Gender Analysis in CASCAPE Interventions:

Gender-based roles and constraints in agricultural production
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<thead>
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<th>Abbreviation</th>
<th>Full Form</th>
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<tr>
<td>FAO</td>
<td>Food and Agriculture Organization of the United Nations</td>
</tr>
<tr>
<td>CASCAPE</td>
<td>Capacity Building for Scaling up of Evidence-Based Best Practices in Agricultural Production in Ethiopia</td>
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<tr>
<td>DA</td>
<td>Development agent</td>
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<td>FGD</td>
<td>Focus group discussion</td>
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<td>FHH</td>
<td>Female-Headed Household</td>
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<tr>
<td>GAM</td>
<td>Gender Analysis Matrix</td>
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<tr>
<td>MFI</td>
<td>Micro Finance Institutions</td>
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<tr>
<td>MHH</td>
<td>Male-Headed Household</td>
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<tr>
<td>Glossary</td>
<td>Definition</td>
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<tr>
<td>------------------------</td>
<td>---------------------------------------------------------------------------</td>
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<tr>
<td>Model farmer</td>
<td>Farmers who are using more than 70% of agricultural packages and technologies made available to them through the extension system. These are also referred to as early adopters.</td>
</tr>
<tr>
<td>Non-model farmer</td>
<td>Farmers who use less than 50% of agricultural technologies and information that are provided by extension.</td>
</tr>
<tr>
<td>Development Agents</td>
<td>Government agents who, among other roles, provide extension services.</td>
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<tr>
<td>Kebelle</td>
<td>Smallest administrative unit in Ethiopia.</td>
</tr>
<tr>
<td>Woreda</td>
<td>Districts in Ethiopia, composed of kebelles.</td>
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<tr>
<td>Peak season</td>
<td>The most busy agricultural period with a lot of activities.</td>
</tr>
<tr>
<td>Lean season</td>
<td>A period with fewer agricultural activities.</td>
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Executive Summary

The role of men and women in agricultural production is significant and crucial for the provision of adequate food supply in the household. Failure to recognise the roles of men and women will impact efforts to achieve effective agricultural development. To this effect, mainstreaming gender in development interventions has become mandatory. The Capacity Building for Scaling-up of Evidence-Based Best Practices in Agricultural Production in Ethiopia (CASCAPE) project is committed to mainstreaming gender in its interventions. To this end, a gender activity analysis was implemented to analyse the current situation and propose interventions to improve gender mainstreaming within the project. This study discusses the different roles that men and women play in agricultural activities. It analyses gender differences in decision-making and benefit sharing, and identifies potential constraints that affect both male and female farmers in production activities. The study was carried out in 2014 and 2015 with six Ethiopian universities focusing on six different regions (clusters). For the study 406 respondents were interviewed. They were randomly chosen and interviewed using semi-structured questionnaires. Focus group discussions (FGD) were conducted separately with male and female groups.

The study found that women across all clusters play a key role in agricultural production. They are involved in all farm activities, except for oxen ploughing, which is exclusively carried out by men. Female farmers are involved in agricultural production in addition to their domestic chores. This did not differ across study sites, despite small variations from one household to another. Female farmers have a heavy work load and much less time for leisure and rest than men.

The study also reveals that children participate in agricultural activities. In general, children support female farmers with agricultural activities. The amount of participation differs between clusters, but is always substantial.

Decisions on how to spend resources and use harvested crops are in the hands of men. Female farmers participate in decisions regarding surpluses of home garden products and eggs. However, when the financial benefits of these products become larger, male farmers gain interests in the money. The study reveals that male farmers dominate decisions on how to use farm resources yet this is slowly shifting towards a participatory approach, in which male farmers involve their wives in decision-making.

Female farmers have less access to training, extension services, and participate less in field days. In Ethiopia, non-model male farmers face similar difficulties, and development agents (DAs) tend to pay more attention to model farmers than non-model farmers.

Overall, farmers that participated in CASCAPE were positive about the new interventions they were introduced to due to better yields and positive effects on household diets. However, the main difficulty farmers faced with the new interventions was increased workload, which was a problem for female farmers in particular.

It is important to increase women’s participation in regard to decision-making within the household, agricultural products and their financial benefits. To achieve this, skills and knowledge need to be provided to female farmers on agricultural cultivation as well as topics like use of resources. Because female farmers are the main caregivers in their household, they are more aware of household needs and are therefore more likely to spend money on appropriate products. It is necessary to increase awareness among female and male farmers, and the wider community on the benefits that the female farmers bring to households.

The study revealed that interventions specifically targeting women result in more nutritious diets for household members, higher incomes from the sale of surpluses and more involvement in decision-making. This results in higher self-esteem for female farmers.
It is important to address non-model farmers, in order to improve their access to training, field days and project interventions. DAs need to visit them regularly, in order to increase their knowledge and skills.

The overall workload of female farmers needs to be reduced which can be done by introducing labour-reducing technologies. This could also lead to a redistribution of the work, in which children are less involved.
1 Part I: Introduction and methodology
2 Introduction

2.1 Women and agriculture: a brief overview

Since the 1990s, policymakers and development practitioners have highlighted the critical importance of gender mainstreaming in the design, implementation and evaluation of programmes across a range of social and economic sectors. Failure to recognise the differences between men and women in their roles, needs and inequities poses a serious threat to the effectiveness of agricultural development (FAO, 2009). There has been general agreement that gender inequalities and lack of attention to gender in agricultural development contributes to lower productivity, lost income and higher levels of poverty (Peterman et al., 2010).

Women constitute on average 50 per cent of the agricultural labour force in sub-Saharan Africa (Coles, 2011; FAO, 2011). In the Ethiopian context, women form 47.9 per cent of the economically active population, but their agricultural share is 73.5 per cent (FAO, 2011). Although perceptions about women and men’s tasks in agriculture may differ considerably from region to region, it can generally be stated that women’s tasks include land preparation, weeding, harvesting, threshing and storing. It is also common for women to take care of small livestock, such as poultry and small ruminants. While women play an important role in the cultivation of subsistence crops in their home gardens, men are often more involved in the production and marketing of cash crops. Ploughing is also generally not seen as a women’s task.

Despite the important role women play in agricultural production, their role is often under-recognised and they face greater constraints than men. Women tend to participate less than men in formal activities like training, cooperatives, and official meetings (Frank, 1999). Women also tend to be less dominant in managing household resources such as income, access to land and capital. Women face diverse challenges in terms of their needs and access to resources, technologies, labour and credit services. Given women and men’s different roles and access to resources, it is essential that gender differences be taken into account in any project activity.

In Ethiopia, it is estimated that rural women work between 13 and 17 hours a day, in many cases more than twice as long as men (Frank, 1999). Large amounts of time are spent on reproductive and household activities. Tasks such as water and firewood collection, cooking, cleaning and child and health care take up inordinate amounts of women’s time (World Bank, et al., 2008). This implies that women are unable to allocate much of their time to agriculture, or other productive tasks, unless their labour productivity increases (Quisumbing and Pandolfelli, 2010). Women in developing countries also have less leisure time than men, and this time poverty can undesirably affect their well-being and disempower them.

Knowledge and training gaps regarding farming techniques are constraints that female farmers face. These services are critical, but female farmers tend to have less access to them. In most cases, extension services are provided to the household head (i.e. male) and women tend to receive second-hand information from their husbands and friends.

On the whole, women play a pivotal role in agriculture and in rural development. However, there are many factors challenging their participation in agricultural production, including some socio-cultural and economic. Taking these constraints into account, there should be an effort to recognise the fact that men and women play different roles, have different needs and face different challenges on a number of issues and at different levels.
2.2 CASCAPE and gender

CASCAPE is committed to mainstreaming gender issues in its activities. CASCAPE works to support the Ethiopian government in identifying, validating and scaling up best practices to increase agricultural production. The project has identified four major innovation areas (crop production and improvement, livestock productivity, improved natural resources management and land rehabilitation) and has two cross-cutting themes (gender and nutrition).

