3 The Sustainable Livelihood Framework on gender inequalities in agricultural livelihoods**

The Sustainable Livelihood Framework shall guide the investigation on underlying causes of unequal gender relations of participation and gain. Why do men and women participate in different ways? Why do they benefit in different ways? Answers to these questions will improve the understanding of different opportunities and constraints of male and female farmers.

The Sustainable Livelihood Approach is a mainstream approach of poverty alleviation, which emerged in the 1990s, promoted by the British state development cooperation agency DFID (de Haan 2012: 346). The approach applies a framework which supports the analysis of the

livelihood system of an actor or a household. Livelihood assets (potentials/capitals), structures and processes influencing the livelihood system, livelihood strategies chosen by the actor or household, and the final livelihood outcomes are examined, as well as the interrelations between these (Rauch 2009: 338-339). Figure 1 shows these correlations of the livelihood assets, the environment, strategies and outcomes, and their interrelations.

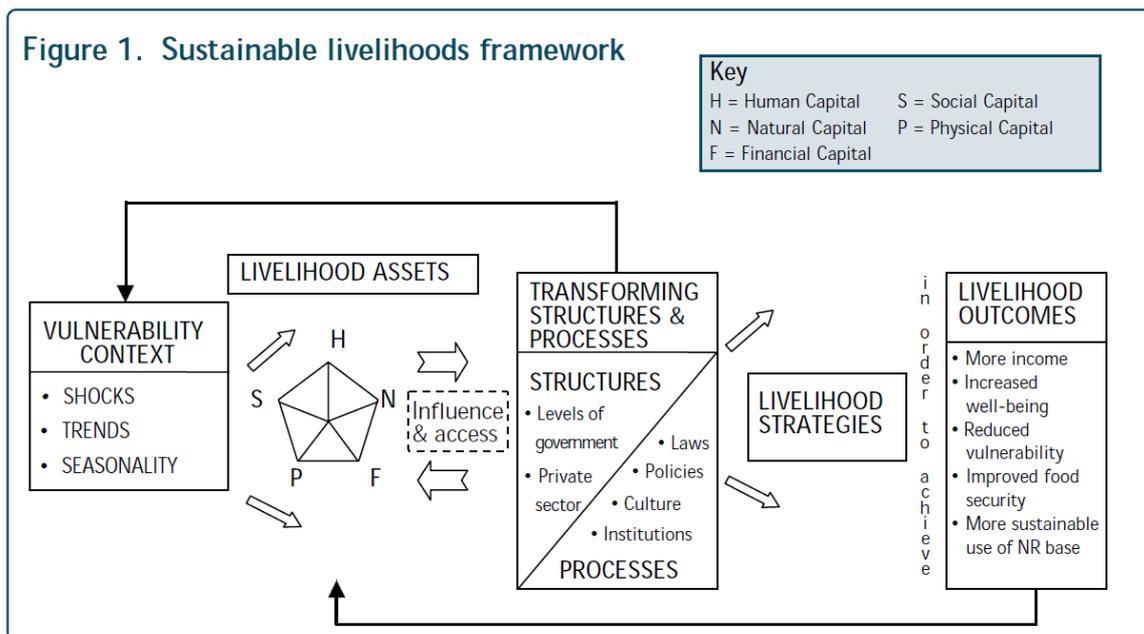


Figure 1: Sustainable livelihoods framework (DFID 1999: 1)

The livelihood pentagon represents the livelihood assets of an actor, household, or community. The livelihood assets are classified as human capital (i.e. knowledge), natural capital (i.e. land, water), financial capital (i.e. money, credits), social capital (i.e. relationship to neighbors, family) and physical capital (i.e. tractor, equipment) (Rauch 2009: 339). During this study, the livelihood pentagon will be applied in order to analyze gender inequalities regarding farmer's equipment with these key assets, meaning the unequal access to these capitals of male and female farmers. Based on this, the different choices of male and female farmers, in regard to livelihood strategies and gender inequalities in the final livelihood outcomes will be understood. External structures and processes and their influence on the livelihood systems of male and female farmers will be considered as well.

Jost et al. (2014), also recommend livelihood frameworks for gender analysis in a CCAFS Toolbox on Gender Research, as livelihood frameworks help to understand the following: how

“people access and control various mixes of resources and activities and how these differ within and among households” (Jost et al. 2014: 33); and how this affects an actors ability to achieve what he desires (ibid: 33). Furthermore, how these differences in the ability to access and control resources and activities are determined by social norms, gender, and other external factors (ibid: 33). Applied to gender analysis, livelihood frameworks can be used in order to investigate the differences between livelihoods of men and women, their different livelihood strategies, potentials, activities, and key resources (ibid: 34). In combination with Coles’ and Mitchell’s approach, this means that the livelihood framework will help to investigate the underlying causes of the gender differences in main activities in agricultural production (labor), main sources of income, and main expenditures, which are identified beforehand. The starting point will therefore, be to analyze the different livelihood assets, capitals, and potentials of men and women, according to the livelihood pentagon. This is also in line with an approach by the World Bank (2009), which applies the Sustainable Livelihood Approach in their sourcebook on gender in agriculture in order to explore and present “the complexities and synergies of gender equality, livelihoods, food security, and poverty reduction.” (World Bank 2009: 4) It describes gender inequalities in agriculture as the unequal access to “key productive assets and services” (ibid: 2). This unequal access to key assets and resources will be investigated during this study.

## **2.4 The Social Relations Approach on gender and development planning**

As the World Bank (2009) states, the underlying causes for inequalities regarding opportunities and constraints of men and women within the agricultural sector can be seen in social structures dominating in households and societies (World Bank 2009: 2). In order to investigate these social structures, the social relations approach will be applied in order to understand how gender roles and responsibilities, which determine gender inequalities, are shaped and perpetuated in different institutions, and therefore, determine the identified underlying causes of gender inequalities.

The approach is an analytical framework for gender analysis recommended by March et al. (1999) in their guide to gender analysis frameworks. It has been developed by Naila Kabeer at the Institute of Development Studies, Sussex University, UK and used by government

departments and NGOs during the planning of programs all over the world (March et al. 1999: 102). Gender inequalities are analyzed according to the distribution of resources, responsibilities, and power, while development is understood as the increase of human well-being, and not only as economic growth or improved productivity (ibid: 102-103). Furthermore, this approach argues that the relationship between social groups within one society determines identities, roles and responsibilities, rights of certain groups, and understands gender relationships as one type of social relationships (ibid: 103). A main argument is that social relations between different social groups determine their access to and control over resources, claims, and responsibilities in a society (ibid: 104). In this way, analyzing social relations can help to understand why access to “key productive assets” is unequally distributed between social groups, i.e. men and women. Furthermore, the approach states that social relations are not immutable and can be changed by human action (ibid: 104). This means that understanding social relations, as well as their interactions and effects, can help to identify suitable development interventions, which benefit both men and women.

Furthermore, the underlying causes of social inequalities can be found in different institutions (state, market, community and household) which have an influence on the division of rights and responsibilities (ibid: 104). These institutions produce and reproduce social relations and thereby create and perpetuate social inequalities (ibid: 104). Therefore, these institutions must be analyzed in order to understand the underlying causes of gender inequalities within a certain society. The approach argues that rules, like laws, norms, values, and traditions, determine what is done, by whom, how, and to who’s benefit, which activities are associated with which social group, how resources are distributed between social groups, who is included in and excluded from certain social groups, and therefore included or excluded from access to resources, responsibilities, and certain positions in hierarchies (ibid: 106-108). Power relations of authority and control between social groups are based on unequal distributions of resources and responsibilities, and promoted and legitimized by certain rules (ibid: 108). Figure 2 presents these key institutions and their relations.

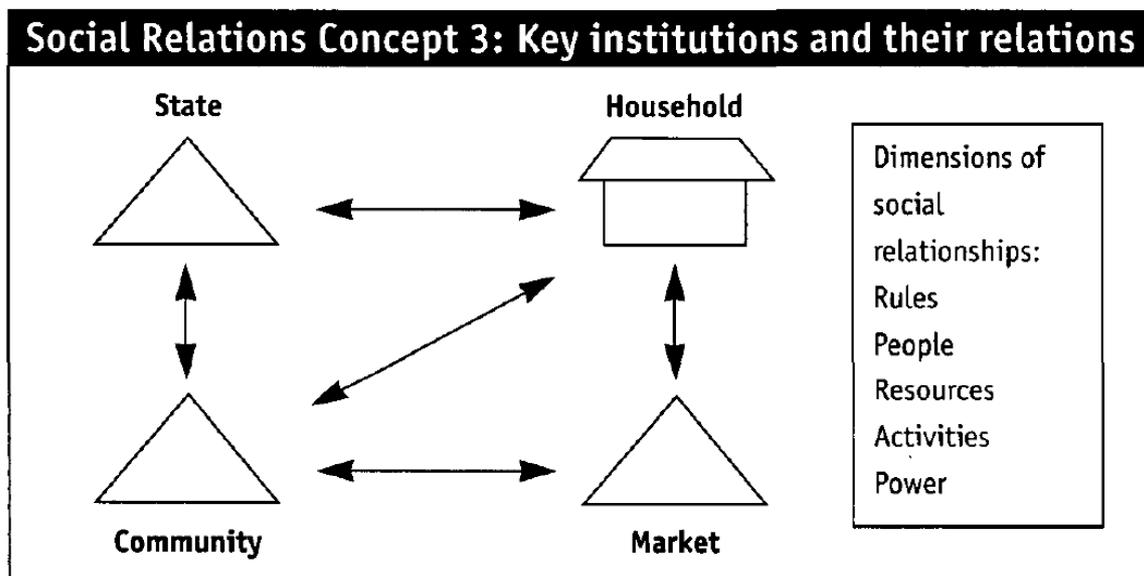


Figure 2: Key institutions and their relations (March et al. 1999: 108)

## 2.5 Summary and lessons

The three presented conceptual frameworks will guide the analysis of gender inequalities in different ways and phases.

Coles' and Mitchel's (2011) approach is applied in order to investigate the gender relations of participation and gain according to gender relations in labor allocation, income generation, and expenditure allocation. In this way, the current situation of gender inequalities, based on their levels of participation and gain will be examined.

The sustainable livelihood framework is applied in order to understand how the potentials of male and female farmers differ and why they are choosing different livelihood strategies. Therefore, gender-specific livelihood assets will be investigated. This shall be done in line with the livelihood assets pentagon. In that way, underlying causes for gender asymmetries in relations of participation and gain shall be understood. Furthermore, their interactions with external structures and processes, and the influence of these interactions on the livelihood outcomes of male and female farmers shall be investigated.

The social relations approach shall be applied in order to understand how gender roles and relationships of these roles are shaped and perpetuated in different institutions, and how this affects the access to key resources, rights and opportunities of men and women, and in this way, their livelihood outcomes.

In this way, the three presented concepts supplement each other and support the development of a more complete understanding of gender inequalities among farmers in the investigated area.

### 3. RESEARCH CONTEXT – The Tanzanian Background

#### 3.1 Gender issues in the agricultural sector in Tanzania (in regard to the research questions)

##### *Characteristics of the agricultural sector and its role for rural employment*

The Tanzanian economy is described as “agriculture-based” (FAO 2014: 2) by the FAO (2014), as the majority of the Tanzanian population is employed in the agricultural sector (ibid: 2). This especially accounts for the rural population (ibid: 23). Different employment sectors and their relevance for employment of the rural population in Tanzania are displayed in the figure 3. Two graphs are presented, one for the male population and one for the female population.

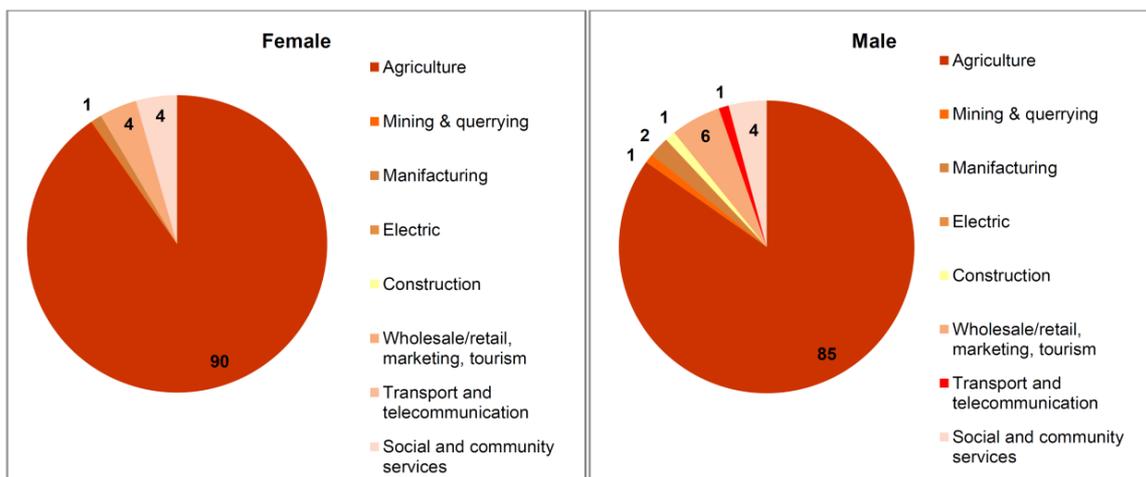


Figure 3: Main sector of employment of rural women and men in Tanzania (in %) (FAO 2014: 23)

Next to agriculture, (a) wholesale/retail, tourism, marketing and (b) social and community services are the two biggest sectors for main employment. Nevertheless, the relevance of agriculture is striking, with 90 % of women and 85 % of men being employed in the agricultural sector. The following figure 4 presents the relevance of different forms of employment within the agricultural sector. Self-employment is dominating, as the majority of the farmers are working on their own farm.

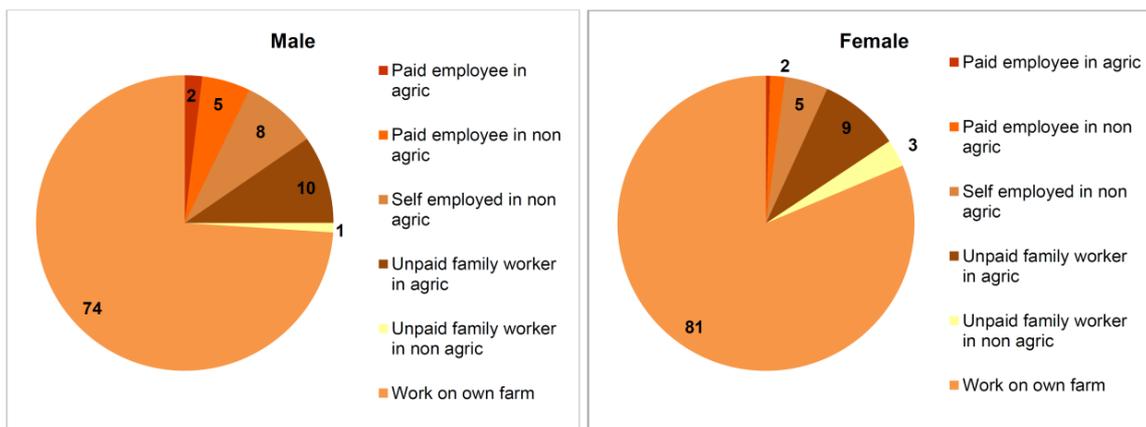


Figure 4: Employment status of rural men and women in Tanzania (in %) (FAO 2014: 25)

The significance of paid employment in the agricultural sector, as well as the non-agricultural sectors is very low. Still, men are more likely to be engaged in other activities, apart from working on their own farm. Main activities, apart from working their own farm, were self-employed non-agricultural activities and unpaid family work in agriculture. Nevertheless, 74 % of men, and 81 % of women mainly work on their own farm.

Furthermore, the agricultural sector is characterized by low productivity, despite “fertile land, fresh water resources, and a favorable climate in many areas.” (RVO 2015: 24) Average farm sizes are small (between 0.9 and 3 hectares) and access to advanced technologies or machinery is limited (FAO 2014: 8). The majority of the cropped area (70 %) is cultivated by hand hoe and only 3,5 % of the arable land is cultivated under irrigation (ibid: 8). Thus, the majority of the farmers depend on rain-fed agriculture, with maize as the main food crop, followed by sorghum, millet, rice, wheat and others (ibid: 8). With regard to this study, it has to be mentioned that horticulture is the fastest growing sub-sector within agriculture in Tanzania (ibid: 8). A short overview of the horticultural sector is provided by chapter 3.2. Before that, gender inequalities in labor allocation and income generation within the agricultural sector in Tanzania are presented.

### **Labor allocation in farming household between men and women**

In regard to gender differences in time use, the FAO (2014) states the following numbers (see table 4) for the total amount of minutes per week dedicated to productive and reproductive activities by men and women. Two age groups are presented: youth (15 to 33 years old) and

adults (34 to 65 years old). Reproductive activities are split in (a) domestic activities, (b) care activities and (c) community services.

	<b>Female youth</b>	<b>Male youth</b>	<b>Female adults</b>	<b>Male adults</b>
Total domestic activities	214	120	217	105
Total care activities	38	22	47	23
Total Community services	8	10	9	12
<b>Total reproductive activities</b>	<b>260</b>	<b>152</b>	<b>273</b>	<b>140</b>
<b>Total productive activities</b>	<b>198</b>	<b>241</b>	<b>244</b>	<b>314</b>

Table 1: Time spent (minutes per week) in different activities (own design after FAO 2014)

While women's workload in reproductive activities is higher for adults when compared to youths, male adults work less in reproductive activities when compared to youth. Nevertheless, in both age groups, women spend about twice as much time in reproductive activities, in comparison to male adults. Here, domestic activities place the biggest time burden on women. In regard to productive activities, adults invest more time than youth. Furthermore, men spend more time than women in their age group. The time gap between the genders is little compared to the time gap in reproductive activities. In the result, women remain with far less time for other activities, such as leisure. Nevertheless, other studies on time-use in agricultural households in rural Tanzania are showing different results.

Leavens and Anderson (2011) refer to studies which come to the result that, men spend even less time in farming activities in comparison to women, while women have a heavy time burden due to domestic responsibilities is confirmed (Leavens and Anderson 2011: 5).

Then again, Fox (2016) refers to data that implies that both men and women spend about 9 hours per day in productive and reproductive activities, with men spending most of their time in productive activities, while women spend equal amounts of time in productive and reproductive activities (Fox 2016: 8).

In regard to time spent in reproductive activities, Leavens and Anderson (2011) refer to gender responsibilities. While men's responsibilities are characterized as "heavy work that is not

continually needed” (Leaven and Anderson 2011: 5), such as the construction of houses, women’s domestic responsibilities are “continuous, time-intensive and energy consuming.” (ibid: 5) Here, caring for children, preparing food, and maintenance of the household are listed as the main domestic chores of women. According to the FAO (2014) cooking is by far the most time-consuming domestic activity of women (FAO 2014: 33).

In regard to farming activities, it seems that women are mainly involved in weeding, harvesting, processing, and storing food crops, while men are mainly involved in the cultivation of cash crops (Mmasa Joel 2013: 3, Leavens and Anderson 2011: 5).

Conclusively it must be stated, that the three contradictory positions of studies presented by Leavens and Anderson (2011), Fox (2016) and the FAO (2014), indicate that it is difficult to estimate who spends more time in which kind of activities. In regard to comparability of different time-use studies, another FAO paper states that time-use surveys are highly context-specific and not necessarily comparable, even within the same country (FAO 2011: 7). This may be due to small sample sizes, different types of agriculture, and different methodologies (ibid: 7). Nevertheless, one tendency can be identified in the three presented studies: all agree that women spend more time in domestic chores, when compared to men. Furthermore, Leavens and Anderson (2011) and the FAO (2014) conclude that this limits women in their opportunities to allocate time to productive and income generating activities and therefore constitutes a major constraint in regard to income improvement of women (FAO 2014:32, Leavens and Anderson 2011: 5).

### ***Gender asymmetries in income generation***

In regard to income generation through self-employed farming, the FAO (2014) states that men have significantly higher income, compared to women. Figure 5 displays the average weekly earnings (in Tanzanian Shilling) of male and female self-employed farmers, according the FAO. Different regions of Tanzania are presented.

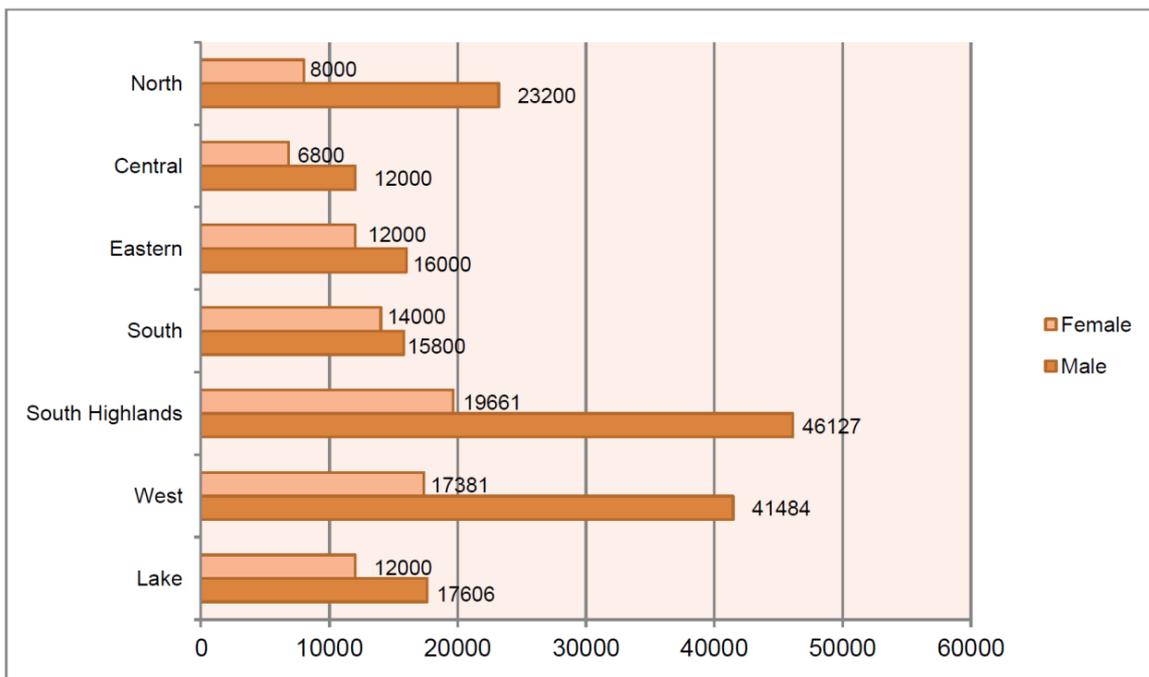


Figure 5: Average weekly earnings of male and female self-employed farmers (FAO 2014: 26).

The amount of the average weekly earnings varies drastically between the regions. Nevertheless, earnings of male farmers surpasses those of women in all regions. In the northern and central regions, men's income is two to three times higher than the income of women. In regard to different income sources, Leavens and Anderson (2011) state that men focus on profitable and marketable crops, while women are more involved in the cultivation of food crops (Leavens and Anderson 2011: 8). Furthermore, they state that men are likely to engage themselves in any crop which becomes profitable, even if these crops are previously associated with women (ibid: 8). Another factor determining male dominance in income generation, is that men usually control nearly all the cash income which is generated by the household, despite women's significant contribution to farming activities (ibid: 6). Cultural norms and threat of physical harm are named as instruments of male dominance in income control (ibid: 6). In regard to priorities in the allocation of the income to different expenditures, men tend to prioritize spending on personal consumption, while women tend to ensure that household needs are satisfied first (ibid: 6).

### ***Gender issues in land rights and land ownership***

In regard of land rights, Leavens and Anderson (2011) describe the co-existence of statutory laws and customary laws (Leavens and Anderson 2011: 2). Both are applied and often contradictory (ibid: 2). While women, legally, hold the same land rights as men, discriminating customary laws deny women the access to land ownership (ibid: 2). Until today, most of the land in Tanzania is still administered under customary laws (ibid: 2). Leavens and Anderson (2011) refer to estimations that this relates to 82 % of the land (ibid: 2). Land ownership is mainly accessed through inheritance and while they state that land inheritance practices may vary in different contexts, they also describe that women mainly access land through their husband's family (ibid: 2-3). Furthermore, women usually only use the land while it still remains under the ownership of the husband (ibid: 2). Even after the husband's death, the land usually still belongs to the husband's family, which can claim it (ibid: 2-3). This leaves women in an insecure situation in regard to the land they cultivate. Farmers who own the land under cultivation are more likely to make investments which increases productivity and economic value (ibid: 2). Moreover, they are more likely to have control over the income generated through cultivation of this land (ibid: 1-2). Consequently, lack of ownership and insecure land rights, disadvantage women in these regards (ibid: 1-2).

### **3.2 The horticultural sector in Tanzania**

As the crucial role of the agricultural sector for livelihoods in rural Tanzania is understood, the role of horticulture must be examined. As already mentioned above, horticulture constitutes the fastest growing sub-sector in agriculture in Tanzania (FAO 2014: 8). Next to fruits, spices and flowers, vegetables are one out of four categories of the horticultural sector (HODECT 2010: 1). According to the Tanzanian Horticultural Association (TAHA), 450.000 farmers are employed in horticulture, with 65 – 70 % of them being women (TAHA 2011). Tomato, cabbage, onion and carrot are listed as the most commonly grown vegetables (ibid). The following graph (figure 6) shows the development of the production volume of these main vegetable crops in Tanzania between 2001 and 2010, according to numbers presented by the Netherlands Enterprise Agency (RVO). The numbers 1 to 10 on the x-axis refer to the years 2001 to 2010.

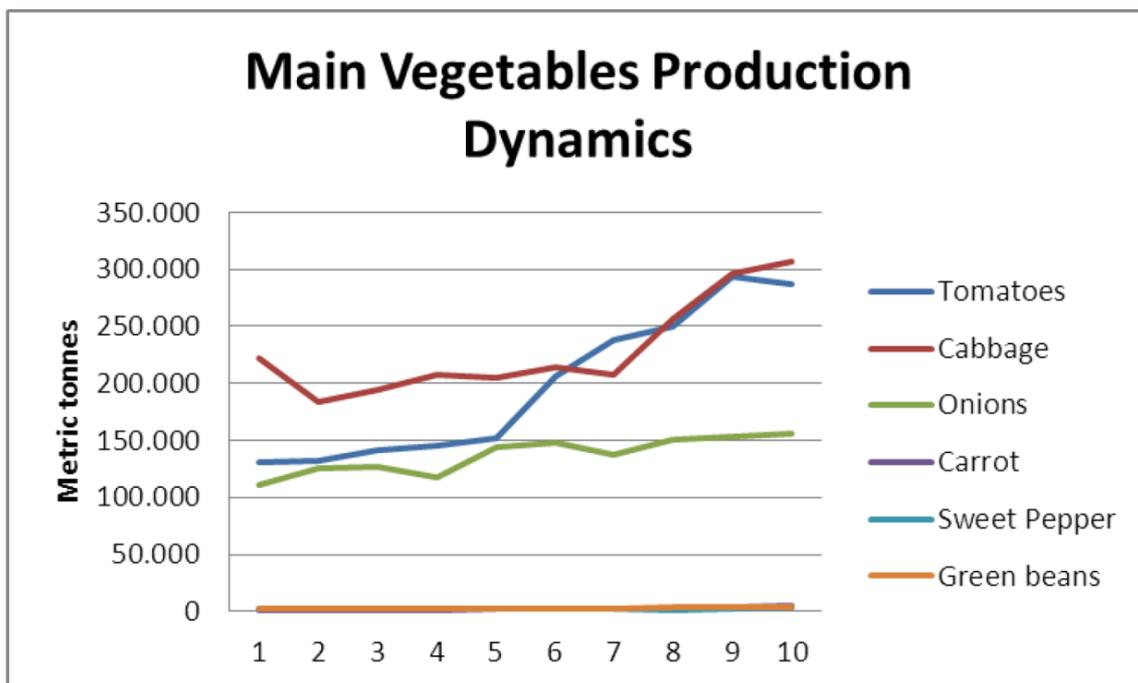


Figure 6: Dynamics in vegetable production in Tanzania (2001 – 2010) (RVO 2015: 29)

According to these numbers, tomato, cabbage, and onion are the main vegetables in regard to production volume. The production volume of tomato shows the most drastic increase, as it doubled in the past 10 years and especially since 2005. Furthermore, the production volume of cabbage shows the most drastic increase within the last four years.

As well as the whole agricultural sector, the horticultural sector in Tanzania is also dominated by smallholder farmers (ESRF 2010: 8). The Tanzanian Economic and Social Research Foundation (ESRF) emphasizes the horticultural sector’s enormous potential for poverty reduction, especially in regard to smallholder farmers (ibid: 8). Here, it is referred to research findings which imply that production of vegetables and fruits is more profitable than the production of cereal crops (ibid: 8). Finally, it is concluded that improving farmer’s access to market, extension services, and financial services, bares the biggest potential in order to improve the farmer’s productivity (ibid: 30). This would then lead to increasing income and employment opportunities for smallholder farmers and therefore reduce poverty among those (ibid: 9).

Despite the growth of the horticultural sector, it must be mentioned, that it still remains a relatively small proportion of the overall agricultural sector in Tanzania (HODECT 2010: 1).

### 3.3 The study areas – Agro-ecological conditions and livelihoods of rural population

The study's focus is on communities in three different districts in northern and central Tanzania. In the following, a geographic orientation on these locations is provided, as well as a short presentation of the districts agro-ecological and socio-demographic characteristics. The following map (figure 7) presents the different regions of Tanzania, as well as the classification of Tanzania's eight main areas:

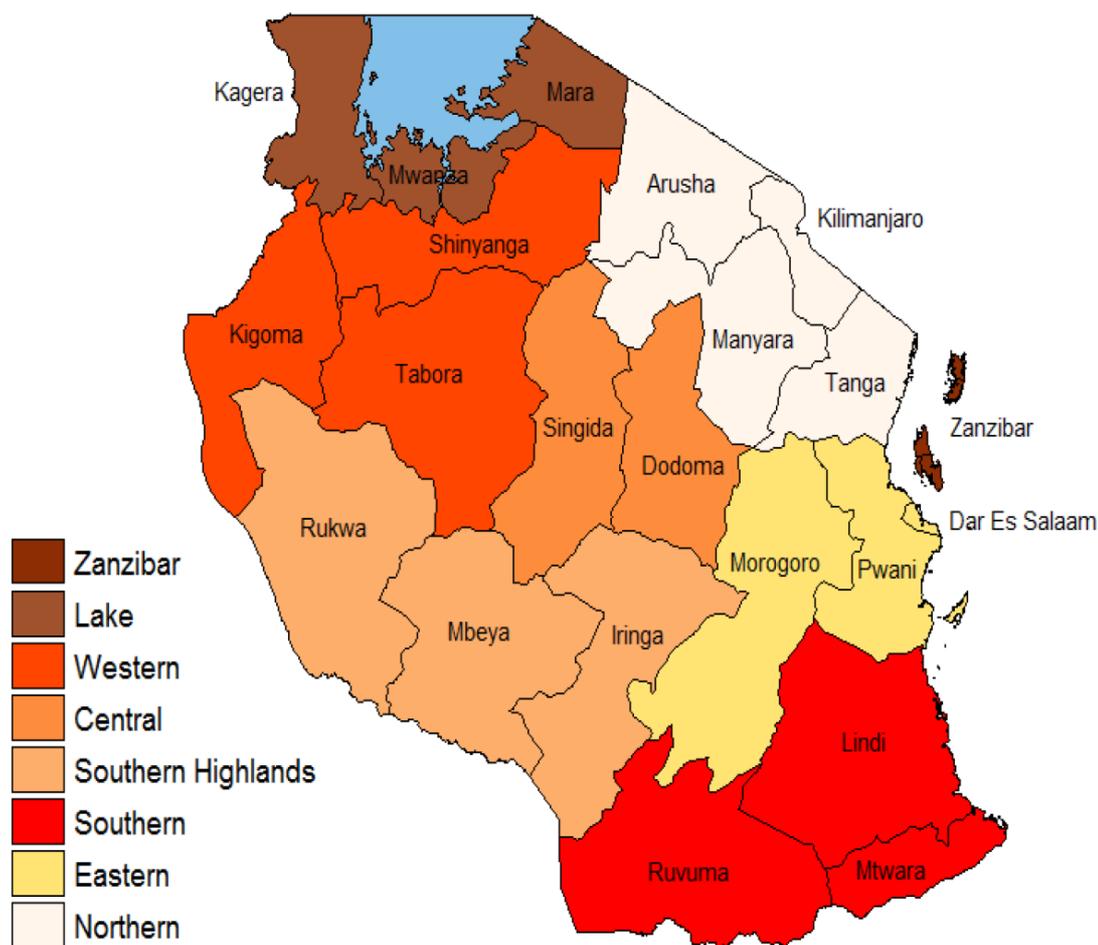


Figure 7: Regions and main areas of Tanzania (FAO 2014: 2)

The Babati district is part of the Manyara region, which is part of the area classified as Northern Tanzania. The district is located in the far west of the region, bordering the Singida and the Dodoma regions. The Kiteto district is part of the Manyara region as well and is located in the far south of the region (Hillburg 2013: 7). The Kongwa district is bordering the Kiteto district and is located in the far east of the Dodoma region, which is part of the area classified

as Central Tanzania. Africa RISING classifies two different research sites: (a) Babati and (b) Kiteto-Kongwa (ibid: 3). Moreover, the two different research sites represent two different agro-ecological zones (ibid: 3). These two research sites are presented in the following map (figure 8), which gives an overview of land coverage in the area. Furthermore, the map indicates the location of the nine villages in which quantitative data was collected during the impact survey by Africa RISING.