CASCAPE is committed to working with both male and female farmers in its different interventions that contribute to increasing agricultural productivity. However, it became apparent that CASCAPE projects mainly focused on male farmers. Gender activities were limited to the collection of gender-disaggregated data from interventions, along with implementing some interventions, such as poultry keeping, beekeeping and home gardening, which were specifically targeted at women. In light of this, while focusing on different gender roles and constraints, this study is slightly more focused on female farmers, in order to form a coherent picture of her roles and activities.
3 Objectives of the study

The objectives of this study are to:

- Assess different roles and activities male and female farmers perform in agricultural production;
- Analyse gender differences in decision-making and benefit sharing in relation to the CASCAPE project;
- Identify potential gender constraints that affect both female and male farmers in production activities;
- Analyse access of farmers’ to training and resources; and
- Provide recommendations.
4 Research methodology

4.1 Study sites

The study was carried out in six different clusters by six universities that are involved in the CASCAPE project. These are: Addis Ababa University (Central Highlands), Bahir Dar University (Amhara region), Haramaya University (Oromiya-East region), Hawassa University (Southern region), Jimma University (Oromiya-West region) and Mekelle University (Tigray region). Specific sites where CASCAPE activities are implemented were selected from each university. Figure 1 shows the map of the study sites.

Figure 1  Map of research sites. The coloured areas are where the CASCAPE project takes place.
4.2 Target crops

This study focused on the production of specific crops, which were selected to examine gender roles/relations. Data was collected in 2014 and 2015 and Table 1 shows the cluster, the intervention and the year the research was carried out.

<table>
<thead>
<tr>
<th>Case number</th>
<th>Cluster</th>
<th>Intervention</th>
<th>Year</th>
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<tbody>
<tr>
<td>Case 1</td>
<td>Addis Ababa</td>
<td>Vegetable garden</td>
<td>2014</td>
</tr>
<tr>
<td>Case 2</td>
<td>Bahir Dar</td>
<td>Potato</td>
<td>2014</td>
</tr>
<tr>
<td>Case 3</td>
<td>Haramaya</td>
<td>Potato</td>
<td>2014</td>
</tr>
<tr>
<td>Case 4</td>
<td>Hawassa</td>
<td>Malt barley</td>
<td>2014</td>
</tr>
<tr>
<td>Case 5</td>
<td>Jimma</td>
<td>Soya bean</td>
<td>2014</td>
</tr>
<tr>
<td>Case 6</td>
<td>Mekelle</td>
<td>Wheat</td>
<td>2014</td>
</tr>
<tr>
<td>Case 7</td>
<td>Addis Ababa</td>
<td>Sheep fattening</td>
<td>2015</td>
</tr>
<tr>
<td>Case 8</td>
<td>Bahir Dar</td>
<td>Minimum tillage maize</td>
<td>2015</td>
</tr>
<tr>
<td>Case 9</td>
<td>Haramaya</td>
<td>Poultry</td>
<td>2015</td>
</tr>
<tr>
<td>Case 10</td>
<td>Hawassa</td>
<td>Vegetable garden</td>
<td>2015</td>
</tr>
<tr>
<td>Case 11</td>
<td>Hawassa</td>
<td>Poultry</td>
<td>2015</td>
</tr>
<tr>
<td>Case 12</td>
<td>Jimma</td>
<td>Compost</td>
<td>2015</td>
</tr>
<tr>
<td>Case 13</td>
<td>Jimma</td>
<td>Maize</td>
<td>2015</td>
</tr>
<tr>
<td>Case 14</td>
<td>Mekelle</td>
<td>Papaya</td>
<td>2015</td>
</tr>
</tbody>
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This study selected 14 cases from the six clusters. Some of these interventions specifically targeted women: vegetable gardening (case 1 and case 10), sheep fattening (case 7) and poultry (case 9). Papaya (case 14) was cultivated in home gardens, so indirectly focused on female farmers. Therefore, these cases have high numbers of women involved. The other cases focused on increasing agricultural production in general, and targeted the household as a whole.

Requested data could not be collected in all cases. Where only a selection of suitable cases has been chosen for analysis in some chapters, this is identified.

4.3 Target groups

The CASCAPE project has reached 16,293 farmers directly (National synthesis report CASCAPE, 2016). This study focused on 406 farmers in just 14 cases, which is just 2.5% of the overall CASCAPE project.

To be selected, farmer had to be part of a CASCAPE intervention and have engaged directly with one of the selected cases. A mixture of model/non-model farmers, male/female farmers, and women in male headed households (MHH) and female headed households (FHH) were also selected.

4.4 Study approach

The study followed two approaches: semi-structured questionnaires were used to interview individual farmers; and open-ended questions were used for focus group discussions (FGD) that were conducted with groups of female and male farmers.

4.4.1 Questionnaire

The questionnaire included questions related to gender roles, access and control of resources, benefits and decision-making capacity. Interviews were conducted separately with the husband and wife. In each cluster, a gender expert from the National Coordination Unit and/or Wageningen University worked together with a gender focal person from each university, an additional innovator (e.g.
agronomists), and development agents (DAs) to collect data. This provided the gender focal person and other innovators with experience of hearing women’s stories. Sometimes, translators were used.

Individual interviews tried to gather basic information about the household and their economy, information about access to and control over resources, and measure the gender division of labour, to attribute roles and responsibilities in the production of the target crops.

The Gender Analysis Matrix (GAM) was used to answer some of these questions. The GAM is an analytical tool which was used to determine the impact that CASCAPE’s interventions have had on female and male farmers in terms of labour (whether the new intervention is more labour demanding than the conventional practice), resources (if the new intervention is more resource (seed, fertiliser, pesticide) demanding) and cultural perspectives (changes in social aspects of the respondents’ life as a result of the intervention). A matrix was restructured to determine the impact of the new interventions on respondents’ life. Based on their answer plus (+) and minus (−) signs were used to describe the effect, compared to conventional practices.

The questionnaire also contained an activity analysis. Major activities were listed, indicating who performed each task (husband, wife or children), and who was most responsible for it.

4.4.2 FGDs

FGDs were held with groups of female and male farmers separately. Each group (approximately 8-15 people) included model and non-model farmers. Female groups aimed to involve both FHHs as well as women in MHHs. The group thoroughly discussed daily activities performed by male or female farmers during the day, as well as their decision capacities within the household.

A daily activity clock was used to examine the intensity of female farmer’s workloads on a day-to-day basis and in different seasons. Group members were asked to list activities that they undertook in their daily routines, either at home, or on their farmland, starting from when they woke up and concluding when they went to bed. Once this was completed, the group discussed activities that were the most tedious, time consuming and labour-intensive.

4.5 Data analysis

Responses gathered from individual interviews were analysed using descriptive statistics, such as frequency distribution and percentages. Likewise, information on division of labour in farm tasks was summarised using simple scoring methods, with 10 being the total amount of time. Indicating the amount of work that the husband, the wife or the children performed per activity highlighted this division.