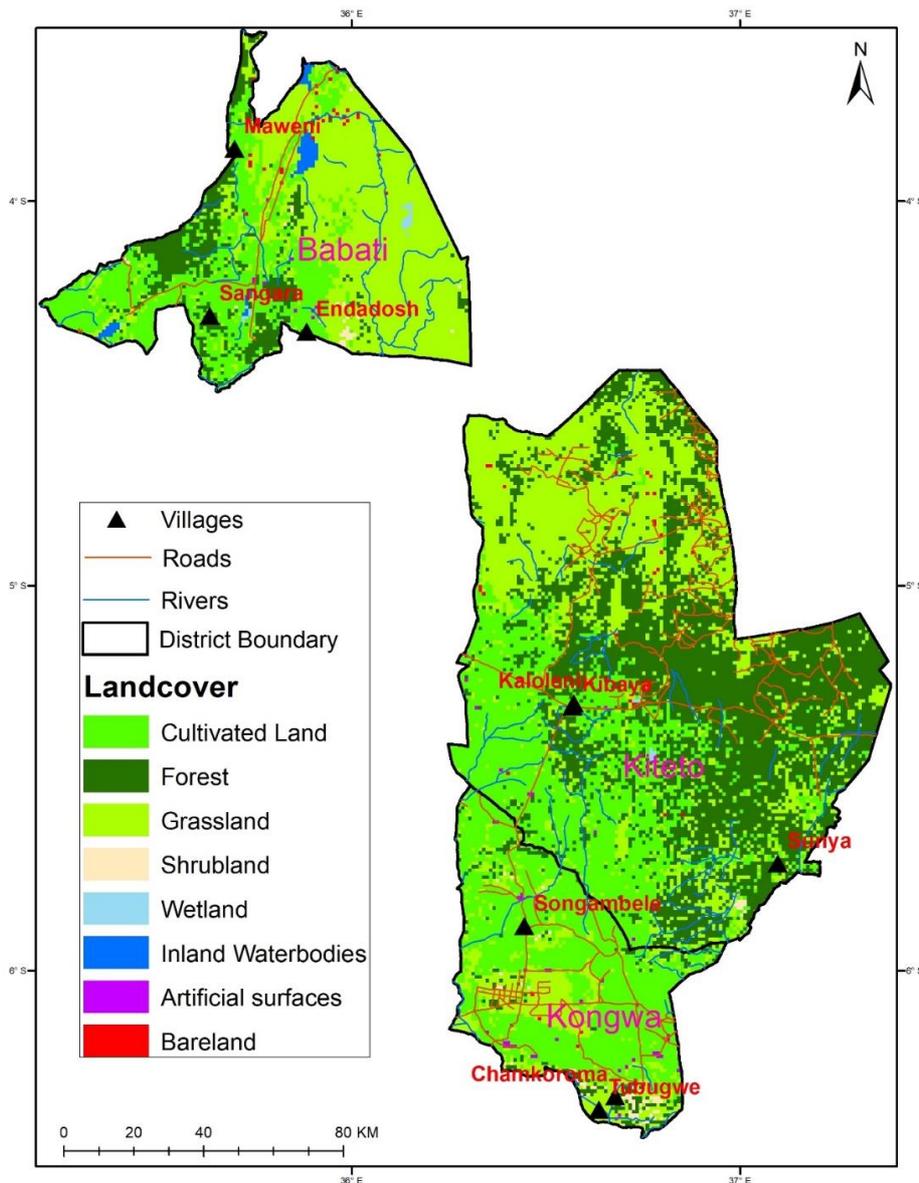


Figure 8: Land coverage in the Babati, Kiteto and Kongwa districts (Muthoni 2014)

The map (figure 8) indicates that large parts of the Kiteto district are covered by forest. Moreover, the northern part of the Kiteto district, as well as the eastern part of the Babati district, are covered by grassland. The rest of the Babati district is mixed between forests and cultivated land. The southwestern part of the Kiteto district, as well as the whole Kongwa district, are dominated by cultivated land. Bare land is very rare, and bodies of water are mainly found in the Babati district. Furthermore, Africa RISING classifies the Babati district as mainly semi-humid, while Kiteto-Kongwa is described as mainly semi-arid (ibid: 3). Further, inter-district differences are described as well. The Kongwa district in the south, is mainly characterized by semi-arid conditions with inconstant rainfalls, often distributed in a very short period (ibid: 11). The main food crop is maize, followed by sorghum, sunflowers and groundnuts (ibid:11). The southern part of Kiteto is characterized by sub-humid highlands, which offer higher amounts of rainfall and moderately fertile soils, which are suitable for cultivation of maize, beans and pigeon peas (ibid: 7). The rest of the district is characterized by semi-arid conditions in the midlands of Kiteto, and by Maasai steppe in the most northern part of the district (ibid: 7). While the amount of rainfall is lower in the Maasai steppe, the rainfall in general is distributed in short time and in unreliable pattern, comparable to the rainfall patterns in the Kongwa district (ibid: 7). Maize production is extremely dominant throughout the Kiteto district, with maize being cultivated all over the district and on nearly 90 % of all the planted area (ibid: 8). The Babati district is characterized by very different landscaped and growing conditions, which is displayed in the following map (figure 9).

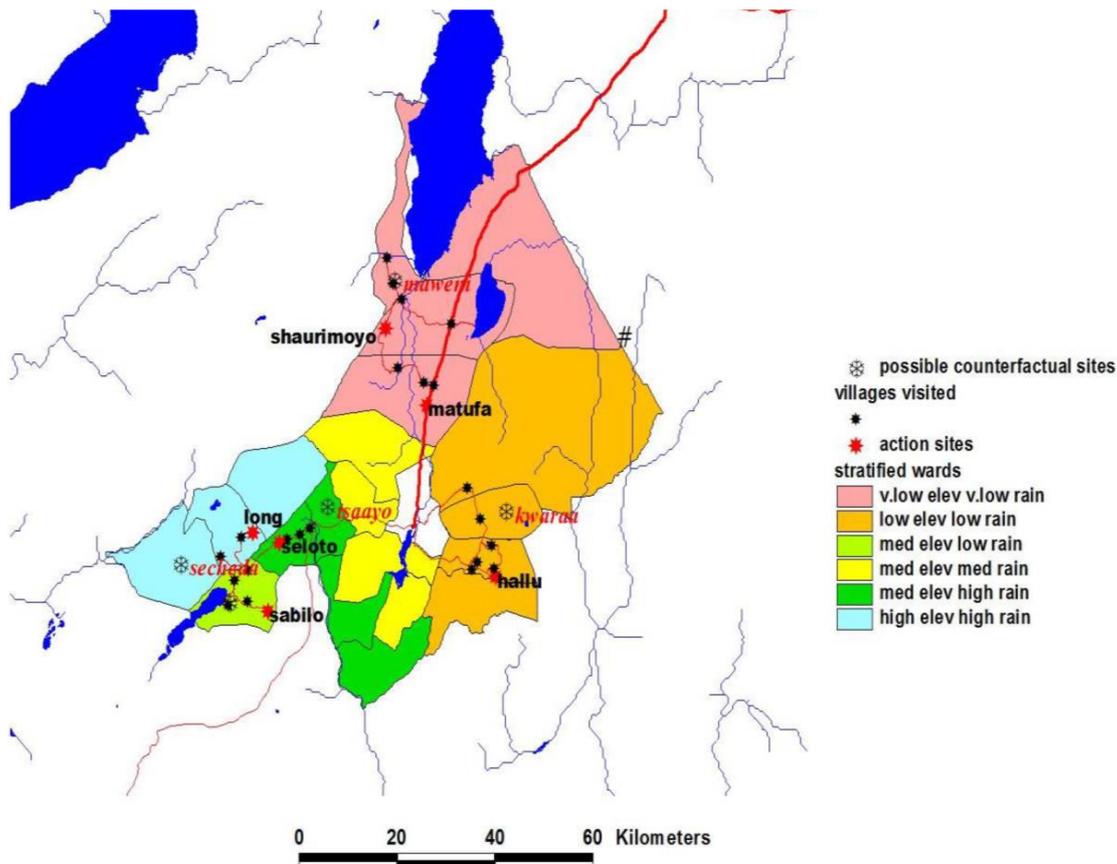


Figure 9: The Babati district, its main agro-ecological zones and Africa RISING action sites (Hillburg 2012: 30)

Compared to the Kiteto and Kongwa districts, larger parts of the area offer fertile soils (ibid: 14). Consequently a huge variety of crops are grown in the Babati district, ranging from rice and cotton to wheat and Irish potatoes (ibid: 14). Nevertheless, maize is the main food crop, grown on about two thirds of the planted area in the Babati district (ibid: 15).

Table 2 provides an overview of some basic aspects of the three districts. The total land area, as well as land area under cultivation with annual crops in the agricultural year 2007/08 is presented. In regard to land area and land coverage, indications from figure 8 are presented in precise numbers. While the Kiteto district is the by far the biggest district in regard to land area, the land area under cultivation with annual crops is significantly smaller than in the Kongwa district. In regard to cultivated land in the Babati district, it must be mentioned that a significant portion (29.210 ha) of the land is cultivated with a mix of perennial and annual crops (mainly intercropped maize and pigeon pea), which is not included in the table (ibid: 15). Moreover, table 2 presents basic demographic aspects of the districts.

	Kongwa district	Kiteto district	Babati district
<b>Land area</b>	4.041 km <sup>2</sup>	16.645 km <sup>2</sup>	4.969 km <sup>2</sup>
<b>Land under cultivation with annual crops (2007/08)</b>	169.982 ha	109.734 ha	97.916 ha
<b>Population (2012)</b>	310.000	245.000	405.000
<b>Average annual Population growth rate (2002 – 2012)</b>	2,2 %	4,8 %	3 %
<b>Agricultural households</b>	50.000	30.000	64.000
<b>Share of female-headed households</b>	29 %	20 %	15 %

*Table 2: Demographic aspects of the Babati, Kiteto and Kongwa districts (own design after Hillburg 2013)*

The vast majority of the population in the Kongwa and Kiteto districts live in rural areas (ibid: 7, 11), whereas about one quarter of the population in the Babati district live in Babati town (ibid: 14), which is “an established agricultural market town” (ibid: 16). Population growth is especially high in the Kiteto district, which experiences large in-migration in the last 30 years (ibid: 7). Growth rates in the Babati and Kongwa districts are close to the national average of 2,7 % (ibid: 11). However, the Babati district has experienced constant in-migration since the 1950s and is describes as a “melting pot of different cultures and ethnic groups” (ibid: 14), which has now lead to shortage of arable land (ibid: 14-15).

## 4. METHODOLOGICAL APPROACH

In order to develop a suitable methodological approach for the gender analysis, various aspects have been considered. First, the type of data that is needed to conduct a proper gender analysis, in order to investigate the research questions has been identified. After that, suitable research methods and sampling criteria have been chosen in order to meet these data needs. Advantages and disadvantages of different research methods have been evaluated, different sampling criteria elaborated, and knowledgeable interview partners identified. Furthermore, appropriate means of data collection and data analysis have been adopted based on moral and ethical considerations. Finally, limitations of the data are considered.

### 4.1 Data needs for gender analysis in agriculture

During the identification of data needs, I am guided by Doss (2013). According to Doss, investigating gender issues in agriculture requires sex-disaggregated data to be collected on the individual level (Doss 2013: 1). Additionally, she recommends the disaggregation of the data by other demographic factors, such as age and household position (ibid: 2). Women's voices must be heard, counted, and understood (ibid: 11). It is also emphasized that data must represent who is involved in which kind of activities (ibid: 11). Therefore, "who" means which member of the household, or if men or women are usually involved in a certain activity (Doss/Kieran 2014: 5). Furthermore, Doss and Kieran (2014) state that it is indispensable that both men and women are interviewed during data collection for gender analysis, while it is not necessarily that both men and women from the same household are interviewed (Doss/Kieran 2014: 4). This is also in line with Elias (2013), who states that both men and women need to be included, and the data be disaggregated by gender (Elias 2013: 1). Furthermore, Elias (2013) states that this accounts for all means of data collected, whether collected during surveys, focus group discussions, individual or household interviews, or key informant interviews (Elias 2013: 1).

In addition, she recommends the collection of data regarding men's and women's experience with different institutions and structures, which have an impact on their well-being and also on agricultural development and economic growth (ibid: 2). This might be markets for agricultural inputs and outputs, but also labor markets or markets for credits (ibid: 2).

Following these recommendations, data will be collected that can provide insights on the different perceptions of men and women on certain aspects of their livelihood. Meaning not only making sure that voices of men and women are included, but also being able to distinguish between who stated what (sex-disaggregation of the data). Other demographic aspects such as age and household position are considered as well.

In addition, Behrman et al. (2014) argue that combining quantitative and qualitative data, enables the researcher to offset weaknesses of one dataset by the strengths of the other (Behrman et al. 2014: 34). They further argue that qualitative data is useful in order to explore complex phenomena, such as gender relations in agriculture, while quantitative indicators are necessary to provide information on how widespread these patterns are (ibid: 32). Consequently, combining quantitative data and qualitative data means combining the high representativeness of quantitative data with the rich contextual data from qualitative research (ibid: 40). Furthermore, qualitative and quantitative data can be used in order to cross-check the data on certain aspects, in order to improve the data's reliability (ibid: 44).

Consequently, it is concluded that "understanding gender issues in agriculture requires drawing on the strengths and complementarities of both methods" (ibid: 35). While the necessity of both, qualitative and quantitative data is explained, potential research methods in order to collect this data are named. Therefore, qualitative data may derive from interviews, observations, documents, or records, while quantitative data derives from statistics or surveys (ibid: 35). The research methods that have been applied in this study will be presented in the following chapter.

Following these recommendations, quantitative and qualitative data was collected. By including male and female interview partners, the different perceptions of men and women on certain aspects of their livelihood were investigated. Next to the gender of the respondent, other demographic aspects, such as age and household position are considered. Furthermore, it will be ensured that the data can be disaggregated by those aspects (gender, age, household position). This is done in order to analyze data in regard to different respondent groups.

## 4.2 Research methods

Following Behrman et al. (2014) a mixed methods approach was applied during this study. Quantitative and qualitative research methods were combined in order to provide a more complete picture of the gender relations and dynamics. Nevertheless, a wide range of different quantitative and qualitative research methods could have been applied and combined in different ways. During this study, quantitative data was collected first and later supplemented by qualitative findings. This is in line with Behrman et al. (2014) who argue that qualitative data can provide explanations for quantitative findings. They can also contextualize these findings, and help to interpret them appropriately (ibid: 44). The initially collected quantitative data, gathered during a survey by Africa RISING, provides insights on the relation between participation in terms of labor within the production process, and gain in terms of income and expenditure allocation from the involvement. It cannot, however, provide explanations for the unequal distribution of participation and gain between male and female actors (Fischer et al. 2017: 8-9). While it shows where balances and imbalances within the farmer's households occur, a qualitative approach was needed in order to explain and address these gender inequalities in the farmer's households (Fischer et al. 2017: 8-9). Therefore, focus group discussions and key informant interviews were conducted, validating the survey results, and investigating underlying causes for dynamics within the observed gender inequalities.

### 4.2.1 Survey

Quantitative data on income, expenditure, and labor allocation within households involved in vegetable farming has been collected during a survey conducted by Africa Rising. The data collection was completed before I joined the research team in Arusha. Moreover, the survey was an impact survey of an Africa RISING program during which advanced seed kits were distributed among vegetable farmers, aiming at increasing the farmer's productivity. Thus, the questions relevant for this study have been integrated into the survey, while they have not been the main purpose of the survey itself. Nevertheless, the data provided insights on gender relations of participation and gain, as describes in the previous chapters.

#### **4.2.2 Focus group discussions**

Following the analysis of the quantitative data, a stakeholder validation was conducted. Focus Group Discussions are described as a suitable method in order to explain and validate results from preceding surveys. By asking for opinions, feelings and explanations of respondents in regard to the survey results, focus group discussions are suitable for stakeholder validations (Harrel and Bradley 2009: 82, Krueger et al. 2000: 24). In our case, the focus group discussions provided a platform to share the survey results with some of the survey respondents. Therefore, participants had the opportunity to follow up on the results of the survey, and were also able to give their feedback. This approach has also been recommended by Elias (2013: 2). In addition, focus group discussion are described as an appropriate primary mean of qualitative research (Behrman et al. 2014: 41).

In regard to this study, the main goal of these discussions was to improve our understanding of the main survey results, and to investigate underlying causes and dynamics. In the following, we conducted two focus group discussions in each of the three investigated districts. One group with male farmers and one with female farmers. Thus, we were able to examine the different opinions of men and women, and their different explanations for the presented results. This approach was recommended by Krueger et al. (2006: 26-27).

Elias' (2013) publication on practical tips for conducting gender-responsive data collection has been considered during the planning of the Focus Group Discussions. Mixed-gender field teams have been established so that the women's group discussions could be facilitated by a woman, and the men's group by a man. Elias (2013) argues, that women facilitators have better access to women participants (Elias 2013: 1). Moreover, women's and men's group discussions have been held simultaneously, in order to prevent respondents from exchanging ideas and influencing each other's responses, which is also recommended by Elias (2013).

As the Focus Group Discussion had to be held in Swahili, I relied on the support of Swahili-speaking facilitators. In order to ensure that the intended topics are covered, I developed an interview guide in advance. This interview guide has been discussed with the facilitators, who have been trained during a three-day work shop in Arusha, which took place before we left to the field together. The interview guide can be found in the annex. It includes photos from the material which was used in order to present the survey results to the participants.

Furthermore, the discussions have been audio-recorded with the consent of the participants. Secure locations have been chosen in order to ensure privacy.

### **4.2.3 Key informant interviews**

Key informant interviews were conducted in order to gather background information, as well as opinions and perceptions of experts on the investigated issues. In this regard, Harrel and Bradley (2009) recommend semi-structured interviews (Harrel and Bradley 2009: 24). Interview guides were developed in order to make sure that certain topics were covered, while the style of the interview was kept conversational.

Key informant interviews have been conducted during two phases of data collection. A first set of key informant interviews were conducted parallel to the conduction of the Focus Group Discussions. These interviews aimed at the expert's ideas on the interpretation of the survey results, and on underlying causes for gender inequalities in vegetable farming in the area. The main survey results were presented and discussed. The interview guide can be found in the annex.

Later on, key informants have been consulted during follow-up interviews. The goal of these follow-up interviews was to further investigate the institutional environment of vegetable farmers. By institutional environment, I am referencing the structures and processes that have an influence on the farmer's livelihoods. Behrman et al. (2014) recommend key informant interviews as they emphasize the key informant specialized knowledge in regard to institutional aspects of gender inequalities (Behrman et al. 2014: 41-42).

While the focus group discussions were facilitated by trained authorities, I conducted the expert interviews myself. A translator assisted me, as the respondents usually did not speak English (only one exception: KI9). The interviews were audio-recorded with the consent of the respondent. The location has usually been the respondent's office or any other quiet environment, allowing us privacy.

### 4.3 Data set and sampling criteria

Men and women were interviewed during all interview phases and in all kinds of interviews. This includes the survey, focus group discussions, and also the key informant interviews. However, different sampling criteria have been applied in regard to different means of data collection.

#### 4.3.1 Survey

As the quantitative data was collected during an impact survey facilitated by Africa RISING, the visited villages were also all partnering with the Africa RISING program. Due to the nature of the impact survey, the respondents were partly beneficiaries and partly non-beneficiaries of the intervention, during which the advanced seed kits were distributed. Altogether, 403 male and female vegetable farmers participated in the survey. The field team has been instructed to mainly interview household heads or spouses, and to ensure a balanced relation of men and women. Table 3 gives an overview of the socio-demographic characteristics of the participants. Men and women had a similar educational background and were of similar age. Nearly all male participants were the head of their household, while the majority of the female participants were married to the head of their household. Nevertheless, one third of the female participants were household heads.