4.6 Scope and limitations of the study

This study has the objective of identifying gender-based roles and constraints in the targeted CASCAPE intervention areas. The study is qualitative and explorative and provides useful information that will be used in the review of CASCAPE activity plans. However, the following limitations were identified:

- Market and marketing data was not analysed. This is because it was discovered that most of the target crops, were relatively new crops and often used for household consumption (more than 50% home-consumed) and seed multiplication. Marketing was not a significant issue so the data collected was not used;
- Selection of respondents was sometimes challenging. While selection criteria was clear, it proved difficult for DAs to implement them in practice. For example, male farmers were often put forward for interview, despite the request for female farmers as well;
- Clusters had difficulties reaching some selected farmers. This is simply because some participant groups were not present in the area, and model farmers were often easier to reach than non-model farmers;
Because respondent selection was difficult, the percentage of female participants varies among the clusters. Although the aim was to have a minimum of 50% women, some clusters could not reach this goal. The participation of women was also affected by the type of intervention, as some were specifically targeted female farmers so had high participation while others had less female participation;

- Case 14 (papaya cultivation in Mekelle) interviewed some non-CASCAPE farmers;
- It proved to be difficult for the staff to collect all of the required data in every case. Therefore, not all cases could be analysed in every chapter. This made the sample smaller and the research slightly more limited.
Part II: Results
5 Household characteristics

5.1 Respondents composition

The study interviewed female and male farmers in MHHs and FHHs, and model and non-model farmers. Of the 406 farmers interviewed 47% were female and 53% were male. The status of the farmers (model or non-model) was not always recorded, but in the eight cases where it was, 64% were model farmers and 36% were non-model farmers.

5.2 Family size

The size of households varied between 5-10 members across the 14 cases. Of course, there are differences per woreda and kebelle.

5.3 Age composition

The majority of the respondents were aged between 35-45 years. The second largest age group was 25-35 years.

5.4 Education

Across all clusters and cases, the majority of the farmers did not have any formal education, or if they did it was a very low level of education. However, there was a difference between male and female farmers, with female participants tending to have had no or a low level of education, compared to men who had a low level.

5.5 Land holding

In Ethiopia, the government owns all land and farmers obtain rights to use it. They are given a lifetime lease, giving the farmers all rights to the land, except to sell it. The interviewed farmers all had their own land, and some choose to rent additional land to cultivate crops. Farmers also use home gardens, which are smaller pieces of land close to their houses.

The size of the land used by participating farmers differed across clusters. Haramaya used the least amount of land (0.25-0.5 ha) while farmers in Mekelle cultivated on less than 1 ha. Farmers in the other clusters had about 2 ha on average. This amount of land holding is common in Ethiopia, where most farmers cultivate on 2 ha or less (Gebresalassie, 2006).

5.6 Source of livelihood

Agriculture is the main source of livelihood for the majority of Ethiopia’s population. Rural households in this study are no exception. Rain-fed crop husbandry is the dominant type of farming, with livestock husbandry and mixed farming also practiced. Farming is characterised as traditional, with simple hand tools, ox-driven implements (in most clusters) and hoe cultivation. Households tend to use family labour for cultivation, followed by hired labour and community labour.
Cereal production dominates the farming system, but other crops including pulses, horticultural crops and Khat are also grown. Fruit production exists but on a very limited basis, because of low yields. Livestock production is important. The main livestock are cattle, goats and sheep. Oxen are used to provide traction power for land preparation, and many farmers practice zero grazing (cut-and-carry system) which enables them to feed their cattle crop residues while keeping them close to their home.
6 Labour activities

Cases 1, 2, 3, 4, 5, 7 and 14 are analysed in this chapter.

This chapter focuses on the activities of female farmers. A daily activity analysis revealed that women have a more hectic life than their husbands, because in addition to their work on the farm they have to take care of domestic chores as well. Women are responsible for the daily care and maintenance of the household and its members. They usually prepare all of the food, make the coffee, clean the house, collect water and fire wood, wash and sow clothes, and go to the market for food. Besides their home-related duties, rural women play a significant role in agricultural activities. This on-farm work is labour-intensive and time-consuming. Female farmers spend their time performing different tasks such as planting, sowing, weeding, fertiliser application, harvesting and storage (see chapter 7). Their engagement is substantial, especially during the peak season. Women are also usually responsible for the home garden and poultry. Furthermore, keeping of other livestock and associated activities like milking, milk processing and fodder collection are also partly carried out by women.

On average, this study shows that women work approximately 17.6 hours per day during the peak season. During the lean season, women work about 14.2 hours per day. They sleep 6.1 hours in the peak season and 8.3 hours in the lean period.

In general, the study found that female involvement in domestic chores and agricultural production did not differ across the study sites.

Figure 2 is an example of the work female farmers perform during the peak and lean season. The example is of the Addis Ababa cluster in the Central Highlands. As can be seen, female farmers are busy during most hours of the day, focussing on agricultural cultivation in the peak season and on domestic chores in the lean season. The daily activity graphs of the other clusters can be found in Annex one.

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1 The activities of male farmers were not recorded in depth so are therefore not addressed.
Figure 2  A daily activity graph for female farmers in case 1 in the Addis Ababa cluster in the Central Highlands, 2014. Obtained from the CASCAPE gender report (2014)
7 Gender roles on different agricultural tasks

Many labour-intensive agricultural activities such as land preparation, weeding, harvesting and transporting require active involvement of women and men. Analysis of the gender division of labour in different farm tasks has revealed that women across the study sites take part in almost all farming activities. The only exception is ploughing, which culturally is exclusively carried out by men. This chapter analyses land preparation, cultivation and maintenance, and postharvest management. The graphs reveal the average percentages of involvement across the cases used. Graphs in relation to the specific cases can be found in Annex two.

7.1 Land preparation

*Cases 2, 3, 4, 5, 6, 10, 13 and 14 have been used to analyse land preparation.*

Land preparation is defined as land clearance, hand tillage and oxen tillage. Land clearance (Figure 3) is dominantly a task for male farmers. Female farmers assist their husbands, but do not perform a high percentage of the work. An exception is vegetable production in Hawassa (case 10), where women are prominently involved. This intervention particularly targets female farmers, which potentially explains this anomaly. For potato cultivation in Bahir Dar (case 2), land clearance is equally performed by men and women.

**Figure 3** Division of labour in land clearance

Female farmers have slightly more responsibility in hand tillage (Figure 4) compared to land clearance. For potato cultivation in Haramaya (case 3), wheat and papaya cultivation in Mekelle (case 6 and case 14) and vegetable production in Hawassa (case 10), male farmers perform this activity. One reason for this is that when there is no oxen tillage, male farmers are engaged in hand tillage instead. Another reason is the regional culture, so in Mekelle, for example, hand tillage is a male task. In all of the other cases, female farmers are primarily responsible for hand tillage. Interestingly, the male farmers assist their wives in this activity among all clusters.

Male farmers primarily perform oxen tillage (Figure 5). Children and female farmers assist male farmers, but at a low level. Culturally, oxen tillage is perceived as heavy work, and therefore is a male task. This is the same in every case and every cluster.
In most clusters, the participation of children in land preparation is slightly lower than female participation. They have a supporting role in land clearance and oxen tillage, but participate more often in hand tillage. For potato cultivation in Haramaya (case 3), the role of children in hand tillage is higher than for female farmers. This compares to wheat cultivation in Mekelle (case 6) and maize cultivation in Jimma (case 13) where children perform this activity together with female farmers.

### 7.2 Cultivation and maintenance

Cases 2, 3, 4, 5, 6, 8, 10, 13 and 14 have been used to analyse cultivation and maintenance.

Several activities come under cultivation and maintenance: seed selection, planting, fertiliser application, spreading manure, pesticide application, weeding, watering, protecting crops from animals, and day-to-day management. Male farmers mostly perform seed selection (Figure 6), with support from female farmers and sometimes children. It is divided like this in all cases, except in vegetable production in Hawassa (case 10) where female farmers have a dominant role. The reason for this is that this intervention specifically targets women.
Female farmers are involved in planting (Figure 7), although male farmers perform the largest portion of the work. For maize cultivation in Bahir Dar (case 8) and vegetable cultivation in Hawassa (case 10), female farmers perform most of the planting. In potato cultivation in Haramaya (case 3) male farmers do most of the work. Unusually, in soya bean cultivation in Jimma, children carry out most of the planting, with support from their parents.