	Male	Female
<b>Number of interviewers</b>	219	184
<b>Age (average years)</b>	43,5	42,4
<b>Education (average level)</b>	7 years (primary)	6 years (primary)
<b>Household heads (share of interviewers in %)</b>	200 (91%)	60 (33%)
<b>Spouse of household head (share of interviewers in %)</b>	3 (1%)	118 (64%)

Table 3: Socio-demographic characteristics of survey participants

#### 4.3.2 The focus groups

As recommended by Behrman et al (2014: 40) the sampling criteria of the survey has been used in order to set the sampling criteria for the focus group discussions. These were held in villages that have participated in the survey. While three villages per district participated in the survey, we visited only one village per district during the focus group discussions. The choice of villages was made due to advantages in gender diversity and accessibility. Finally we decided on visiting Endadosh (Babati district), Kaloleni (Kiteto district) and Songambebe (Kongwa district).

We invited 8-10 participants to each focus groups discussion. The participants have been selected from the survey sample. During the selection of participants, we aimed at creating age-homogenous groups of men and women, in order to minimize social pressure and give participants the opportunity to express his or her opinion. In cases in which more than 8-10 participants from the survey sample matched these criteria (gender and age), participants were chosen randomly from the sample. In other cases, participants were chosen in order to minimize age differences within the group.

Village extension officers assisted during the organization of the focus group discussion. Nevertheless, not all invited participants were able or willing to participate. Whenever it was not possible to have farmers participating who have been involved in the survey, we tried to gather other vegetable farmers who met the sampling criteria (gender and age) in order to ensure a group size of at least 5-8 participants. Table 4 gives information about the composition of the focus groups, which is based on the participant's gender, their household position, and their participation or non-participation in the survey.

Interview date	Focus Group Discussion	Number of participants	Number of Household heads	Number of survey participants	District	Sex of participants
04.04.2017	FGDa	6	6	5	Babati	Male
04.04.2017	FGDb	7	2	7	Babati	Female
05.04.2017	FGDc	9	8	4	Kiteto	Male
05.04.2017	FGDd	10	7	10	Kiteto	Female
06.04.2017	FGDe	7	7	6	Kongwa	Male
06.04.2017	FGDf	7	1	5	Kongwa	Female

Table 4: Composition of the focus groups

In total, 46 vegetable farmers participated in the focus group discussions, 22 (48%) of them were men and 24 (52%) of them women. Men have almost exclusively been household heads (21 of 22 participants, or 95%), while the participating women were mixed between household heads (42%) and spouses of household heads (58%). Both ratios are very similar to the ratio in the survey. Table 4 shows that only the men's group in Kiteto had to be significantly completed with farmers who did not participate in the survey. This was due to organizational and communication issues with the extension officer, thus requiring farmers to be gathered on the spot. Additionally, in some cases farmers showed up who were not invited by us, but by their fellow companions. These farmers were not sent away, but were welcome to participate, as long as they met the sampling criteria (age, gender, vegetable farmer).

Participant lists from each individual focus group can be found in the annex. These lists include the participant's sex, age, household position, and whether or not he or she participated in the survey.

### 4.3.3 Key informants

During two different phases of data collection (April and July), five extension officers and four market chairman were interviewed as knowledgeable key informants on the investigated issues. The extensions officers and two of the four market chairman are all employed by the government. The other two market chairman are traders on the markets, and are elected by the other traders in order to represent their interests. The extension officers are working closely with vegetable farmers and have therefore been considered highly knowledgeable about the investigated issues. Market officers have been interviewed in order to examine the sales channels of vegetable farmers. Their knowledge on markets for the products of vegetable farmers, and where and to whom male and female farmers usually sell, was considered to provide important insights on the investigated issues. Table 5 presents the anonymized list of the key informants, their position, location and sex, as well as the date of the interview.

Interview date	Key informant	Position	District	Sex
<b>03.04.2017</b>	KI1	Extension Officer	Babati	Female
<b>04.04.2017</b>	KI2	Extension Officer	Kiteto	Male
<b>06.04.2017</b>	KI3	Extension Officer	Kongwa	Female
<b>12.07.2017</b>	KI4	Market Chairman	Kongwa	Male
<b>10.07.2017</b>	KI5	Market Chairman	Kongwa	Male
<b>10.07.2017</b>	KI6	Extension Officer	Kongwa	Male
<b>15.07.2017</b>	KI7	Market Chairman (govt.)	Kiteto	Female
<b>18.07.2017</b>	KI8	Market Chairman (govt.)	Babati	Male
<b>18.07.2017</b>	KI9	Extension Officer	Babati	Female

Table 5: Key informants position, location and sex

## 4.4 Data processing and analysis

### 4.4.1 Quantitative data analysis

Analyzing the quantitative data constituted the start of my research and my personal entry point into the gender issues in the investigated area. During the analysis, I focused on identifying gender-specific differences in regard to distribution of labor and responsibilities, and in regard to intra-household income and expenditure allocation. Therefore, I compared

the responses of male and female farmers regarding their involvement in different farming activities, their earned income from different activities, and their financial contribution to different household expenses.

The data was disaggregated according to the sex of the respondents, respondent's household position, and also according to the district in which the data was collected. In this way, differences in the perceptions of the different respondent groups were investigated. As a result of this analysis, three respondent groups have been established due to patterns in the data. These were 1) male household heads, 2) female household heads and 3) wives of male household heads (female spouses). In regard to other demographic (age) or geographic (districts) factors, no significant differences have been identified.

#### **4.4.2 Qualitative data analysis**

The focus group discussions and expert interviews have been audio-recorded and then later transcribed. As the focus group discussions have been held in Swahili, the transcription have been done by the facilitators, who later, also translated the transcriptions into English. The transcriptions and translations were done shortly after the discussions by the facilitators themselves. In this way, we intended to minimize the loss of "unspoken information." Hand gestures or facial expressions of respondents during the focus group discussions can be vital components needed in order to interpret data appropriately. I transcribed the interviews of the key informants myself.

Later on, the transcripts were coded using the qualitative data analysis software Atlas.ti. The codes have been established during the analysis of the data and not beforehand. Data fragments have been coded in regard to what participants mentioned during the interviews. Later, the codes have been grouped in accordance to the research questions. Thus, a set of different codes and sub-codes were established. In this way, the complexity of the data was reduced, and generalized explanations and patterns in the data, with regard to the research questions, were recognized and identified (Gläser and Laudel 2013: 7).

#### **4.5 Moral and ethical considerations**

All participants have been informed about the background and the aim of the study. It was communicated that participation is voluntary, and that participants were free to leave at any time. Furthermore, participation was not rewarded by any monetary means. Moreover,

participants were aware that the information provided was audio-recorded and appropriate approvals have been obtained. The confidentiality of the data was guaranteed. Thus, no names or other information that would lead to the identification of the participant are mentioned during this thesis. In addition, the participants were asked to respect the other respondent's privacy, and to keep the shared information confidential as well. Meeting locations have been chosen, ensuring the groups seclusion, without disturbances.

#### **4.6 Limitations and data reliability**

The study investigates vegetable farming in three districts. Here, it has to be mentioned that the dataset does not represent the whole districts, but only the villages in which the research was conducted. Limitations in the transferability of the gathered data on other parts of the districts must be considered.

Furthermore, all responses of participants are based on their personal perceptions and opinions, and cannot be treated or understood as absolute truths. Alternative methodological approaches and samples might have identified other relevant aspects, which have not been discovered during this study.

In regard to data reliability, a number of potential biases have to be considered. Not only are the participants contributions based on their personal ideas, but also is the interpretation of the data determined by my own subjectivities. In order to minimize potential mistakes and misinterpretations, regular communication has been held with staff from the Africa RISING gender research team in Arusha, as well as experts from the World Vegetable Center, and with Professor Theo Rauch. This included consultation during conceptualization of means of data collection, as well as the discussion of preliminary findings.

#### **4.7 Summary**

Figure 10 shall provide an overview on the developed methodological approach, starting with a systematic literature review on the topic in order to formulate suitable research questions and objectives. This is followed by the analysis of the quantitative data collected during the survey conducted by Africa Rising, including male and female vegetable farmers in nine villages in three districts of the research area. The analysis of this data was then followed by a stakeholder validation. The main findings were presented and discussed in focus group discussions with sex-separated farmer groups in one village in each of the three districts.

Meaning three focus group discussion with male farmers and three focus group discussion with female farmers. During these discussions, the findings were validated, our understanding of the data improved, underlying causes discussed, and dynamics examined. Separating the groups based on the gender of the participants enabled us to investigate the different perceptions of men and women on the discussed issues. Parallel to the focus group discussions, key informant interviews were conducted with male and female experts. The survey results were discussed and the expert's opinions on the results, as well as the underlying causes and dynamics in the area were investigated. After the qualitative data was analyzed and the results were presented and discussed with my advisors in Arusha and Berlin, a last phase of data collection was planned and conducted. Additional follow-up interviews with knowledgeable key informants have been conducted in order to clarify any remaining uncertainties from the data. We were also able to investigate the environment of the farmer's households, meaning structures, processes, and institutions influencing the farmer's livelihoods and potentials.

During the different phases of literature based research, preparation of data collection, field research and data analysis, going back to previously collected and analyzed data and previously analyzed literature was a constant procedure. Previously gained insights shed a new light on our understandings after further data was collected, and further insights were gained. Therefore, it was less a linear process than a constant going back and forth, which is visualized in the figure with arrows going back and forth.

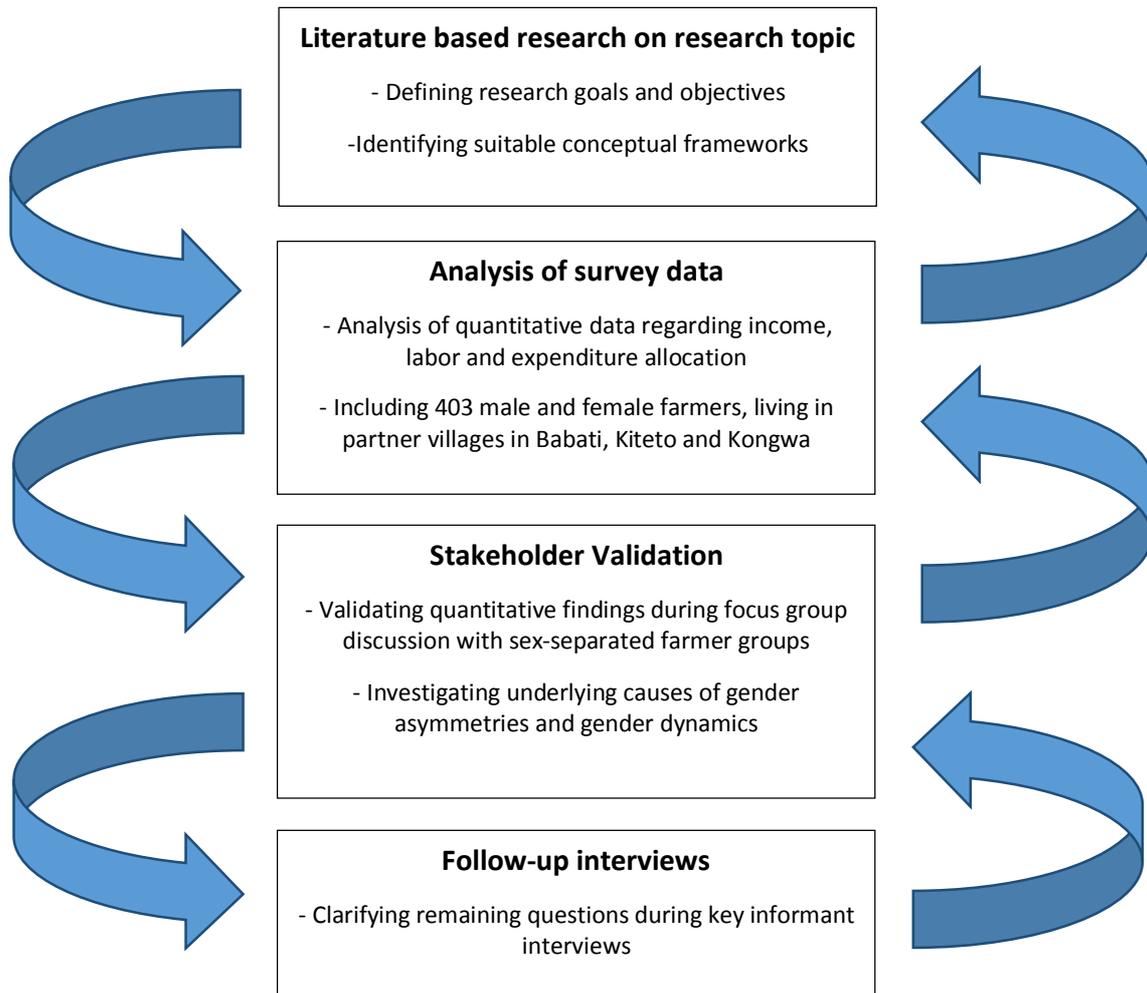


Figure 10: Design of methodological approach (own design)

## 5. PRESENTATION OF THE EMPIRICAL RESULTS

The following chapter presents the empirical research results. This includes the survey results, as well as the results from the qualitative research. It must be emphasized that all results are based on the respondent's perceptions of the investigated issues. The perceptions of these issues may differ between respondents and do not claim to be facts or absolute truths. However, gender inequalities in vegetable farming are analyzed regarding gender relations in participation, in vegetable farming, and gain through vegetable farming. Participation is analyzed according to the time spent by male and female farmers in different farming activities and in the cultivation of different crops. Gain is analyzed by gender relations in income generation by male and female farmers and their contribution to household expenditures. Underlying causes of unequal gender relation in participation and gain are examined while being guided by the sustainable livelihood framework and the social relations approach. Finally, gender dynamics within vegetable farming are analyzed.

### 5.1 Participation: labor allocation between men and women in vegetable farming

Regarding the analysis of gender relations in labor allocation, we are guided by the following questions: who (men/women) dedicates how much time to vegetable production and especially to which kind of crops and activities? What are the underlying causes of this distribution of labor between men and women? And which dynamics can be observed? The survey was designed in order to reveal answers to the first question. Men and women have been asked how much time was spent by men, women, and children in certain activities in the production, processing and selling of fruit vegetables, leafy vegetables, and also cereal crops. Cereal crops were included in order to examine time-consumption of vegetable farming, compared to the production of cereal crops, which are the most commonly cultivated crops in the area.

The data has been sex-disaggregated in order to investigate the different perceptions of men and women. The responses of women did not significantly differ due to their household position. Therefore, the findings are presented due to male and female respondents, irrespective of their household position.

Due to the concentration on gender relations, and the fact that the children's share of the workload is very low (according to the responses), I focus on the workload of men and women during the presentation of the survey results. In regard to the workload of children, the processing of cereal crops seems to be the only activity in which they bare at least 10 % of the workload. In all the other activities, their share was even lower.

The following table presents a detailed overview on labor allocation between men and women. It reflects the different activities and different crops, as well as the total workload of men and women, according to male and female respondents. The numbers represent the workload in average working hours of women and men per cultivation period. In order to visualize how time-consuming the individual activities are perceived, the stated workload is categorized in four sections, illustrated by using different colors. The categories are as follows:

1. Very low time-consumption (0-9 hours, yellow)
2. Low time-consumption (10-19 hours, orange)
3. High time-consumption (20-29 hours, red)
4. Very high time-consumption (more than 30 hours, dark red)

The data reveals the very different perceptions of men and women, with regard to how much time is dedicated to vegetable production by both genders. This is most noticeable with regard to the different perceptions on the total workload, but is also confirmed by the perceptions on the different activities. In nearly every activity and all different types of crops, men and women stated that their own gender invests more time than the other gender. When comparing the perceptions on the production of crops, the differences are greater with regard to the production of vegetables, in comparison to the production of cereal crops. Furthermore, men perceive the production of leafy and fruit vegetables as equally time-consuming, with their share of the total workload being at about 60% of the production of all different crops. Women perceived the production of leafy vegetables as more time-consuming, compared to the production of fruit vegetables, and perceived their share of the total workload as being at about 70 % of the production of both vegetable crops. Regarding the general time-consumption of different activities, men and women agreed on weeding, irrigation, harvesting, and selling as the four main activities in vegetable farming. Still, their perceptions on the "internal ranking" (regarding time consumption) of these activities differ.

ACTIVITY	LEAFY VEGETABLE PRODUCTION				FRUIT VEGETABLE PRODUCTION				CEREAL PRODUCTION			
	Male respondents		Female respondents		Male respondents		Female respondents		Male respondents		Female respondents	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
1. MONEY RELATED DECISIONS	4	3	2	3	4	3	1	2	6	4	1	2
2. MANAGING LABOR	12	9	8	11	7	4	3	4	11	7	9	10
3. NURSERY MANAGEMENT	10	6	4	8	9	6	3	6	1	1	1	3
4. PLANTING/TRANSPLANTING	13	10	9	14	12	10	7	11	16	12	12	13
5. SEED SELECTION	1	1	1	2	1	1	1	1	2	2	1	1
6. PLOWING	15	11	9	12	14	12	7	9	19	13	12	13
7. PEST AND DISEASE CONTROL	10	1	5	3	11	1	5	3	1	0	1	0
8. IRRIGATION	40	19	20	38	40	16	18	30	3	1	3	3
9. WEDDING	28	22	14	21	28	22	11	15	38	30	32	38
10. HARVESTING	15	18	8	42	19	14	9	36	28	21	26	32
11. PROCESSING CROPS FOR CONSUMPTION OR SALE	3	6	2	4	3	4	1	2	3	6	2	4
12. SELLING PRODUCTS	14	14	4	33	16	12	5	25	7	5	11	14
<b>TOTAL WORKLOAD</b>	<b>164</b>	<b>118</b>	<b>84</b>	<b>190</b>	<b>163</b>	<b>104</b>	<b>70</b>	<b>143</b>	<b>134</b>	<b>100</b>	<b>112</b>	<b>132</b>
<b>SHARE OF TOTAL WORKLOAD</b>	<b>58 %</b>	<b>42 %</b>	<b>31 %</b>	<b>69 %</b>	<b>61 %</b>	<b>39 %</b>	<b>30 %</b>	<b>70 %</b>	<b>57 %</b>	<b>43 %</b>	<b>46 %</b>	<b>54 %</b>

Table 6: Perceived labor allocation between men and women

### **EXPLANATIONS BY MALE FARMERS**

During Focus Group Discussions, male farmers reinforced their perception, that men are spending more time in farming activities than women (FGDa, FGDC, FGDe). Only one participant (FGDa4) mentioned a scenario in which women engage themselves more in agriculture, and he was referring to women who are living in female-headed households. Apart from that, participants agreed that men dedicate more of their time to agriculture, when compared to women, which was mainly explained the different responsibilities of men and women within the households. The following quote represents this idea. It is quoted from a Focus Group Discussion with male farmers in Endadosh, Babati district:

“Looking at most times, men are the larger participants in farming activities. As my fellow said, women contribute very little. They are house wives, and their activities are home based. But men work especially in agriculture” (FGDa1).