Men and women both apply fertiliser (Figure 8). For potato cultivation in Bahir Dar (case 2) and Haramaya (case 3), and minimum tillage maize cultivation in Bahir Dar (case 8), female farmers largely carry out this activity. Since the female farmers in Bahir Dar play a significant role in both interventions (case 2 and case 8), it could be concluded that this is the regional culture. It may also be linked to the crop, as high female participation was noted for potato cultivation in both Bahir Dar (case 2) and Haramaya (case 3). For soya bean cultivation in Jimma, children played a larger role than their parents, as was the case for planting (Figure 7).

Pesticide application (Figure 9) is generally performed by male farmers. While children and women assist male farmers, their involvement is rare. For potato cultivation in Haramaya (case 3), children perform this activity more than females.

Manure (Figure 10) is not applied in all clusters. From the nine cases studied, only five applied manure: potato in Bahir Dar (case 2) and Haramaya (case 3), malt barley in Hawassa (case 4), soya bean in Jimma (case 5), and wheat in Mekelle (case 6). In all five cases, manure is applied by male and female farmers and their children. For soya bean in Jimma (case 5) children are more involved than their parents.
Weeding (Figure 11) is mostly a female activity, where children and male farmers tend to assist them. This is approximately equal in all clusters.

Watering (Figure 12) only occurs in some cases: potato in Haramaya (case 3), soya bean in Jimma (case 5), wheat in Mekelle (case 6) and papaya in Mekelle (case 14). When watering is performed, male farmers are in charge, with equal support from women and children.

Children are involved in protecting crops from animals (Figure 13). In case 3 (potato cultivation in Haramaya) and case 5 (soya bean cultivation in Jimma) only children perform this activity. In case 10 (vegetable production in Hawassa), female farmers mainly protect crops. This differs in case 6 (wheat cultivation in Mekelle), case 8 (minimum tillage on maize cultivation in Bahir Dar) and case 13 (maize cultivation in Jimma), where male and female farmers and their children jointly share this role. In the remaining three cases, male farmers mostly take responsibility for this activity. When male farmers are responsible, the role of children is limited. In general, children tend to assist female farmers more than male farmers, which could explain this observation.

Male farmers dominate day-to-day management (Figure 14) activities. Sometimes this occurs in collaboration with female farmers, but it is more common for male farmers to be responsible and children to have very limited involvement. Interestingly, in vegetable production in Hawassa (case 10), female farmers are in charge of day-to-day management, probably because it is an activity that specifically targets women.
7.3 Postharvest management

Cases 2, 3, 4, 5, 6, 13 and 14 have been used to analyse postharvest management.

Postharvest management includes cleaning after harvesting, threshing, transportation to storage sites and storage itself. Male farmers perform harvesting activities with support from women and children (Figure 15) in potato cultivation (Haramaya, case 3), malt barley cultivation (Hawassa, case 4), wheat cultivation, (Mekelle, case 6) and papaya cultivation (Mekelle, case 14). For case 2 (potato cultivation in Bahir Dar) and case 13 (maize production in Jimma), female farmers perform most of the tasks. Interesting, in soya bean production, in Jimma (case 5), the children have a very high role, shared with the female farmers.

Threshing (Figure 16) has almost the same labour division as harvesting. It is either performed by male farmers, or by female farmers with assistance from children. Male farmers are dominant in threshing for malt barley (Hawassa, case 4), wheat (Mekelle, case 6) and papaya (Mekelle, case 14), which is the same as for harvesting. The female farmers and children perform the majority of the threshing for soya bean (Jimma, case 5), and maize (Jimma, case 13). This reveals regional
differences in the division of labour for threshing: in Mekelle male farmers perform the task, and in Jimma it is female farmers and children.

**Figure 17** Division of labour in transportation

Transportation (Figure 17) differs between regions and crops. Male farmers are dominant for malt barley (Hawassa, case 4), wheat (Mekelle, case 6) and papaya (Mekelle, case 14). Female farmers are dominant in potato cultivation in Haramaya (case 3), while children tend to perform the activity for soya bean (Jimma, case 5). Male farmers and children share this activity for maize production in Jimma (case 13), and a combination of female farmers, male farmers and children is seen in potato cultivation in Bahir Dar (case 2).

Children play a smaller role in storage (Figure 18). Female farmers are dominant in potato cultivation (Haramaya, case 3), and male farmers are dominant in malt barley (Hawassa, case 4), soya bean (Jimma, case 5) and maize (Jimma, case 13). A combination of male and female farmers perform this activity for potato (Bahir Dar, case 2) and wheat (Mekelle, case 6) cultivation.

Although differences occur between regions and crops, these cases reveal that male farmers, due to the prevailing culture, are mainly responsible for physical work, like ploughing, fertiliser application and harvesting. Female farmers have more of a responsibility for hand tillage, planting, weeding and storage. Although differences occur between clusters, children are highly involved in agriculture as well, generally by supporting female farmers.

**Figure 18** Division of labour in storage
Cases 8, 10, 12, 13 and 14 have been used to analyse the most tedious activities performed by men and women.

The study revealed which agricultural activities male and female farmers thought were the most tedious. Although there are differences in the person who executes the work, men and women highlighted the same activities as being the most tedious, regardless of who performed it. This shows that men and women are aware of their partner’s workload.

The activities perceived to be the most tedious differ greatly between crops and farming systems (Table 2). The most tedious task for female farmers in Jimma was fetching water for the compost, because a large amount of water is used and the water source is not close to the farm. This was not the case in other locations where the water source was closer to the farm, so the task was not as time consuming.

Weeding was perceived to be a time consuming task for female farmers in most cases. This is because weeding needs to be done several times during the cultivation process and is labour intensive. Weeding is a task predominantly undertaken by female farmers, with assistance from male farmers and children.

Other activities are perceived to be the most tedious because farmers lack knowledge. For example, in Hawassa in relation to the vegetable garden case, farmers lack knowledge on bed formation that makes the tasks difficult for them to perform. However, in general, the most tedious activities are the activities that take the most time and energy.
Table 2  
Most tedious activities for male and female farmers

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Most tedious activity</th>
<th>For who</th>
<th>Why</th>
<th>Side note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum tillage of maize, Bahir Dar, case 8</td>
<td>Threshing</td>
<td>Male and female</td>
<td>Collecting grain is hard work</td>
<td>Children are not available to assist because they attend school</td>
</tr>
<tr>
<td>Vegetable garden, Hawassa, case 10</td>
<td>Bed formation, seed sowing, transplanting</td>
<td>Male and female</td>
<td>Farmers lack knowledge on how to perform bed formation.</td>
<td>Children assist</td>
</tr>
<tr>
<td></td>
<td>Weeding, harvesting</td>
<td>Female</td>
<td>Difficult to differentiate between seedlings and weeds</td>
<td>Children assist</td>
</tr>
<tr>
<td>Compost, Jimma, case 12</td>
<td>Fetching water</td>
<td>Female</td>
<td>Compost needs a lot of water, and the water source is far away</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pit preparation</td>
<td>Male</td>
<td>Heavy work</td>
<td></td>
</tr>
<tr>
<td>Maize, Jimma, case 13</td>
<td>Weeding</td>
<td>Female</td>
<td>Task has to be conducted three times</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Transportation</td>
<td>Male and female</td>
<td>Maize fields are far from the storage room</td>
<td></td>
</tr>
<tr>
<td>Papaya, Mekelle, case 14</td>
<td>Weeding, watering</td>
<td>Female</td>
<td>Both need to happen often</td>
<td>No labour is hired in regards to papaya</td>
</tr>
<tr>
<td></td>
<td>Tillage</td>
<td>Male</td>
<td>Takes a lot of energy and time</td>
<td>No labour is hired in regards to papaya</td>
</tr>
</tbody>
</table>
9 Labour management

Cases 2, 3, 4, 5, 6, 10, 11, 12, 13 and 14 have been used to analyse labour management.

Labour is a vital ingredient in agricultural production. When a farm does not have enough labour to complete necessary activities, yields will be lower and therefore income decreases. The study found that farmers often struggle to keep pace with labour requirements during peak periods. Farmers make use of family labour as the first resort, however this is not always sufficient during peak times. Therefore, either labour is hired or community labour is used. A combination of hired labour and community labour is possible, but not very common.

9.1 Family labour

Farmers try to make use of all household members, including children (Quote 1). Although children attend school, they help their parents on the farm in their spare time. In some clusters children’s participation in agricultural production is higher than others. The highest levels of participation occur in Jimma, where children have either sole responsibility or shared responsibility with female farmers for some agricultural activities. They are highly involved in planting, spreading manure, weeding, protecting crops from animals, harvesting, threshing and transport.

In Haramaya, the involvement of children is much lower and children only have a supporting role. The main responsibility in Haramaya for children is to protect farmland from animals. Children’s participation is also low in Hawassa, where they hardly assist their parents in relation to cash crops but carry out more activities related to vegetable gardens. With vegetable gardens often situated close to the household, children are easily involved. In Mekelle and Bahir Dar, children are involved in most activities, but are not responsible for any of them and have minimal input. Differences in the involvement of children are dependent on the clusters due to regional cultures, but the crop also has some bearing. For example, when female farmers are highly involved in activities related to a particular crop, the role children play tends to be higher.

For cash crops, family labour is not sufficient in order to execute all the work. Additional problems arise if family labour is impacted by illness or unavailability of key adults in the household, if children are too small to work, or in the case of FHHs, there are no sons to assist.

"Most of the time my husband works with me on the field especially on those activities that require additional labour. Moreover, if the children are around, they are also a big help.”

Quote 1: From a female farmer involved in vegetable production in Hawassa (case 10)

9.2 Hired labour

During the peak agricultural season, most families that can afford it hire additional farm labour. Model farmers are among those who are able to afford this. Activities that require hired labour include: land preparation, weeding and harvesting. Although anyone is able to carry out these activities, women tend to only be hired for weeding. In addition to paying for hired labour, farmers also provide food and drink for their workers, which female farmers prepare.
Depending on the availability of cash, a household hires up to three people per day. The study revealed that the cost of hired farm labour differed across study sites. Despite some variation between clusters, the cost of hiring additional labour was fairly similar, costing 50 ETB per person per day in the Addis Ababa cluster, compared to 60 ETB in Bahir Dar, 50-70 ETB in Haramaya, and 50-80 ETB in Mekelle. Labour was significantly cheaper in Hawassa, where costs per person per day ranged from 20-25 ETB. In Jimma two ways of hiring labour was identified: individual labour, which cost 20 ETB per day; and hiring peer groups known locally as Gelgele, in which every person received 2.5 ETB per hour.

The differences in prices could be down to differences in customs between the clusters, or scarcity of labour. When labour is scarce, the price will go up.

9.3 Community labour

Community labour involves community members supporting each other and does not involve payment. This type of labour has different names in different clusters (Table 3). Basically, households invite relatives and neighbours to assist them in farm activities, with the knowledge that this favour will be returned. The household that receives the support is expected to provide food and local drinks/coffee to the group, which is a task for female farmers. The size of the group depends on the resources of households to provide drink, food and sometimes Khat.

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Name of community labour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bahir Dar</td>
<td>Wonfel</td>
</tr>
<tr>
<td>Haramaya</td>
<td>Guza</td>
</tr>
<tr>
<td>Hawassa</td>
<td>Debo or Wonfel</td>
</tr>
<tr>
<td>Jimma</td>
<td>Debo</td>
</tr>
<tr>
<td>Mekelle</td>
<td>Lifna</td>
</tr>
</tbody>
</table>

9.4 FHHs

The study found that FHHs have the most difficulties obtaining labour. If FHHs own oxen, they can exchange this temporary for labour on their land. However, not many FHHs own oxen so it is common for female farmer to have to travel in order to obtain labour, because labour is scarce. Female farmers face difficulties obtaining labour, because it is cultural for male farmers to only do business with other males (Quote 2 and Quote 3).

When a FHH cannot find labour, she is not able to adequately cultivate the land. If this is the case, the female farmer has two options: sharecropping or to rent out the land. With sharecropping, the FHH provides the land to a farmer and in return gets a share of final products after harvest. In this case, the sharecropper determines how to use the land and uses own resources. In the second system, a farmer pays an amount of money to rent the land for a season, but the FHH does not get a share of the cultivated crop.
“Getting hired labour during peak times is very challenging. I had to go to a neighbouring town and stay overnight to get extra labour. If I am lucky enough to find people, I will pay more than male farmers pay because I cannot bargain like them and it is my option to accept it or not. Since some of my neighbours understand my situation they sometimes assist me, and sometimes a few DAs help me during planting/sowing time. Such assistance is exceptional. The challenge makes me strong and due to that I do things by myself, such as harvesting my wheat using a sickle, which is an activity usually done by male farmers.”

Quote 2: From a female farmer in FHH

“Men often prefer to exchange labour with other men, and not with me. It is very challenging to find help in time. Also during harvesting and transporting the harvest to my farm I face many challenges because we do not have a donkey cart so I have to carry the harvest on my back. I am always running around, since I also have to do the domestic tasks in and around the house.”

Quote 3: From a female farmer in regards to malt barley production in Hawassa (case 4)
10 Decision-making

Cases 2, 3, 4, 5, 6, 7, 8, 9, 10, 13 and 14 have been used to analyse decision-making.

Decision-making takes place at different levels in households, communities and enterprises. The ability of women to participate in, and shape the outcome of decisions, strengthens their position. If they are inadequately represented in these processes, it is likely that their needs and priorities will be overlooked. When this happens, their position weakens which influences their role in their households and communities. This chapter examines the gendered differences in decision-making over farm and household decisions.

The study showed that male farmers dominate decision-making concerning cash crops and bee-keeping, while female farmers are dominant in decisions related to the home garden and small livestock, like poultry. Thus, female farmers make decisions in regard to products and activities close to the farm, whereas male farmers are more concerned about cash crops. For decisions about cattle and dairy use, these are usually joint decisions between husbands and wives.

Male farmers influence the decision-making of their wives, but female farmers are not always aware of the decisions their husbands make. Women indicate that when the financial benefit of a crop grows, their husbands tend to take away any level of decision-making they may previously had (Quote 4). Our study showed that this is culturally determined. Male farmers are seen as the head of the family, giving them more 'rights' to take decisions by themselves. As a result, the voice of female farmers are ignored or forgotten to be taken into account, weakening the position of female farmers.

Although the study showed that male farmers do make decisions for female farmers, the in-depth discussions with households revealed that the bargaining position of women is slowly shifting towards a more participatory approach. Male respondents explained that this changing position was related to the economic position of their wives and household. The more women earned for their household, the more they participated in decision-making, but only up to a certain point. An additional reason for this shift was that there is increasing awareness among men and women about noticeable inequalities, and there is a general feeling among both men and women that this should be changed (Quote 5).

"I was one of the active participant in this activity but now I am discouraged by my husband. This is simply because from last year production, apart from what has been used for household consumption, I had no information about the rest of the product. My husband sold most of it and did not inform me about the income. Due to this, although I have the knowledge on how to produce and use vegetables I decided not to work in this year".

Quote 4: From a female poultry farmer in Hawassa (case 11)

"Before, I used to control and decide on the money from product sales. I gave a small amount of it to my wife so that she could handle household needs. I decided on the rest of the money and spent it without discussing with her. This has brought huge problems because most of the time the money is spent on unnecessary things and the whole household suffers. But I learned from that and decided to discuss with my wife before we spent the money. In fact, I realised that women are the foundation of a household; their engagement in decision-making is crucial, if they are not involved in the decision-making process it is like losing the foundation of the house."