According to this participant, women have the responsibility of fulfilling domestic duties, while men engage themselves in agriculture. The domestic workload includes activities such as: fetching water and washing clothes, sweeping, making a fire in the morning (FGDa7), taking care of the children, cooking, and doing the dishes (FGDa4). These different gender responsibilities and gender roles become even clearer in another quote from the focus group discussion with male farmers in Songambebe, Kongwa district. Here, the gender roles are justified and explained by referring to religious books:

“Women, even when we go back to the books of our religions, she is just a person who should be staying at home caring for the family. According to the law that binds her is to just give birth and raise up kids, a man is always the one to fight for life. So I must sweat with a lot of sweats for money. So according to this law, it will be a must for me to fight and work hard for my life, those are man’s duties” (FGDe6).

According to him, women are supposed to stay at the homestead, fulfilling domestic duties, giving birth, and raising kids, whereas men are expected to earn the household’s income. In the focus group discussion in Endadosh, Babati district, the men’s role is described as being

the “breadwinner” (FGDa2) of the family, who “don’t have responsibilities at home” (FGDa2) and “just concentrates on the farm and rest” (FGDa4).

Consequently, according to male farmers, women’s numerous domestic duties are preventing them from dedicating more time to farming activities, and therefore men are the ones who are spending more time in these field activities. In this way, the survey results were confirmed during the focus group discussions. Regarding farming activities, male farmers perceive men’s workload higher than women’s workload.

### ***EXPLANATIONS BY FEMALE FARMERS***

Female farmers also confirmed the impressions from the survey during FGDs, as many women (FGDb4, FGDb3, FGDb1, FGDD6, FGDe5, FGDe4, FGDe3) stated that women are spending more time in farming activities, compared to men, despite their additional domestic duties. Only two female participants argued that they perceive men as the ones who spend more time in agricultural production (FGDd5, FGDe6). One quote from the focus group discussion in Kaloleni, Kiteto district, describes the participants’ perception in detail:

“It’s true because men after digging one round and he goes back home at twelve noon he won’t return again to the farm, a woman you cultivate you go back home cook porridge you drink and you will harvest vegetables for consumption and cook ugali after he eat ugali he won’t go to the farm. A woman you will go again in the evening to finish your place. So a woman have the farm of the evening while men are going to have a chat with their friends when you’re doing farming activities and it’s his time to relax, now as a woman after seeing that and still your strong enough to work you goes back and continue to farm you don’t have time to go in area and making stories and that’s the difference and that why we are ahead of them. Most of them they don’t cultivate” (FGDd6).

While she is mentioning the domestic duties of women, she is also emphasizing that these are not stopping women from still dedicating more of their time on farming activities than men do. Men are known to prefer spending time with friends, relaxing, and only working half day

on the field. According to her, this accounts for most men. Another participant expressed a similar opinion during the focus group discussion in Endadosh, Babati:

“When you come back home together from farm he rest but you prepare food but after eating he leaves to somewhere he knows. But you can’t stay because the plot will not be finished then you decide to go back to the farm until 4pm or 5 pm and you come home to prepare food and when he is back he want to eat as well as children and then he go again to rest” (FGDb3).

While men stated that domestic duties prevent women from being active in farming activities, women describe domestic duties as additional work for them. Contrary to men’s responses, women describe that they are still the ones who spend more time in the field, as men prefer to spend their time elsewhere, but do neither contribute work at home, nor in the fields.

Finally, we must state that we cannot make any reliable estimation on who (men or women) spends more time in farming activities, as the perceptions of men and women differ so drastically. Especially in regard to vegetable farming. Key informants also expressed different views on the topic. Interestingly, their perceptions were very much in line with the perceptions of the farmers. Female extension officers expressed women as the ones who spent more time in farming activities (KI1, KI6), while male key informants perceived men as the ones dedicating more time to farming activities (KI2, KI5). Others again mentioned that it depends on the kind of crop (KI4). The involvement of men and women in the production of different crops was also discussed with the farmers. These discussions shed new light on the participation of men and women in farming activities in vegetable production.

### ***Involvement in different crops***

Although men and women disagreed on the question of who is dedicating more time to farming activities, they agreed that the involvement of men and women in crop cultivation differs between different crops. Interestingly, during focus group discussions, both men and women agreed that with regard to leafy vegetables, women are spending more time in farming activities than men, while men mainly focus on fruit vegetables as well as cereal crops.

The following quotation from the Focus Group Discussion with male farmers in Songambe, Kongwa district, reflects this:

“On leafy vegetables growing its very fine, women are engaging more than men, but on tomatoes and maize, large percentage is dominated by men. Out of fifty farmers you will find two women. The rest are all men” (FGDc6).

This is contrary to the survey results presented in table 6, as both men and women stated that they spend more time in production of both leafy vegetables and fruit vegetables. Nevertheless, different key informants confirmed the perception that women focus on leafy vegetables and men focus on fruit vegetables (KI2, KI4, KI5).

Different explanations have been brought up during the interviews and focus group discussions. While some argued that leafy vegetable production is physically less challenging (FGDc2), others mentioned the fact that leafy vegetables can be grown in small plots near the homestead, while cereal crops are grown on big plots far away from home (FGDc8). Due to women’s responsibilities at the homestead, travelling to the fields constitutes an obstacle for women’s involvement in these activities (FGDc8, FGDa7, FGDa4). Furthermore, male and female farmers described women’s lacking of knowledge on how to cultivate fruit vegetables, and lacking financial capital as obstacles for women in order to cultivate fruit vegetables. As the underlying causes for this phenomenon are very much related to gender relations and responsibilities regarding income generation, these issues will be discussed in more detail during the exploration of gender relations in income generation, and especially in income generation through sales of different kinds of crops. Before these findings are presented, men’s and women’s perception on general income generation, are examined. Having an understanding of these different perceptions helps to understand the responses in regard to more specific income sources.

## 5.2 Gain: income and expenditure allocation between men and women in vegetable farming households

Gain from participation is analyzed by gender relations in intra-household income and expenditure allocation. First of all, gender relations in intra-household income allocation are illustrated, as well as underlying causes of these relations. Later on, findings on intra-household expenditure allocation are presented.

### 5.2.1 Gender relations in intra-household income allocation

#### *The different perceptions of men and women on intra-household income allocation*

Regarding intra-household income allocation, survey participants were asked about the amount of income earned by different household members in 2016 (the survey was conducted in January 2017). During the analysis, the data has been disaggregated by sex and household position of the respondent. Three respondent groups have been examined: (1) male household heads (n=200), (2) female spouses (n=118), and (3) female household heads (n=60). Here, female spouses are defined as wives of male household heads and therefore are living in male-headed households. The different perceptions of members of these three groups regarding the volume of the household economy and regarding the income generated by different household members, are presented in table 7.

	Male household heads (n=200)	Female spouses (n=118)	Female household heads (n=60)
<b>Total Yearly income of average household (2016)</b>	897 USD	645 USD	357 USD
<b>Earned by husband</b>	96 %	61 %	22 %
<b>Earned by wife</b>	4 %	39 %	71 %
<b>Earned by other household members</b>	0 %	< 1%	6 %

Table 7: Volume and composition of household economy

Comparing the numbers regarding the total household income, male respondents stated a much higher income than female respondents. While it is less surprising that female-headed households generate a lower income than male headed households, the huge gap between the perceptions of men and women living in male-headed households is remarkable. In

addition to that, men stated that they themselves, generate 96 % of the households' income, while women, living in male-headed households stated that they themselves, generate 39 % of the total household income. In female headed households, the wife seems to be responsible for the large portion (71 %) of the household's income.

The question arises, why men and women, who are both living in male headed households, perceive the volume and the composition of the household economy so differently.

During Focus Group Discussions, male and female farmers expressed their opinions on intra-household income allocation, and gender inequalities in income generation in regard to different crops. These discussions revealed that information on personal income is kept confidential between household members. While both men and women confirmed to act this way, their underlying motivations differed.

#### ***Motivations to keep information on income confidential***

Male participants very openly expressed that men should keep some of the generated income hidden, in order to prevent women from spending it on unnecessary accessories which are not in the family's budget (FGDa6) or just in order to have savings to support the family in case of need (FGDe7). Others argued that men, as household heads, are responsible for making money-related decisions, even if the wife does not agree on these decisions (FGDa2), or that men have to use some of the income for their businesses (FGDe7). Accordingly, women are not understood as being able to be part of these decisions and actions. A male farmer, expressed his thoughts during the focus group discussion in Endadosh, Babati district. According to him, some part of the income can be shared, another part has to be under the control of the men, because women "have weaknesses" (FGDa2):

"Even in my home there are other things [in which I] do not involve my wife simply because she would not agree. So as the man of the house I say it can be done. So by doing this you find that I have already taken my 75% and we cooperate in the remaining 25%. They speak of equality but we have to accept that they have weaknesses" (FDGa2).

Others argued that both, men and women, have their secrets and do not agree on everything, which is why they keep some of their income from each other in order to satisfy these personal desires (FGDa7).

Female respondents stated that they know that their husbands are not honest about the generated income, only share parts of it and may use the rest for personal pleasures, while the women are struggling. This leads to frustration among the women who ask themselves why they are struggling for money, while men “play with it” (FGDd1). This is expressed in the following quote from the Focus Group Discussion in Kaloleni, Kiteto district:

“He won’t show his money, yes a man can have money but he will make sure you won’t see the how many shilling he is having in his pocket, he give you money while hiding the remaining amount. [...] The day he don’t have money he will tell you that I was having a lot of money today I play with it and they are gone now, you start to think this two thousand he was giving me but he was having money why am here suffering?” (FGDd1)

Women experience conflicts and further frustration by following up on their husbands expenses (FGDd6, FGDd7). As they are afraid to get divorced (FGDd6) or experience domestic violence (FGDb4), they tend to not ask their husbands for money but prefer to get economically active themselves (FGDd6, FGDd7, FGDd10). Subsequently, they may hide their activities and their income as well (FGDd10), in order to strengthen their position in intra-household negotiations on income allocation (FGDd7), or simply because they fear that the husband would claim the money they’ve earned (FGDb4). Consequently, it cannot be assumed that spouses do know each other’s income. This was also confirmed by extension officers (KI1).

However, it has to be mentioned that the contrary case, men and women pooling the income and making decisions on income allocation together, was also described by male and female farmers (FGDb4, FGDb5, FGDa4) as well as key informants (KI4). Although, these cases have been brought up less by participants in the focus group discussions, both cases may occur, pronounced in different intensities (KI6). Therefore, we are not able to make any reliable estimation on which case is more likely. It can only be stated that the level of trust and cooperation between husband and wife differs from household to household, and that a wide

range of different scenarios of intra-household income allocation and negotiations are described by participants. Furthermore, male as well as female participants expressed that households with a higher level of cooperation between husband and wife, are more likely to develop positively in terms of poverty reduction and food security (FGDa3, FGDa4, FGDc4, FGDe7, FGDd9, FGDd10). Consequently, male dominance and the suppression of the wife are understood as serious obstacles for development in regard to the household's well being. The following interview extract illustrates this dynamic:

“[...] homes that lack participation and involving the mother in the family responsibilities, homes that are still based on the male supremacy. Even when you look at their level of development, it is not high because if the mother cannot advise the father, he is likely to do whatever he thinks is right even if it is not which instead he should've waited for the wife to advise him and they would discuss and reach to an agreement. So most importantly, the mother should also be engaged in the family responsibilities, income, and anything else that has to do with the family. The male supremacy system is what causes the mother to be untrustworthy and a liar. As long as she is engaged in the family issues she will know her responsibility and she will be responsible” (FGDa4).

The participant emphasizes that women do have the potential to contribute positively to the household economy, if they are enabled to do so. And that the joint decision making of husband and wife may lead to improvements in regard to the financial situation of the family.

After investigating the underlying causes for the different perceptions of men and women, we are left with the question of why men generate much higher incomes when compared to women. What are the circumstances that enable men to be that dominant in income generation?

### **5.2.2 Underlying causes of unequal gender relations in intra-household income allocation**

#### ***Gender roles within farming households and intra-household power relations***

In regard to the underlying causes of gender asymmetries in intra-household income allocation, some male farmers argued with gender roles based on religious and tribal

traditions, which assign men the role of being the decision-maker and the provider of the household. Accordingly, women would not be more involved in income generation, whereas men would take care of the economic situation of the family. This is reflected by the following extract from the focus group discussion in Endadosh, Babati district:

“As the gentleman said earlier, there are things that contribute to why a man should earn or earn more income. I think even in religious books the man has been given a voice that he should be the speaker, this gives women a certain fear. So when it comes to needs, the man feels satisfied to be able to provide for his home though she doesn’t know where it come from. Something else that may be causing this is the tribal traditions culture. For instance, I am from the Barbaeg tribe and although the world has changed, we still practice our culture back at my home. So when you get a wife she is taught and told that this is your husband and you shall be listening to him so the women find themselves accepting everything and not questioning anything. Even when I decide to go buy a cow at the auction she knows I have already made up my mind. Such things contribute to the lack of equal decision making because we are still attached to the traditions” (FGDa7).

Others argued with intra-household power relations. While the work in the production might be equally shared between the household members, men are perceived as dominating the selling process and the control over the generated income. This behavior is described by a male farmer during the focus group discussion in Endadosh, Babati district:

“**Participant 2:** What he said is true. Because a woman can produce also. And sometimes they can produce together, but men always take the money and they become under his control.

**Facilitator:** Do you mean money is owned by men?

**Participant 2:** Yes...

**Facilitator:** Regardless of a woman being a producer?

**Participant 2:** That is.” (FGDa)

This was also expressed during the focus group discussion with men in Kaloleni, Kiteto district (FGDc1, FGDc2), during all three focus group discussions with female farmers (FGDb1, FGDa6, FGDD6, FGDD8, FGDf6) and by extension officers in all three districts (KI1, KI2, KI6). The following quote represents the experience of a female farmer in Endadosh, Babati district:

“[...] I have got my own land and plant but that crops, [...] those harvest if they reach home your husband he will tell you they are mine even if I bought a cow or goat. I don’t have the right to control them because they are all under him he told me: they are mine. (FGDa6).

It seems that even if the work in the production is shared, or even if the women plant and harvest independently and on their own piece of land, their husbands may still control the income which is generated through these activities, and therefore, will end up with higher amounts of money in their income. Market chairmen, which were consulted in order to investigate the selling processes and accessible markets for farmers, confirmed that price negotiations and the general selling process from farmer to trader are usually done by male farmers, who decide on prices and receive the income, while the production up to the harvesting of the product may be done jointly by husband and wife (KI4, KI8).

***Access to land ownership as manifestation and determining factor of unequal power relation***

Unequal power relations between men and women are further manifested in, and at the same time determined by women’s disadvantaged access to land ownership. Furthermore, unequal access to land ownership, is described as resulting in unequal access to income. As men dominate access to land ownership, and therefore access to land in general, they cultivate larger areas and earn higher incomes (KI2, KI3, FGDc3, FGDc6, FGDe6, FGDb3, FGDb4, FGDf5, FGDf6). The following quote from the focus group discussion with male farmers in Kaloleni, Kiteto district, summarizes the relevance of land ownership for vegetable production, as well as women’s disadvantaged access to land ownership:

“Do you know owning a land is not the case of a woman. Land ownership is money“ (FGDc1).

Land ownership is described as being reserved for men and women usually only access land through their husbands or by renting pieces of land, but usually do not own any land (KI6). Men, however, inherit land from their fathers. This process is described in the following interview extract from a key informant interview in the Babati district:

**“Translator** The reason why most women do not own land or big pieces of land is because land is inherited traditionally. So it is the male boys who are given pieces of land by their parents. So the father only allocates land to the male children and women are not given any piece of land. So from the time she grows up until the time she gets married she does not own her own piece of land and it is only the husband she will be married to who owns pieces of land. So it is only a few who do not have their own male children, who now decide to give it to the female children but mostly land is given to boys” (KI1, 56:02-56:56)

This custom is described as being wide spread in rural areas (KI1, KI6, KI7), despite governmental efforts to provide equal access to land for both men and women, by registering all land in official documents in which both, men and women, are listed as land owners (KI6, KI1). Customary laws are reported as being dominating and as preventing women from owning land by themselves (KI1, KI5).

Furthermore, participants stated that access to income is determined by participation in the cultivation of different vegetable crops. Gender imbalances in income generation through different income generating activities and especially through sales of (a) fruit vegetables and (b) leafy vegetables have been discussed, as well as the underlying causes of these imbalances.