Quote 5: From a male farmer regarding vegetable production in Hawassa (case 10)
11 Gender Analysis Matrix (GAM)

GAM used cases 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13 and 14.

GAM is an analytical tool that was used to determine the different impacts that CASCAPE’s interventions have on male and female farmers in terms of labour, resources and cultural perspectives (Table 4), with ↑ indicates an improvement and ↓ a decrease.

<table>
<thead>
<tr>
<th>Case and cluster</th>
<th>Intervention</th>
<th>Respondent</th>
<th>Labour</th>
<th>Resources</th>
<th>Cultural change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1 Addis Ababa</td>
<td>Vegetable garden</td>
<td>Men</td>
<td>↑</td>
<td>↑↓</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Women</td>
<td>↑</td>
<td></td>
<td>YES</td>
</tr>
<tr>
<td>Case 2 Bahir Dar</td>
<td>Potato</td>
<td>Men</td>
<td>↑</td>
<td></td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Women</td>
<td>↑</td>
<td></td>
<td>YES</td>
</tr>
<tr>
<td>Case 3 Haramaya</td>
<td>Potato</td>
<td>Men</td>
<td>↓</td>
<td>↓</td>
<td>NO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Women</td>
<td>↓</td>
<td></td>
<td>YES</td>
</tr>
<tr>
<td>Case 4 Hawassa</td>
<td>Malt barley</td>
<td>Men</td>
<td>↑</td>
<td>↓</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Women</td>
<td>↑</td>
<td></td>
<td>YES</td>
</tr>
<tr>
<td>Case 5 Jimma</td>
<td>Soya bean</td>
<td>Men</td>
<td>↑</td>
<td>↓</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Women</td>
<td>↑</td>
<td></td>
<td>YES</td>
</tr>
<tr>
<td>Case 6 Mekelle</td>
<td>Wheat</td>
<td>Men</td>
<td>↑</td>
<td>↓</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Women</td>
<td>↑</td>
<td></td>
<td>YES</td>
</tr>
<tr>
<td>Case 8 Bahir Dar</td>
<td>Minimum tillage (maize)</td>
<td>Men</td>
<td>↓</td>
<td>↑</td>
<td>NO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Women</td>
<td>↓</td>
<td></td>
<td>NO</td>
</tr>
<tr>
<td>Case 9 Haramaya</td>
<td>Poultry</td>
<td>Men</td>
<td>↓</td>
<td>↑</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Women</td>
<td>↑</td>
<td></td>
<td>YES</td>
</tr>
<tr>
<td>Case 10 Hawassa</td>
<td>Vegetable garden</td>
<td>Men</td>
<td>↓</td>
<td>↑</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Women</td>
<td>↑</td>
<td></td>
<td>YES</td>
</tr>
<tr>
<td>Case 12 Jimma</td>
<td>Compost preparation</td>
<td>Men</td>
<td>↑</td>
<td>↑</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Women</td>
<td>↑</td>
<td></td>
<td>YES</td>
</tr>
<tr>
<td>Case 13 Jimma</td>
<td>Maize</td>
<td>Men</td>
<td>↑</td>
<td>↓</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Women</td>
<td>↑</td>
<td></td>
<td>YES</td>
</tr>
<tr>
<td>Case 14 Mekelle</td>
<td>Papaya</td>
<td>Men</td>
<td>↑↓</td>
<td>↓</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Women</td>
<td>↑↓</td>
<td></td>
<td>YES</td>
</tr>
</tbody>
</table>

The GAM reveals that for both male and female farmers, CASCAPE interventions increased the amount of labour needed compared to conventional practices. Use of resources also rises, indicating that farmers have to make use of more agricultural resources during cultivation. However, resource use does drop in potato cultivation in Haramaya (case 3): farmers used to apply pesticides up to eight times, but now don’t apply any.

When CASCAPE introduces a new crop, all labour related to this is perceived as additional labour. For example, CASCAPE introduced soya bean in Jimma (case 5). All labour related to this is perceived as additional labour, because farmers never worked with this crop before. Some interventions are focused on the reduction of labour. In Bahir Dar (case 8), for example, minimum tillage for maize was introduced to reduce weeding (which lowers the labour burden for female farmers and children) and ploughing (commonly carried out by male farmers).

In all clusters, farmers did not indicate that increases in labour or resources were a problem because they saw benefits in higher yields and increases in income.
11.1 Cultural change

Cultural change refers to changes in gender and household roles as a result of CASCAPE interventions. In some cases female farmers indicated that CASCAPE interventions brought cultural change while male farmers contradicted this. Reasons for this could be that some interventions were specifically directed towards female farmers. For example, production of green leafy vegetables is exclusively seen as a woman’s job (vegetable garden in Addis Ababa, case 1), which enabled female farmers to be responsible for production, processing and marketing. In the eyes of male farmers, not much changed as their tasks remained the same. Therefore, female farmers are experiencing change but the male farmers are not.

Overall, the interventions brought cultural change (Table 5). The greatest changes were the creation of a more nutritious diet for the household, and a shift in gender roles and higher decision-making capacity (agriculturally and within the household) for female farmers.

The improvement in diets occurred in Addis Ababa in regards to the vegetable garden (case 1), in soya bean production in Jimma (case 5), in poultry production in Haramaya (case 9), in vegetable production and poultry in Hawassa (case 10 and 11), and in papaya cultivation in Mekelle (case 14). These interventions were all focused on the production of nutritious food and crops that female farmers cultivate. As a result, nutritious food became directly available to households and changed eating-patterns.

A shift in gender roles occurred in cash crop interventions. The main change was that female farmers took over male activities. This occurred in potato cultivation in Haramaya (case 3), malt barley in Hawassa (case 4) and wheat cultivation in Mekelle (case 6). For some interventions, this occurred because labour was reduced for female activities, freeing women up to assist male farmers with their activities.

This occurred in wheat cultivation in Mekelle (case 6) where the weeding burden was reduced, enabling female farmer to assist their husbands with former ‘male’ activities. For potato cultivation in Bahir Dar (case 2) the gender shift was reversed: male farmers started engaging in cooking, which was previously perceived as a female task, because the ease of cooking potato increased, giving males an incentive to assist their wives.

An increase in decision-making capacity within the household and regarding farmland occurred for women involved in vegetable production in Addis Ababa (case 1) and Hawassa (case 10), poultry in Hawassa (case 11) and papaya production in Mekelle (case 14). These interventions are all located in home gardens or close to home so female farmers have a greater role in cultivation, which gives them a higher sense of involvement. Female farmers can also make more decisions regarding the work they perform. Looking to the future, this improvement could increase. For example in the papaya intervention in Mekelle (case 14), the new papaya variation has a higher shelf life, which gives the female farmer a longer time to sell the product. This will bring a higher income, and with that decision-making could be improved.
Table 5
Cultural changes

<table>
<thead>
<tr>
<th>Case</th>
<th>Cultural change</th>
</tr>
</thead>
</table>
| Vegetable garden, Addis Ababa, case 1 | - More nutritious diet, especially for lactating and pregnant women.  
- Because of income obtained from the home garden, female farmers make more decisions. |
| Potato, Bahir Dar, case 2   | - Shift in gender roles, because of the easiness of cooking potatoes, male farmers start cooking as well.                                           |
| Potato, Haramaya case 3      | - Shift in gender roles, because female farmer participate more in formerly perceived ‘male’ activities, such as manure application and watering.   |
| Malt barley, Hawassa case 4  | - Shift in gender roles, because female farmers spend more time in the field assisting their husbands.                                           |
| Soya bean, Jimma, case 5     | - More nutritious diet for the household due to the availability of soya.  
- A new diet is established, as soya is now consumed daily. |
| Wheat, Mekelle, case 6       | - Shift in gender roles, because female farmers participate in formerly perceived ‘male’ activities, such as planting.                              |
| Poultry, Haramaya, case 9    | - Increased consumption of egg improves household diets.                                                                                          |
| Vegetable garden, Hawassa, case 10 | - More nutritious diet for the household, because of a higher variation of vegetables.  
- There is a shift in gender roles, because female farmers spend more time in the field assisting their husbands.  
- Because of income obtained from vegetable gardens, female farmers make more decisions. |
| Poultry, Hawassa, case 11    | - Increased consumption of egg improves household diets.  
- Higher income for the household because eggs and poultry can be sold.  
- Extra income improves decision-making power for female farmers. |
| Compost, Jimma, case 12      | - Farmers are more aware of the importance of farming sustainably, because they use outputs such as compost.                                         |
| Papaya, Mekelle, case 14     | - More nutritious diet for the household.  
- Because of income obtained from the sale of papaya, female farmers are able to make more decisions. |
12 Access to inputs and information

Access to inputs and information such as credit, inputs, training and extension is important in order to develop farms and enhance productivity. However women in MHHs and FHHs have less access to credit, inputs and extension services than men and participate less in training and formal meetings (Frank, 1999). In this study, women from FHHs and MHHs complained that they do not have access to training on improved agricultural practices and other relevant topics.