### **5.2.3 Fruit vegetables and leafy vegetables: underlying causes of gender-based division of vegetable crops**

#### ***The relevance of different income generation activities for male and female farmers***

The relevance of different income generating activities for (1) male household heads, (2) female spouses (of male household heads), and (3) female household heads is investigated in order to improve the understanding of intra-household income allocation in vegetable farming households. The analysis is led by the question “who earns how much money through which activities?” The survey data provides a first impression on this question. Participants

were asked about how much income was generated through different income generating activities. Ten activities were included in the survey, while all other income sources are represented by the additional option “others.” By including all possible income generating activities of the farmers, the relevance of selling agricultural products, and especially vegetables for the livelihood of vegetable farmers is investigated.

Table 8 shows the average income of male household heads, female spouses, and female household heads participating in the survey. Here, we only take into accounts what respondents stated for their own income, as we previously learned about the low reliability of information given by respondents on the income of their spouses. In this way, we intend to maximize the accuracy of the data.

Income generating activity	Average income (in USD) of male HOUSEHOLD heads (n=200) In 2016	Average income (in USD) of female spouseS (n=118) in 2016	Average income (in USD) of female HOUSEHOLD heads (n=60) in 2016
Sale of staple crops and legumes	230 (27%)	54 (21%)	92 (36%)
Sale of fruit vegetables	254 (30%)	28 (11%)	41 (16%)
Sale of leafy vegetables	272 (32%)	96 (38%)	50 (20%)
Off farm income (labor)	35	25	36 (14%)
Livestock sales (meat, eggs, milk)	21	3	6
Remittances	2	3	18
Rental income (land, houses, oxen, others)	13	-	-
Providing transport services	4	-	-
Pension	-	-	-
Non farming activity (salary, wages)	22	37 (15%)	12
Others	-	6	-
<b>TOTAL</b>	<b>854</b>	<b>253</b>	<b>255</b>

Table 8: Average yearly (2016) income of male and female farmers generated by different activities

The data indicates that the income generated by men is much higher than the income generated by women. The total income of female spouses and female household heads is

almost identical, whereas the relevance of different income sources differs for female spouses and female household heads. Female spouses generate most of their income by selling leafy vegetables (38 %), whereas female household heads receive the biggest share of their income through sales of staple crops (36 %).

In general, the relevance of selling agricultural products and especially vegetables for the livelihood of vegetable farmers seems to be very high. Male household heads stated to earn 89 % of their income by selling agricultural products and 62 % by selling vegetables. Women (irrespective of their household position) generate about 30 % of their income by activities other than from the sale of agricultural products.

The partially extremely low numbers in some of the activities, come about because only very few participants stated that they generate any income by these activities.

### ***Income generation through sales of different vegetable crops***

The question of gender imbalances in income generation, as well as the relevance of different crops for income generation, have later on been discussed in the focus group discussions. Both, male and female farmers confirmed the impression that men generate much higher income, compared to women. In regard to income generation through different vegetable crops, the survey data (table 8) indicates that men generate higher income when compared to women in all different crops. While women, living in male-headed households, stated that they mainly receive income through selling leafy vegetables, the amount of money earned by these women is still much lower than what men stated to earn through leafy vegetables. Contrarily, numerous key informants stated that male farmers usually focus on fruit vegetables, while sales of leafy vegetables was mainly described as an income source of women and not of men (KI1, KI2, KI3, KI4). This is reflected by the following interview extract, from the interview with a market chairman in the Kongwa district.

“**Nico** And if we talk about vegetable production... Because we have different vegetables... Tomato, amaranth, spinach and many others... Are there some associated with men and other with women? Like some are an important income for men and some more an important for women, or..? #00:06:49-4#

**Swahili** #00:07:35-4#

**Translator** Most of the leafy vegetables, you find them being grown by women but most of this fruit vegetables that are more cash crops, have more cash, are grown men.

#00:07:51-3#

**Nico** And this is because the fruit vegetables give more cash? #00:07:56-6#

**Swahili** #00:08:26-0#

**Translator** That is the main reason, that they generate more cash. But on the other side, we talk about gender roles in the household, these women are busy with household activities. Most of these fruit vegetables need more time in terms of labor. So if women concentrate on growing leafy vegetables other household activities will be left aside. So the issue is.. They grow leafy vegetables because it does not take much of their time. But the main reason is also that those fruit vegetables generate more income and it is likely that men dominate these activities. And another thing is that women are busy with household activities. (KI4, #00:09:19-9#).

He also names two reasons for the division of vegetable crops between men and women: (1) Men focus on the production of fruit vegetables, because this promises bigger profits, and (2) due to their domestic duties, women are short on time and focus on the less time-consuming production of leafy vegetables, while he emphasizes that the higher profitability of fruit vegetables is the main reason for this gender-based division of vegetable crops. The idea that the profitability of a crop is the main aspect which determines if a crop is interesting for men, is further elaborated when he explains that men would even take over leafy vegetable production, if this would promise higher profits:

“Those with leafy vegetables, that men don't care. These women can always be involved in them without even men control. But if anything will become a big business incentive: men will always take over” (KI4, 35:00-35:23).

Here, the power relations of male and female vegetable farmers are very visible. According to him, men have the opportunity to decide which crops to cultivate, while women have to adapt and cultivate crops which men do not care about. The argument that men are likely to take over any business which is profitable, is also confirmed by an extension officer in Babati, who

describes how the numbers of men being involved in vegetable production are rising since vegetable production developed to be a promising business:

“The women, from the beginning, they were growing vegetables for home consumption. So when it comes to the time that the towns are growing, it causes the raising of the demand for vegetables in these small towns. So the women started selling vegetables to their neighbors and the local centers. But as it comes that now the production of vegetables is an income generating activity, men and especially the youth enter the business. And as I said, the number of men is now rising up” (K19, 33:28-34:18).

Still remains the question of why women are not getting more involved in more profitable businesses, and instead focusing on the cultivation of leafy vegetables. What are the underlying causes that determine the gender-based division of vegetable crops? Next to the already mentioned reason of being short on time due to their domestic duties, female farmers in Kaloleni, Kiteto district, mentioned high cost implications as an obstacle for them:

“**Facilitator:** so are your says because on the side of income and fruity vegetables like African eggplant, tomatoes, shows women receives very low share of income, what do you think about that?

**FGDd10:** that’s true women they receives small share of income because with that kind of crop you have to prepare yourself and you find most who cultivate those vegetables are men

**Facilitator:** why are you saying it’s hard to cultivate this crops?

**FGDd10:** it’s hard to cultivate that because they needs to have enough capital, vegetables like tomatoes if you don’t have capital it’s better not to plant it because they need a lot of pesticides and without pesticides you won’t succeed. That why farmers of that crop are men and women we are very few

**FGDd8:** we are failing because of cots of pesticides, tomatoes have cost every day you need pesticides and they are very expensive” (FGDd).

Production of fruit vegetables is described as more time-consuming and more capital-intensive, compared to the production of leafy vegetables. Women's disadvantages in regard to time and financial capital, are determined by gender roles and responsibilities, within the farming households, as described in chapter 5.1. Women are understood as the family care-taker, who is responsible for domestic duties, whereas men are understood as the bread-winner of the family, who is responsible for money-related issues. Women's disadvantages regarding access to and control over financial capital, is further enhanced by unequal power relations regarding control over income, as describes in chapter 5.2.3.

Furthermore, limited access to knowledge on good agricultural practices has been mentioned as a disadvantage of women. According to an extension officer from Babati, gender roles based on tribal traditions determine women's disadvantaged access to this knowledge, as women are excluded from public gatherings and limited to activities in their homestead:

**“Translator** She is giving a local example why men have more knowledge than the women. Many times when there are trainings and gatherings from the community it is mainly men who turn up because there is a tribe here [...] according to them women do not go outside and do activities out of the homestead. So that already hinders them from showing up in gatherings and meetings. So whenever they call out in such a place it is mainly men who show up. So in the long run, men are more exposed than the females” (K11, 58:07-59:07-9).

In this way, women's access to knowledge is very limited. Other key informants confirmed, that activities, which require specific knowledge or technologies, are usually done by men (K14, K15). Another extension officer in Babati also confirms that higher cost implications and women's lacking access to financial capital and lacking knowledge are the main obstacles which prevent women from getting more involved in the production of fruit vegetables and let them focus on leafy vegetables as their cultivation is “easy and cheap” (K11, 18:48-19:24). Other reasons mentioned by female farmers were, the lacking of access to profitable markets (FGDb4, FGDf3, FGDf1), and disadvantaged access to water (FGDb4).

#### **5.2.4 Intra-household expenditure allocation and contribution to household economy**

In order to analyze the benefit of men and women from vegetable sales, we not only have to understand intra-household income allocation, but we also have to investigate intra-household expenditure allocation. Here, we examine the question of what is done with generated income. Who contributes how much of his income to household expenditures? Which are the main household expenditures and who covers these to which extent? Are the unequal gender relations in income allocation compensated by gender relations in expenditure allocation?

During the survey, respondents were asked to name the three main household expenditures during 2016. Therefore a list of thirteen types of expenditures were given, from which the respondents were asked to choose. Furthermore, they were asked to state which household member (husband, wife, others) allocated how much money to which kind of expenditure. Table 9 shows the list of household expenditures and the percentage of respondents who stated the different activities as one of the three main household expenditures.

Assuming that respondents tend to name expenditures to which they themselves allocate money to, these rankings provide first insights on gender responsibilities regarding household expenditures. Investments in assets and agricultural inputs and services, seem to be more of a responsibility of male farmers, while women are responsible for hygiene and health expenditures. This was later on confirmed by an extension officer, who stated that men re-invest income in agricultural production, while women use their income to cover expenditures within the household (K13). The main household expenditures, food products, and clothes, seem to be more significantly associated with household heads (irrespective gender), compared to wives of household heads. School fees seem to be of less importance for female headed households. This may be caused by the higher average age of female household heads (46,9 years), compared to female spouses (40,8 years) and male household heads (44,7 years). It is further remarked, that all respondent groups agreed that the remaining expenditures (house rent, telephone, savings, remittances, contributions) are of low relevance for the household economy.

Household expenditure	Male Household heads (n=200)	Female spouses (n=118)	Female Household heads (n=60)
School fees	21 %	22 %	15 %
House rent	0 %	3 %	5 %
Food products	65 %	55 %	68 %
Agricultural inputs / services	28 %	19 %	17 %
Health expenditures	14 %	17 %	20 %
Clothes	52 %	40 %	55 %
Telephone	1 %	1 %	0 %
Savings	3 %	3 %	0 %
Remittances	1 %	1 %	0 %
Contributions (weddings, funerals)	5 %	2 %	5 %
Hygiene (soap etc.)	21 %	34 %	35 %
Asset (constructing house, purchase land, car, motorbike etc.)	45 %	22 %	27 %
Other	1 %	2 %	2 %

Table 9: Three main household expenditures according to different respondent groups

In addition to the question about the three main household expenditures, respondents were also asked how much money was allocated to these expenditures by which household members. The answers to this question give us insight on the respondent's perception on the volume of the main household expenditures and on who in the household covers those expenditures. Table 10 shows how the different respondent groups responded to this question.

Household expenditures	Male respondents	Female spouses	Female heads
<b>Volume of three main expenditures</b>	865.075 TSH	522.909 TSH	437.608 TSH
<b>Covered by husband</b>	93 %	70 %	13 %
<b>Covered by wife</b>	5 %	27 %	80 %
<b>Covered by others</b>	2 %	3 %	7 %

Table 10: Contribution to three main household expenditures by different household members

These numbers are very much in line with the responses regarding the volume of the household income and the allocation of the income to different household members (table 7). Men gave the highest number for the volume of the money allocated to the three main household expenditures, followed by female spouses and female heads. The different perceptions of men and women on who covers the three main expenditures to which degree, are also in line with their perceptions on who generates how much of the household income. Male and female respondents perceive the gender relations in expenditure allocation in a similar way, as in which they perceive the gender relations in income allocation. Does this mean that gender asymmetries in income allocation are compensated by gender asymmetries in expenditure allocation? Men do earn higher amounts of income, but do also bare the main household expenditures, so that the benefit is balanced?

These questions were further investigated during focus group discussions. Male and female participants were asked about their perceptions of who (husband/wife) contributes how much of their income to household expenditures and who keeps how much of their income for themselves, allocating it to personal expenditures rather than household expenditures.

Applying a participatory approach, each participant was given ten beans representing the income of a male farmer and later on ten beans representing the income of a female farmer. They were then asked to distribute these ten beans in two glasses which represented (a) the income allocated to household expenditure and (b) the income allocated to personal expenditure. In this way, we examined the participants perception on who allocates how much of their income to which kind of expenditures. Here, two out of the three male groups

stated that men allocate a bigger share of their income to the household, compared to women, while all three female groups stated that women allocate a bigger share to household expenditures. The perceptions of men and women differ comparably to the different perceptions on labor allocation, as both, men and women, favor “their gender”.

The issue of who (husband/wife) contributes more of their income to household expenditures was further discussed with male and female farmers, as well as extension officers. While male farmers argued that it’s the man’s responsibility to make sure that household expenditures are covered due to their role as “budget planner” (FGDa8) in the family and their higher income (FGDe3), female farmers complained about receiving little income through their own activities and not getting sufficient support from their husband in regard to household expenditures (FGDb1, FGDD4, FGDD6, FGDF1). Quite a number of men shared this perception, stating that women are the ones who take care of the family needs and contribute more to household expenditures than men (FGDa1, FGDa5, FGDC4, FGDC6, FGDE5). Male farmers stated that men tend to keep their income for personal expenditures, while women will do what they can to make sure that the family needs are satisfied (FGDa3, FGDa6) and concluded that “the man is not fair to his family” (FGDC1) if he acts this way. Male, as well as female extension officers, confirmed that women focus on the family, while men have extra expenditures (KI1, KI2). While participants reported significant inter-household differences, the critical factor is that that men can decide how much of their income will be contributed to household expenditures, while women depend on their husbands contribution. This is reflected by the following interview extracts:

“[...] men there are of two types, there those men who you can work together and after work he carry all responsibilities as the head of the family and they used the income received reasonably with in the family but there is this kind of men if they get the chance of getting that income you will end up seeing each other in the next planting season” (FGDD8).

According to her, women are disadvantaged in two ways. They receive lower income than men and they are bearing the responsibility for the household. If men decide to spend their money on other expenditures than the household, women have to cover the household

expenditures with their limited economic power. The following interview extract describes this responsibility of women, expressed by a male farmer:

“[...] the contribution of women in the family is very big. [...] because sometimes men have something but when they are asked, they say they don't have. So the mother will not allow things to stop at home just because you don't have, she will do whatever she can to make sure she has covered the gap it means the woman has no means of hiding money [...] For a mother who loves her family, she cannot be selfish with what she has so all her efforts are for her family and not for herself. The father on the other hand may be a drunkard drinking with friends and you forget about your family, you just know when you get back you will find things going well” (FGDa6).

While men can be self-centered and use their income for themselves, women do not have this option, if they do not want their children to suffer. Numerous male and female participants supported this (FGDa7, FGDb1, FGDb7, FGDb6, FGDd6, FGDd7, FGDd10, FGDf4, FGDd6). One extension officer got to the heart of it by describing these gender relations as “African life. Or Tanzanian life” (KI1, 30:33-30:44), referring to men's tendency to prioritize personal expenditures. Whereas women are left with the responsibility of satisfying the needs of the children and the household.

Numerous personal expenditures of men have been named by male and female farmers. Among others, spending time with friends and buying coffee or tea (FGDa1, FDGa3, FGDa7, FGDc4, FGDb1), smoking cigarettes or marijuana (FGDa7, FGDb1, FGDb5), drinking alcohol (FGDa6, FGDc1, FGDd10, FGDd8), and spending money on women, referred to as “unofficial wives” (FGDb5, FGDd1, FGDd9, FGDd4, FGDf6) were the most frequently mentioned reasons.

### **5.3 Gender dynamics in and through vegetable farming**

#### ***The development of vegetable farming in the investigated area***

During key informant interviews, the development of vegetable farming within the Babati, Kiteto and Kongwa districts has been explored. While it's growing economic potential, due to a growing market demand for vegetables, is described, it is also emphasized, that it is still not a big business, but more an economic niche (KI5, KI9). This is mainly caused by the fact that most parts of all three districts, do not offer the environmental preconditions which are

necessary for vegetable production (KI6, KI7, KI8, KI9). Due to water scarcity, vegetable production is limited to small areas (KI6). Water is accessed through rivers and channels installed for irrigation (KI6, KI7, KI8). In the Kiteto and Kongwa districts, vegetable farming for commercial purposes just started within the last ten to twenty years (KI5, KI7). In-migration from other parts of the country is mentioned as a triggering factor for increasing vegetable production (KI5). In the Babati district, some vegetables, such as pumpkins, are cultivated by inter-cropping with maize or pigeon peas (KI9). During the rainy season, other vegetables, such as Amaranth, are growing wildly, so that market demand for vegetables is decreasing (KI9). In general, farmers are reported to mainly sell their products directly at the farm gate, instead of accessing local markets (KI5, KI6, KI8).

Furthermore, the issue of labor migration has been discussed in key informant interviews. Key informants in Kongwa described that young men tend to move to the cities in order to find more promising economic opportunities (KI5). This effects women in the villages, as they get access to land which was formerly cultivated by men (KI6). However, labor migration is more prominent in areas with a low agricultural potential. In the Kongwa district, it mainly applies for areas which depend on rain fed agriculture (KI6). This impression is supported by key informants in the Babati district, who state that in Babati, where the agricultural potential is higher than in Kiteto and Kongwa, labor migration from villages to cities, is less prominent, compared to the Kiteto and Kongwa districts (KI8, KI9). Consequently, the effect of labor migration on gender dynamics in vegetable farming is limited, as vegetable farming is hardly possible in areas with low agricultural potential.

Despite being limited to certain areas, vegetable farming is described as an upcoming business, which offers an economic niche for women, and also increasing experience involvement of men and especially youths (KI9). Gender dynamics within vegetable farming, as well as dynamics within the gender relations of participation and gain caused by vegetable farming, have been examined during key informant interviews and focus group discussions.