12.1 Access to credit services

*Cases 2, 4, 5, 6, 10, 13 and 14 have been used to analyse access to credit services.*

Farmers use loans to purchase livestock, agricultural inputs, water harvesting technologies, or for household purposes, but accessing credit can be a challenge. The study found that most clusters use Micro Finance Institutions (MFIs). These MFIs use a household approach, so while they formerly address the household head they now require both husband and wife to sign for a loan. Although both parties sign, in reality male farmers dominate decisions on how to use the credit. While it has become more common for husbands and wives to discuss what to use the credit for, male farmers still ultimately make the decisions.

Loans can also be provided to groups, which require members to make individual financial contributions to the group fund on a monthly basis. The amount of financial contribution is influenced by the wealth status or financial capacity of the individual. This means the higher the contribution, the higher the chance of getting credit services.

Individual loans are mainly given to model farmers. In most cases, the poorest farmers are not able to gain a loan because the risk is too high for the bank. Even if a poor farmer is able to secure a loan, the amount is dependent on the wealth of the farm, thus the poorer the farmer the smaller the loan will be.

12.2 Access to training and extension services

*Cases 1, 2, 3, 4, 5, 6, 7, 9, 10, 12, 13 and 14 have been used to analyse access to training and extension services.*

Of the participants who took part in CASCAPE training, 33% were female farmers (CASCAPE, 2016), thus male farmers were more likely to attend. Female respondents indicated that their husbands were trained on targeted crops and that he had transferred his knowledge, however during the FGDs it became clear that this did not always happen in great enough detail.

Women in FHHs and MHHs complained that they did not have access to training on improved agricultural practices and other relevant topics. FFHs were often not included, simply because they were forgotten. Female respondents strongly favoured being involved in training on crop management (e.g. seed selection, planting, weeding), home gardening, poultry management, and food processing.

DAs do not visit all farmers and provide equal services. A reason for this is lack of time. Because DAs have better relationships with model farmers, they visit them more frequently than non-model farmers. The majority of DAs are also male, so there is a tendency to prioritise male over female farmers. Culturally, it is not very common for female farmers to speak to male DAs, hence women tend to miss out on this opportunity.

In summary, poorer, non-model farmers and female farmers have less training opportunities and fewer visits from DAs. These farmers would like to be given greater opportunities to improve their skills in agricultural production.
13 Gender constraints in agricultural production

Cases 1, 2, 3, 4, 5, 6, 7, 11, 12, 13 and 14 have been used to analyse gender constraints in agricultural production.

Men and women play a significant role in agricultural production, which is crucial for the provision of food for their households. However, different factors and constraints affect the productivity of male and female farmers.

13.1 Constraints for female farmers in MHHs

The main problem that women in MHHs face is workload because they have both agricultural responsibilities and domestic chores. The GAM showed that some CASCAPE interventions have increased this workload even more, because of a shift in gender roles in agricultural production. Female farmers are participating more than before in different activities, like planting, manure application, weeding and threshing. For example, in the case of maize cultivation in Jimma (case 13), female farmers started to engage in maize cultivation, which was previously only done by male farmers. The extra work is mostly physical work, so female farmers without oxen, donkeys or horses face the challenge of having to perform these tasks manually.

Another challenge for women in MHHs is that they are often not involved in training related to agriculture and usually DAs target the head of the household. This occurs across all clusters. Non-model female farmers are even less involved than female farmers from model farms. Female farmers find it difficult that they do not know how to apply good agricultural practices, which make them insecure about their work.

13.2 Constraints for female farmers in FHHs

The main constraints for female farmers in FHHs are access to hired labour, particularly during land preparation and harvesting. When there is less support from other family members, problems increase. The most common support female farmers receive is from their sons, who tend to help with access to inputs and more physical tasks like land preparation. This can be helpful, because sometimes it is easier for a man to obtain agricultural inputs. Daughters tend to help with domestic chores.

When female farmers have problems acquiring support, they struggle the most with physical activities (Quote 6). Female farmers with young children who cannot assist with farm work and need to be cared for are an additional burden. These women face particularly severe constraints to producing enough food to feed their family and pay for other expenses. Furthermore, FHHs have less access to training and extension than women in MHHs. Because many FHHs have fewer resources, they are often not selected as trial farmers for projects like CASCAPE. FHHs participate less in field days, demonstration trials, and other agricultural events. This is simply because DAs usually give priority to male (model) farmers.
“Transporting my harvested crop by myself is a very heavy task. Since I don’t have a donkey I try to rent a cart, which costs me a lot. But I try to take this option because I cannot carry it by myself - it is not good for my health”.

Quote 6: From a female farmer in a FHH involved in wheat cultivation in Mekelle (case 6)

Table 6 summarises the constraints faced by female farmers in MHHs and FHHs.

<table>
<thead>
<tr>
<th>Constraints</th>
<th>Challenges</th>
<th>Specific category of women affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work burden</td>
<td>Too many tasks in and around home hamper women in allocating time to agricultural and/or income generating activities. Gender shifts in agriculture mean that the workload of female farmers is increasing.</td>
<td>All</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Most harmed:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- FHH, younger FHH with less support from family</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Non-model women in MHHs</td>
</tr>
<tr>
<td>Shortage of farm labour</td>
<td>In FHHs, the female head needs to arrange labour, which is very difficult.</td>
<td>FHH</td>
</tr>
<tr>
<td>Limited access to training</td>
<td>Female farmers are not invited as often to training as male farmers who it is assumed will share their knowledge with their wives. This does not happen in-depth. Female farmers in FHHs are rarely invited, especially non-model FHH. With fewer close relatives to gain knowledge from, they miss out on gaining new information.</td>
<td>All</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Most harmed:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Non-model female farmers in MHHs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- FHH, especially non-model farmers</td>
</tr>
<tr>
<td>Limited access to extension services</td>
<td>DAs are focused on male farmers, especially model farmers. Culturally, female farmers do not talk to male DAs, and with limited numbers of female DAs, female farmers are commonly ignored.</td>
<td>All</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Most harmed:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Non-model female farmers in MHHs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- FHH</td>
</tr>
<tr>
<td>Limited access to field and demonstration days</td>
<td>Female farmers are not invited as often to field days and demonstration days as male farmers, who are mostly targeted. Female farmers in model MHHs have a higher chance of participation. FHHs rarely participate, resulting in a lack of knowledge.</td>
<td>All</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Most harmed:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- FHH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Non-model female farmers in MHHs</td>
</tr>
<tr>
<td>Low education level</td>
<td>Female farmers are less likely to complete basic education, resulting in skills and knowledge gaps.</td>
<td>All</td>
</tr>
<tr>
<td>Low knowledge on how to use financial credit</td>
<td>Although female farmers have to sign for the household to obtain credit (from MFIs), they do not have the skills (or decision-making capacity) to make informed decisions on what to do with the money.</td>
<td>All</td>
</tr>
<tr>
<td>No or poor decision-making capacity</td>
<td>Women in MHHs are not in the position to make decisions regarding crops to grow, inputs to buy and how to use credits.</td>
<td>MHHs</td>
</tr>
<tr>
<td>No access to new interventions</td>
<td>Female farmers face less or no access to new interventions. Male model farmers are mostly targeted.</td>
<td>All</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Most harmed:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- FHH</td>
</tr>
<tr>
<td>Lack of female focused projects</td>
<td>There are not many projects that target women in order to increase their knowledge and skills.</td>
<td>All</td>
</tr>
</tbody>
</table>

13.3 Constraints for male farmers

Although this study mainly focuses on constraints for female farmers, male farmers also face constraints (Table 7). Male farmers also face difficulties with the extra labour that new interventions require. They solve this problem by asking their wives and other family members to assist them. This, however, results in a greater labour burden for female farmers, who already have a lot to do. Male
farmers are often involved in training, however indicate that they would like more in-depth training in order to improve their farming systems.