### ***Women's increasing economic independence through vegetable farming***

In order to improve the understanding of intra-household income allocation, dynamics within the gender relations have been investigated as well. Participants have been asked about their

perception on how income allocation is changing, especially through vegetable farming. Meaning if women's involvement in income generating activities is increasing or decreasing, or if there are no changes at all. While men stated that, until today, women are still being suppressed by men and therefore limited in their opportunities, women's potential is also recognized and the potential benefits of women empowerment are understood. This is expressed by a male farmer in Endadosh, Babati district:

“That is our ancestor's systems. A man is a man. And let a woman becomes a woman. Do you understand? Means she supposed to stay at home. So that custom is still working. People are not yet educated that a woman can act like a man. That's why a man is always dominating a woman. But if women will be empowered they can act like the men” (FGDa3).

“If you give them opportunity and motivate them, you will see the results. But if you will make them as domestic workers just doing only domestic chores, they will remain as the way they are and they will not have any other contributions, give her the chance and make her your partner so that you can make things together and you work with objectives together regardless of who does what” (FGDa3).

Nevertheless, he also mentions that women are still struggling, as people are still lacking education on the potentials of women empowerment. Moreover, male as well as female farmers reported that women are getting more and more involved in income generating activities, and their income and contribution to the household income are increasing, while their dependence on the husbands is decreasing (FGDa5, FGDd1, FGDd6, FGDf6). Another key informant mentioned that women's increasing involvement is not only due to men being less oppressive, but also due to women feeling a higher motivation to get involved. This is expressed by the following interview extract:

“Translator: In Tanzania in the past, women were like: you know... just there. There was no motivation for them to do business. It was not just men pushing them to stay home, don't do anything. But for them it was just like: okay I am married, so... there was no motivation, but now since life has changed, they dare to do it” (KI4, 31:28-32:44).

Campaigns by the government and by NGOs encourage women to get more involved in income generating activities (KI3). Moreover, the upcoming vegetable business is perceived as an opportunity for women to be economically active and therefore reduce their dependence from their husbands. While in the past, women have been engaged in farming activities on their husband's fields and under their husband's responsibility, the increasing demand for vegetables provided an opportunity for women to establish independent businesses and generate their own income. An extension officer described her understanding of the development in Babati district, which is presented in the following interview extract:

**KI9** I think in the past women were fully engaged in the field activities but they were going there.. They were assigned mainly by their husbands. They did not have fully responsibility of what is to be done on the field. What they (the men) further will assign, that is what the women will do in the field. And at the end of the day it is the man who has the say about what to do with the produce from the field. But nowadays, women are coming up. They are starting their activities. Maybe they have their piece of land, they grow vegetables, they decide what to grow, when to sell, how to sell, where to sell. So this engaging in vegetable production, has given the women at least the access to cash. And their contribution to the livelihood, in the household, is becoming high. #00:10:26-1#

According to her, vegetable farming enabled women to increase their benefits from participating in farming activities, as they were able to establish independent businesses. Later on, she emphasizes that vegetable farming, as an upcoming business opportunity, gave women this prospect, whereas gender roles in the cultivation of field crops are reported as being less flexible.

**Nico** Okay so the women are really having their own business, their own responsibility, they decide on what kind of crops they grow, they mainly do most of the production themselves and they control the income which they generate? They can decide... #00:10:42-9#

**KI9** ...yes they can control it. #00:10:44-4#

**Nico** And in the past it was not... #00:10:47-1#

**KI9...** it wasn't like that and especially when the household was only dealing with the production of field crops, it is not easy that you find a woman who is in the household with the father, have a decision on what to grow, when, how to use the product after harvesting, it was not possible. A man could dictate what has to be done. But nowadays, since the women are also engaging fully in the production from the preparation up to the harvesting time, they also have a say on something. Although there are some few who still don't have the say on what to produce. But having this... One thing, I think that gave the women chance of engaging in the production of vegetables: formerly it was not taken as an income generating activity, because women were producing vegetables from the beginning, from many years ago. But only for home consumption... #00:11:59-4#”

Furthermore, she expresses her idea that women benefitted from previously being involved in growing vegetables for home consumption. This gave women an advantage when vegetable farming became a business opportunity, and they are now able to generate an income through these activities and establish independent business. This includes control over decision making and control over the generated income. A market chairman also described how women are more and more involved in the vegetable business. While he perceives retailing in the markets as already female dominated, more and more women are producing and selling the vegetables by themselves. Others still need male support during the selling process:

“There are also changes at the farm. There are the business men and women, now especially business women, who are just buying (from the farm) and selling (at the farm) and there are those who are cultivating and selling. Now there are those women (farmers) who dare to come with their products, which they produce themselves, to the markets by themselves. But there are also a few women, who cultivate like the men, very active at the farm, but they do not dare to come to the market. They use men who are doing the same thing (farming), maybe neighbors, friends, they (the men) help them (the women) to sell here in the market” (KI4, 37:08-38:36).

Women's increasing involvement in independent businesses with in vegetable farming, and their increasing control over generated income, is also confirmed by another market chairman

in the Kiteto district (KI7). What remains, is the question to which extent intra-household power relations in regard to decision making and income control, and consequently gender relations in participation and gain, are effected by vegetable farming. In other words: how are the livelihood outcomes of these women really effected by their increasing engagement in vegetable farming?

***Dynamics in intra-household decision making and benefit sharing***

In this regard, different ideas have been expressed by key informants. Some argued that men still control the generated income in the majority of the households, including the income earned by the wife, and decide themselves what this income will be allocated to (KI6, KI8). Then again others argued that income pooling and joint decision-making are increasing in smallholder farming households, as women can make suggestions and advise the husband (KI4, KI9). Nevertheless, as presented in chapter 5.2.1 most farmers rejected this idea during the focus group discussions and reported “income hiding” as a common practice in many households. Nevertheless, governmental efforts, as well as NGO programs are perceived as having a positive impact towards more equal benefit sharing within the households. The promotion of women empowerment and education of male and female farmers in this regard, increases women’s independence from their husbands (KI8).

## 6. ANALYSIS AND DISCUSSION

This chapter highlights how the empirical results answer the research questions, as well as how the results relate to the literature. Finally the analysis illustrates how gender-specific rights, roles, and responsibilities determine the access to key assets, as well as intra-household power relations. Furthermore, how this results in unequal levels of participation and gain, and finally to unequal relations in intra-household income allocation. These correlations are visualized in figure 11.

### 6.1 Opportunities and constraints of male and female farmers

With regard to the first research question, the empirical results reveal the different participation opportunities of men and women. In regard to participation, we have to differentiate between quantitative participation and qualitative participation.

In regard to quantitative participation, meaning the overall time dedicated to farming activities, the empirical research results reinforce the impression of the difficulty of time use surveys, as discussed in chapter 3.1. Different studies indicate different gender relations in time allocation to farming activities, while interview partners expressed different views as well. Nevertheless, all the presented studies, as well as the majority of the interview partners, agree that women bare the main workload in reproductive activities, whereas men focus on productive activities (Leavens and Anderson 2011, Fox 2016, FAO 2014).

Concerning the quality of the participation, in regard to economic gain, studies and empirical research results confirm that men have better access to participation opportunities, which promise economic benefit. They dominate the sales processes, which results in income control, and are in general more involved in the cultivation of more profitable crops. Women are more limited in their participation opportunities. Consequently, they participate mainly in the cultivation of less profitable crops. In this way, **unequal opportunities, result in unequal income allocation**, as men generate significantly higher income, compared to women (chapter 5.2.1, FAO 2014). This may lead to conflicts between men and women, if combined with different priorities in expenditure allocation (chapter 5.2.1, Leavens and Anderson 2011). Finally, this in line with Coles and Mitchell (2011), who state that participation does not necessarily result in gain.

## 6.2 The underlying causes of unequal gender relations of participation and gain.

In addition, it must be understood why the opportunities of men and women, in regard to participation and gain, are so different. The empirical results reveal that the underlying causes are found on different levels, shaped and perpetuated in different institutions. On the individual level, men and women are unequally equipped in regard to key assets, which determine participation opportunities and benefits. On the household level, gender-based roles and responsibilities of men and women, as well as intra-household power relations in regard to decision-making and control over income, determine gender inequalities, with regard to benefits from participation. Finally, structures and processes on the community level, perpetuate gender roles and support gender inequalities.

### 6.2.1 The individual level – Access to key assets and resources

The analysis of the empirical results supports the approach of the World Bank (2009) to apply the Sustainable Livelihood Framework as an analytical tool for gender analysis in agriculture. The approach explains gender inequalities in agriculture with the unequal access to key assets. Focus groups and key informant interviews reinforce this impression and revealed the disadvantages of female farmers in regard to these key assets. More specifically, disadvantages such as, the access to natural capital (land and land ownership), financial capital (income), and human capital (knowledge and education), have been mentioned by farmers and key informants, as presented in the chapters 5.2.2 and 5.2.3. Gender inequalities in these regards are also presented in other studies, as discussed in chapter 3.1. Levens and Anderson (2011) emphasize the importance of land access for women empowerment in the agricultural sector. ActionAid International (2015) refers to women spending less time in activities, such as learning as well as social and cultural activities. And the FAO (2014) highlights the higher income of men in smallholder agriculture.

This **unequal access to key assets is understood as the precondition for the unequal participation opportunities** (chapter 5.2.2 and chapter 5.2.3). The empirical results are also in accordance with Coles and Mitchell (2011), who state that unequal access to land and financial

capital, as well as unequal access to education and knowledge, determine unequal participation opportunities.

Going further by asking why the access to key assets is unequally distributed between men and women, an idea of the Social Relations Approach, is strengthened by the empirical results. **The social relations of men and women, expressed in gender-specific rights, roles and responsibilities, determine the unequal access to key assets.** Women's limited opportunities are determined by male dominance. This was expressed during focus group discussion, as well as key informant interviews, as presented in chapter 5.2.2. These social relations, with regard to the distribution of rights and responsibilities, are produced and reproduced within households and communities.

### **6.2.2 The household level – Gender roles and responsibilities and intra-household power relations**

As described in chapter 6.1, women are disadvantaged in reference to the access to income, as men dominate sales processes. This is further explained by referring to the gender-specific roles and responsibilities within the household. The empirical research results indicate very clear gender roles and responsibilities on the household level. The role of men is understood as the breadwinner of the family, responsible for income generation and money-related decisions, while women are perceived as the family care-taker, responsible for the satisfaction of household needs (see chapter 5.1 and chapter 5.2.3). In regard to access to income, these gender roles disadvantage women. Focus group discussions and key informant interviews revealed that even if labor in the production process is equally shared, women do not have equal access to the generated income. As presented in chapter 5.2.2. In this way, gain from participation is determined by intra-household power relations. Unequal intra-household power relations, potentially result in unequal levels of participation and gain. This is very much in line with Coles and Mitchel (2011), who emphasize that the extent to which actors benefit from participation is determined on the household level.

While intra-household power relations, in regard to income control, are determined by gender roles and responsibilities, the relations between these roles determine women's domestic workload. Consequently, they reinforce women's disadvantages in regard to participation in productive activities, as they determine gender inequalities on the individual level in regard

to time and financial capital. This is indicated by empirical results (chapter 5.1), as well as other studies (Leavens and Anderson 2011, FAO 2014),

### **6.2.3 The community level – Structures and processes supporting gender inequalities**

Gender inequalities with regard to the access of decisive resources are further determined on the community level. In practice, women do not have the same access to land ownership as men, despite a supportive legal framework, which equips women with the same land rights as men. Both, the empirical results, as well as the literature, indicate that the dominating customary laws deny women the access to land ownership, as land is traditionally inherited by men (Leavens and Anderson 2011).

Moreover, respondents explained that women's limited access to knowledge is determined by gender roles. As family care-takers, women are less likely to participate in activities outside the homestead. In this way, gender rights and gender roles based on customs and norms, have a decisive impact on the unequal access to two main key assets: knowledge and land, as described in chapter 6.2.1.

### **6.2.4 The consequences for the livelihood outcomes of male and female farmers**

The final livelihood outcomes of male and female farmers mainly depend on how the benefits are shared within the household. Farmers and key informants stated high inter-household differences, in regard to benefit sharing. This is in accordance with Coles and Mitchell (2011), who state that the relations of participation and gain are highly flexible.

Nevertheless, unequal power relations potentially results in unequal benefit sharing. At the least, it results in the dependence of the disadvantaged household member on the advantaged household member. As described in chapter 5.2.4, gender inequalities, with regard to decision making power, and in regard to control over generated income, result in women's dependence on the husband's contribution. Furthermore, this, reportedly, leads to frustration and increasing distrust, if the benefits are not shared equally (see chapter 5.2.1).

Moreover, farmers reported a correlation between the degree of cooperation of household members and the development of the household. Accordingly, unequal power relations, expressed by the dominance of one household member and the suppression of the other household members, are reported as an obstacle for positive development in regard to household well-being (see chapter 5.2.1). Experts from the Institute of Development Policy and Management (IOB), University of Antwerp, and the International Institute of Tropical Agriculture (IITA), Uganda, examined the potential of participatory decision making for household wellbeing and improving food security (Lecoutere and Jassogne 2016). This study, among coffee farming households in Uganda, supports the hypothesis of a positive relation between participatory decision-making and food security. Further research, may shed light on this dynamic.

Nevertheless, the correlations which are described in the chapter 6.2, are visualized in figure 11. The underlying causes of unequal gender relations in participation and gain, are found in the unequal access to key assets, as well as in unequal intra-household power relations. Both are determined by gender-specific rights, roles and responsibilities.

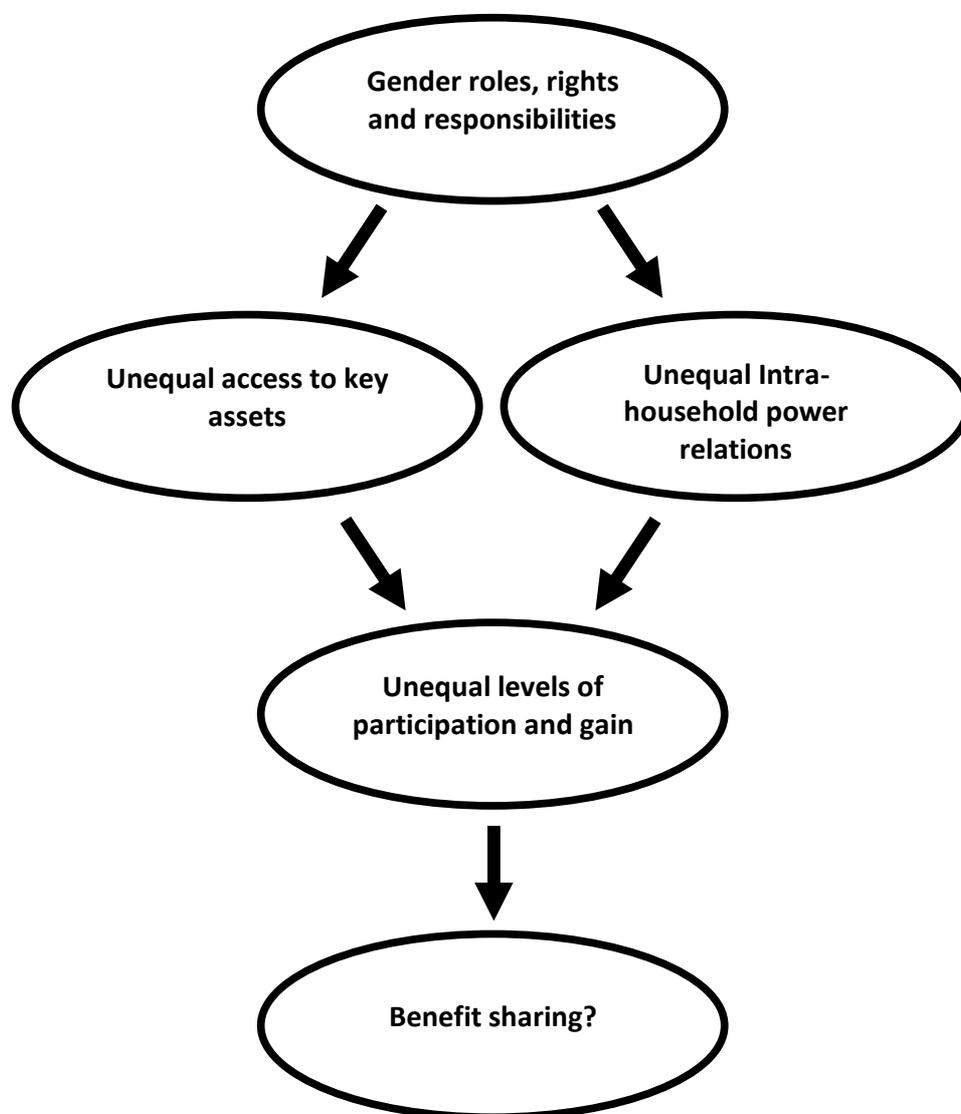


Figure 11: Correlations of gender relations, key assets, power relations, participation and gain (own design)

### 6.3 Gender dynamics in and through vegetable farming

While horticulture is described as the fastest growing sub-sector within the agricultural sector in Tanzania (FAO 2014: 8), not much research has been done on gender dynamics in and through vegetable farming. Nevertheless, key informant interviews indicated gender dynamics in vegetable farming, which are caused by the increasing economic potential of vegetables. While women formerly dominated vegetable production for home consumption, the more profitable sectors of vegetable farming are now dominated by men. Despite their limited opportunities, women also benefit from this upcoming business opportunity, which is

described as an economic niche, and a chance to increase their economic independence. Finally, the empirical results, confirm the increasing relevance of vegetable farming as a livelihood strategy for both male and female farmers, in all the investigated communities. Further research on the potential of vegetable farming as a beneficial livelihood strategy, especially for women in rural areas, is needed, in order to shed lights on gender dynamics through vegetable farming.

## 7. SUMMARY, CONCLUSION AND RECOMMENDATIONS

### *Summary of the research results*

Gender inequalities in vegetable farming households have been investigated according to the relations of participation and gain, as understood by Coles and Michel (2011). Therefore, gender relations in labor, income, and expenditure allocation have been studied. In addition, the underlying causes for imbalances in these relations, as well as dynamics within these relations, have been examined.

In regard to labor allocation, both men and women perceived their gender as dedicating more time to vegetable production than the other. This is indicated by quantitative data and was later validated during focus group discussion. Men argued with gender roles and gender responsibilities, which result in women spending time in the homestead, fulfilling domestic duties, and men spending time in the fields. Women acknowledged their domestic work burden, but emphasized that these do not stop them from spending more time in farming activities than men. Regarding the involvement of men and women in different kinds of vegetables, the survey results have been rejected during focus group discussions. Men and women agreed that men are spending more time in the production of fruit vegetables (and cereal crops), while women mainly focus on the production of leafy vegetables.

Different perceptions of men and women have also been observed in the question of intra-household income allocation. While men do not perceive women to generate any significant income, women stated much lower income amounts for their husbands, as men did for themselves. Focus group discussions revealed that both men and women keep information regarding their income confidential, in order to strengthen their position in intra-household negotiations. Men mainly argued with gender roles, and them being the head of the family and in charge regarding money issues, while women described that they act out of frustration, and in order to avoid potentially violent conflicts. In this way, this behavior potentially leads to decreasing cooperation within the household and hinders positive development in regard to food and income security.

Nevertheless, sales of vegetables constituted the main income source for male and female vegetables farmers. Moreover, there is no doubt that the average income of men clearly

exceeds the income of women. Here, men again argued with gender roles based on religious and tribal traditions, and intra-household power relations. Both result in men having control over the households' income, regardless of who put how much work into the production of the crops that are sold. These power relations are also manifested in women's disadvantaged access to land ownership, which is another major disadvantage of women regarding benefitting from agricultural production.

Furthermore, focus group discussions and key informant interviews revealed that men are focusing on the production of the more profitable fruit vegetables, while women mainly access income through the production and selling of leafy vegetables. The production is cheaper and easier, but provides lower profits. Again, gender roles, responsibilities, and rights determine male dominance in regard to key assets such as time, financial capital, land, and knowledge on good agricultural practices.

Furthermore, men do not only generate a higher income, but do also dominate decision-making regarding what this income may be allocated to. Therefore, men reportedly tend to prioritize personal expenditures, while women depend on their husbands support in order to cover household expenditures. Consequently, they may end up spending their significantly lower incomes, solely on household expenditures, without retaining any profit for themselves.

While inter-household differences regarding income and expenditure allocation are reported by participants, the critical factor is that men have a choice, while women are left with the responsibility of the family needs. This is a critical issue for women if men decide to focus on personal needs, rather than family needs.

In this way, gender inequalities over access to and control over key assets, based on social norms and in combination with discriminating structures and processes, explain why men and women chose different livelihood strategies that result in unequal livelihood outcomes. They furthermore explain why the relations of participation and gain are unequally expressed for men and women, and why women struggle to achieve economic independence.

Nevertheless, gender dynamics within vegetable farming indicate the growing potential of vegetable farming as a beneficial livelihood strategy. Women's increasing involvement in

income generation through vegetable farming has been discussed, as well as their still limited opportunities in comparison to men.

### ***Conclusion and Recommendations***

The very different perceptions of men and women on income, expenditure, and labor allocation were remarkable. The level of cooperation and trust within the households may have a direct effect on the success of development interventions in regard to food security, income security, and women empowerment. In order to understand the risks of low cooperation and distrust, further research is needed. Unequal power relations and unequal access to opportunities, may worsen the women's situation, as they potentially support gender inequalities, as indicated by Leavens and Anderson (2011). Research on these issues may be combined with studies on the benefits of joint decision making, such as the study by Lecoutere and Jassogne (2016). Research in regard to these issues would have to put the household and intra-household power relations in the center of the study. Here, I emphasize the necessity to include information from men and women within the same the household, as indicated by Doss and Kieran (2014).

In regard to the conceptualization of further studies, the very different perceptions of men and women on income, expenditure, and labor allocation have to be considered in regard to data reliability. Consequently, the reliability of information given by one respondent about another persons' actions or activities, must be treated with care. In regard to focus group discussions with sex-separated groups, the option may be considered to re-join the groups after the issues have been discussed, in order to further discuss some of the issues with both men and women in the same conversation. This may require knowledge on gender relations in the investigated community, as it bares the potential to make participants uncomfortable. However, while we separated the groups in order to reduce social pressure for women, it were the women, who specifically demanded to discuss certain issues with men being around. This may bare the potential to enhance the data reliability and improve the understanding of information gathered from the sex-separated groups, especially if gender issues are discussed, and are based on the perceptions of the participants. This idea is also raised by Elias (2013).

Finally, it is concluded that gender inequalities, in regard to key assets and determined by customs and norms, result in the different opportunities and constraints of male and female farmers with regard to participation and gain. Governmental efforts are up in coming, aiming at increasing women's economic independence. Women are supported in accessing key assets such as land, financial capital, and knowledge. Nevertheless, women still suffer from male dominance in the social relations of power. Therefore, I emphasize that these relations be targeted by gender-transformative approaches, if equal opportunities of men and women, in regard to participation and gain, are to be achieved.

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## Appendix A – Focus Groups discussion with male and female farmers in Babati, Kiteto and Kongwa

**Instructions:** The FGDs will be held with 6 to 8 participants and with sex-disaggregated groups. The groups shall be separated after a common introduction.

**Consent process and introduction:** Thank you for participating in the group discussions and for coming today. We are a research team working for the Africa RISING program and we came here today to share some of the results of the NAFKA survey which was conducted in January. First of all, we would like to know if everybody in this room has participated in the NAFKA survey in January this year (everybody knows which survey is meant?). Okay so the survey included some questions regarding gender aspects and we would like to present the main results from these questions to you and to discuss them with you. We are very interested in hearing your valuable opinions on the results. During the discussion there are no right or wrong answers. It is most important for us that you feel comfortable and contribute as much as you can. Everybody can express any opinions and discuss issues freely. We could like to discuss the results in two groups. One group of men and one group of women. Also we would like to record the discussions to make sure that we capture all the thoughts, opinions and ideas that you share with us. All the information that you provide to us will be used exclusively for our research and analysis. We understand how important it is that this information is kept private and we ask all participants to respect each other's confidentiality.

Is everybody okay with that?

If everybody is okay, we would like to ask everyone to fill out the following list. These information are important for our analysis. All the information will be handled carefully and kept private.

### Passing list with background information on participants:

- Name
- Gender
- Age
- Household head (Y/N)
- Participated in impact survey (Y/N)

While the list is passed around: Give information on the process of the group discussion:

- The discussion shall last for about 90 minutes.
- We have two rooms prepared. Say which group shall be in which room.

After the list is filled out, the groups shall be split.

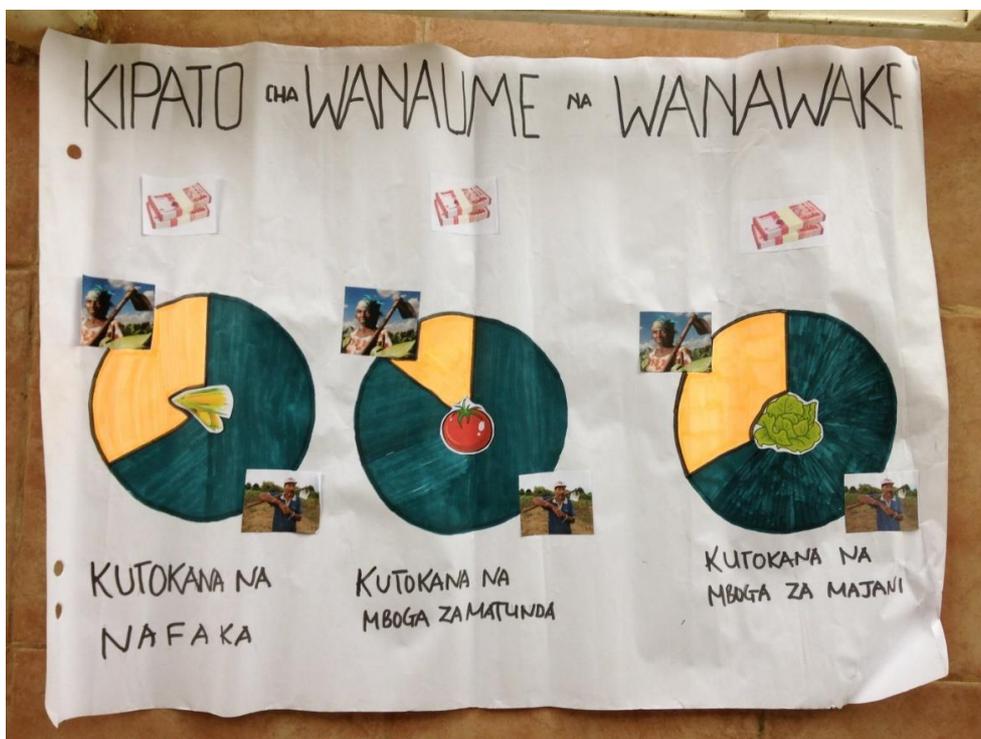
### The Focus Groups Discussions:

#### Turn on the Tape Recorder

**Introduction:** Ask every participant to shortly introduce themselves by giving their name and their favorite vegetable. Short introduction to the following discussion: We have three topics that we would like to discuss with you. The first topic is income...

#### Topic 1: Income allocation (30 mins)

We asked about 200 husbands and wives how much income they earn by selling crops and vegetables. According to the survey husbands earn more money by selling staple crops, fruit vegetables and leafy vegetables than wives do. Of all the income that is earned, about 2/3 are going to men. That counts for staple crops, as well as for vegetables. Visualization of the results in pie charts on a flip chart paper.



Leading questions:

- 1) What about the results is most surprising to you?
- 2) Why do women earn so much less than men with selling crops and vegetables?
- 3) Has it always been like this or did it change over time?

Probing questions:

- Are there different opinions?
- Does anybody have an example?
- How is that?
- Why is that?
- What do you mean by...?

*Any further thoughts on the allocation of income by any participant before we move to the next topic?*

## Topic 2: Contribution to the household income (30 mins)

We asked the same farmers how much of their income is contributed to household expenditures. We would like you to tell us what you think how much of their income husbands and wives contribute to the household income and how much do they keep for themselves. Therefore we prepared the following. Everybody gets 10 beans. The beans represents the women's / men's income. Here are two glasses. The left one represents the household income and the right one represents the own pocket.

Please split the beans according to what you think how much of the income of women / men is contributed to the household and how much is kept in their own pocket. After that put the glasses away and repeat it for the other gender, according to their assumptions how much the other gender contributes.

*10 minutes for placing the beans in the glasses. Checking the result. How is the relation between the husband's contribution to household and the wives' contribution to the household?*

Now we put two glasses which we prepared before and which show the husband's and wives' income according to the survey. According to the survey, both husbands and wives said (ABOUT THEMSELVES) that they contribute about 70 % of their income to household expenses, while they keep about 30 % for themselves.



Leading question:

- 1) What do you think about the differences between the results from the survey and our own perception? What is surprising to you?

Probing questions:

- Has it always been like this?
- Are there different opinions?
- Does anybody have an example?
- How is that?
- Why is that?
- What do you mean by...?

*Any further thoughts on the contribution of income to the household by any participant before we move to the next topic?*

### Topic 3: Labor allocation (30 mins)

Regarding the allocation of labor, we asked the participants how much time is spent by men and women on different activities in the production and selling of vegetables and crops. Both men and women perceive their gender as dedicating more time to farming activities. This accounts for all different crops. Survey results are visualized on flip chart paper:



- 1) What do you think about the different perceptions of men and women on gender-based labor allocation?
- 2) How is labor allocated between men and women?
- 3) How did the gender-based allocation of labor change in the past?

Probing questions:

- Are there different opinions?
- Does anybody have an example?
- How is that?
- Why is that?
- What do you mean by...?

*Any further thoughts on the distribution of labor?*

## Appendix B – Participant lists FGDs

<b>Focus Group A (FGDa)</b> Endadosh, Babati district 04.04.2017				
<b>Participant</b>	<b>Age</b>	<b>Sex</b>	<b>Household head?</b>	<b>Survey participant?</b>
FGDa1	52	Male	Yes	Yes
FGDa2	54	Male	Yes	Yes
FGDa3	53	Male	Yes	Yes
FGDa4	54	Male	Yes	No
FGDa5	56	Male	Yes	Yes
FGDa6	53	Male	Yes	Yes

<b>Focus Group B (FGDb)</b> Endadosh, Babati district 04.04.2017				
<b>Participant</b>	<b>Age</b>	<b>Sex</b>	<b>Household head?</b>	<b>Survey participant?</b>
FGDb1	50	Female	No	Yes
FGDb2	47	Female	No	Yes
FGDb3	53	Female	No	Yes
FGDb4	36	Female	No	Yes
FGDb5	47	Female	No	Yes
FGDb6	45	Female	Yes	Yes
FGDb7	47	Female	Yes	Yes

<b>Focus Group C (FGDc)</b> Kaloleni, Kiteto district 05.04.2017				
<b>Participant</b>	<b>Age</b>	<b>Sex</b>	<b>Household head?</b>	<b>Survey participant?</b>
FGDc1	57	Male	Yes	Yes
FGDc2	49	Male	Yes	Yes
FGDc3	30	Male	Yes	No
FGDc4	57	Male	No	Yes
FGDc5	34	Male	Yes	No
FGDc6	42	Male	Yes	No
FGDc7	38	Male	Yes	No
FGDc8	32	Male	Yes	No
FGDc9	51	Male	Yes	Yes

<b>Focus Group D (FGDd)</b> <b>Kaloleni, Kiteto district</b> <b>05.04.2017</b>				
<b>Participant</b>	<b>Age</b>	<b>Sex</b>	<b>Household head?</b>	<b>Survey participant?</b>
FGDd1	46	Female	Yes	Yes
FGDd2	45	Female	No	Yes
FGDd3	43	Female	No	Yes
FGDd4	45	Female	Yes	Yes
FGDd5	40	Female	Yes	Yes
FGDd6	46	Female	Yes	Yes
FGDd7	30	Female	Yes	Yes
FGDd8	43	Female	Yes	Yes
FGDd9	40	Female	Yes	Yes
FGDd10	40	Female	No	Yes

<b>Focus Group E (FGDe)</b> <b>Songambebe, Kongwa district</b> <b>06.04.2017</b>				
<b>Participant</b>	<b>Age</b>	<b>Sex</b>	<b>Household head?</b>	<b>Survey participant?</b>
FGDe1	39	Male	Yes	No
FGDe2	26	Male	Yes	Yes
FGDe3	42	Male	Yes	Yes
FGDe4	38	Male	Yes	Yes
FGDe5	30	Male	Yes	Yes
FGDe6	44	Male	Yes	Yes
FGDe7	36	Male	Yes	Yes

<b>Focus Group F (FGDf)</b> <b>Songambebe, Kongwa district</b> <b>06.04.2017</b>				
<b>Participant</b>	<b>Age</b>	<b>Sex</b>	<b>Household head?</b>	<b>Survey participant?</b>
FGDf1	32	Female	No	Yes
FGDf2	36	Female	No	Yes
FGDf3	32	Female	No	No
FGDf4	32	Female	Yes	Yes
FGDf5	36	Female	No	Yes
FGDf6	32	Female	No	Yes
FGDf7	38	Female	No	No

## Appendix C – Interview Guides KIs April

### Topic 1: Income allocation

#### Material:

	Sale of staple crops and legumes	Sale of fruit vegetables	Sale of leafy vegetables
Average husband's income	506.000	529.000	568.000
Average wife's income	17.000	8.000	29.000

Average income of husbands and wives according to male respondents.

	Sale of staple crops and legumes	Sale of fruit vegetables	Sale of leafy vegetables
Average husband's income	340.000	39.000	61.000
Average wife's income	148.000	71.000	176.000

Average income of husbands and wives according to female respondents.

	Sale of staple crops and legumes	Sale of fruit vegetables	Sale of leafy vegetables
Average husband's income (according to male respondents)	506.000	529.000	568.000
Average wife's income (according to female respondents)	148.000	71.000	176.000

Average income of husbands and wives according to same gender respondents.

#### Questions:

- Why do the responses of men and women regarding income allocation of husbands and wives differ so much?
- Why do husbands earn such significantly higher incomes than wives by selling crops and vegetables?

### Topic 2: Contribution to the household income

#### Material:

	Total income from the sale of crops and vegetables	Total contribution to the household income from the sale of crops and vegetables	Share of earned income contributed to the household income
Average husband (according to male respondents)	1.603.000	937.000	58 %
Average wife (according to female respondents)	395.000	291.000	74 %

Total share of income contributed to the household income

**Question:**

- Why do wives contribute a higher share of their income to the household income than husbands do, even though their income is so much lower?

**Topic 3: Labor allocation**

**Material:**

	Cereal crops	Fruit vegetables	Leafy vegetables
Average persondays spent by men	17	20	21
Average persondays spent by women	12	13	15

Average workload of men and women in the production and selling of crops and vegetables according to male respondents

	Cereal crops	Fruit vegetables	Leafy vegetables
Average persondays spent by men	14	9	10
Average persondays spent by women	17	18	24

Average workload of men and women in the production and selling of crops and vegetables according to female respondents

	Cereal crops	Fruit vegetables	Leafy vegetables
Average persondays spent by men (according to male respondents)	17	20	21
Average persondays spent by women (according to female responses)	17	18	24

Average workload of men and women in the production and selling of crops and vegetables regarding their own perspective

**Question:**

- Why do men's and women's perception on gender-based labor allocation differ so significantly?

**Final question:**

- If men and women share fairly equal workloads in the production and selling, why do wives benefit so much less than husbands regarding the income earned with the products?