Non-model male farmers face more problems as they have fewer visits from DAs and participate less in new interventions. DAs are focused on model farmers, because they have more resources and commonly have a closer relationship with them.

Table 7
The main constraints for male farmers

<table>
<thead>
<tr>
<th>Constraints</th>
<th>Challenges</th>
<th>Specific category of male affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>New interventions demand more labour</td>
<td>Most CASCAPE interventions demand more labour, which makes it difficult for male farmers to complete all of the work in time.</td>
<td>All</td>
</tr>
<tr>
<td>Lack of more in-depth training</td>
<td>Male farmers obtain training, but miss in-depth knowledge in order to improve their farming systems.</td>
<td>All</td>
</tr>
<tr>
<td>Lack of DA visits</td>
<td>Poorer farmers get fewer or no visits from DAs.</td>
<td>Non-model farmers</td>
</tr>
<tr>
<td>Little access to new interventions</td>
<td>Non-model farmers are not invited to participate in new interventions.</td>
<td>Non-model farmers</td>
</tr>
</tbody>
</table>

13.4 Constraints for children

Children also face constraints. By helping their parents with agricultural activities, their education often suffers due to absences from school or time restrictions to completing homework.
14 Conclusion and discussion

This study focused on gender differences and constraints in agricultural production in Ethiopia. It showed that female farmers work for many hours every day, on the farm and in the household. Male farmers work fewer hours compared to female farmers, and tend to do physically demanding tasks like ploughing and harvesting. Children are also involved in agricultural activities, with their workload varying between clusters and different crops. The average labour allocation of all agricultural activities (Figure 19) reveals that male farmers contribute the most labour (47 per cent), followed by women (31 per cent) and children (22 per cent). While lower than male farmers, female participation is high considering that they also have to perform domestic activities as well.

**Figure 19** Average labour division for all agricultural activities

Looking at the different agricultural stages (Figure 20), male farmers are most involved with land preparation and female farmers participate most in cultivation and postharvest activities. Children are involved in most activities equally, although postharvest activities do involve children to a slightly greater extent.

**Figure 20** Average division of labour in land preparation, cultivation and postharvest activities
The study also revealed that female farmers participate less in trainings and field days. Male farmers have better access to training and extension services because they are mostly targeted by DAs and projects like CASCAPE. The high workload of female farmers is another reason for reduced participation. Even if they are invited, they often cannot attend because they have too much work to carry out. Another group that has poorer access to training and field days is male non-model farmers. They also have fewer DA visits than male model farmers. Women in particular miss out on DA visits because of a lack of female DAs. This is a particular problem for FHHs, because they cannot obtain information from their husbands.

Given the fact that men are by default the heads of their households, they are usually in charge of decision-making and financial flows. This restricts female farmers. Decision-making is slowly shifting from absolute power of the male farmers towards a more participatory approach. A reason for this is that female farmers are starting to earn money from the sales of produce from homestead gardens or eggs, and women typically use this money for household expenses. However, the study also revealed that if the financial benefits of activities increase, there is a tendency among male farmers to become more involved and in some cases even take over selling and decision-making.

When female farmers are able to make more decisions, this benefits households. Women tend to spend money on their children and needs of the household. Male farmers are often less aware of household needs, and occasionally spend money on unnecessary products, like beer.

Although male farmers are the heads of households, female farmers feed their families and are therefore responsible for the nutritious value of the food. The study showed that shifts in diets are possible. This occurred in Addis Ababa with regard to a vegetable garden intervention (case 1), in Jimma with soya bean cultivation (case 5), in Haramaya with poultry (case 9), in Hawassa with vegetable gardens (case 10) and poultry (case 11), and in Mekelle with papaya cultivation (case 14). In these cases, there was a focus on the cultivation of nutritious products, which directly increased access and availability of nutritious food for households.

New interventions introduced by CASCAPE are beneficial to farmers in terms of yields and new consumption practices for households. Nonetheless, they also require more labour and more resources during production. It became apparent that with the introduction of interventions in relation to cash crops, women’s involvement in agricultural activities has increased in all clusters, on top of their other duties.

Interventions that specifically target women benefit households in terms of more nutritious diets, increased income through the sales of surpluses, and greater participation of women in decision-making.

Access to labour is a problem for all farmers, but it is particularly challenging for FHHs, because male labours do not tend to work for women. FHHs also tend to have fewer relatives to assist them with labour requirements. Without adequate labour, FHHs often struggle to produce enough food to feed their family and generate income.
15 Lessons learned

Some valuable lessons have been learned through the execution of the CASCAPE project. Creating awareness about gender is very important, particularly in Ethiopia where it is generally not a consideration. Encouraging all project members to be involved in data-collection proved to be an effective way of creating awareness among project staff about gender roles and their effect on agricultural productivity. Because this analysis resulted in clear and effective evidence, staff began to understand the importance of working on gender research. During the study it became apparent that quantitative data had much more of an impact on the mind-sets of staff members than qualitative data.

It proved difficult to convince local authorities (DAs) that female and non-model farmers needed to be interviewed. The study discovered that DAs believed that CASCAPE was set up to work with the most prominent farmers in order to show other farmers how to proceed, instead of researching why non-model and female farmers are not farming in the most beneficial ways. Because of this, it proved difficult to reach less resourceful farmers, like female and non-model farmers.

It became apparent that in some clusters staff faced difficulties with certain gender topics within the study. For example, general constraints in relation to agriculture, rather than specific gender constraints, were often recorded because staff had limited understanding of gender research due to lack of experience and knowledge. This resulted in gaps in the data. Providing extensive training to staff, to help them understand what gender research entails and what data needs to be collected could solve this problem.
16 Recommendations

Female farmers need to obtain more in-depth agricultural knowledge and skills, in order to increase the productivity of their household. Because women never or rarely receive training, they feel less entitled to make basic agricultural decisions. When receiving training on topics related to agricultural production, confidence will be built. Women have to be trained on new technologies and interventions in order to be informed about new and ‘best’ practices.

Female farmers also need training on use of financial services to help them manage money. With more knowledge, that they would be able to share with their husbands, women would also feel more entitled to making and contributing to financial decisions. Training on the benefits of nutritious foods would also help the whole household to consume greater amounts of healthy and nutritious food. This could be achieved via interventions that specifically target women. Training female farmers on homestead gardens and poultry has proven to be very beneficial.

Because female farmers have a very busy schedule, training and field days have to be scheduled at a time that will be convenient for female farmers to participate. This will increase their participation.

Although male farmers obtain training, they indicated a lack of in-depth knowledge. Therefore, more in-depth agricultural knowledge needs to be provided to male and female farmers, in order to strengthen farming systems.

An important part of being able to help female farmers is to create awareness among men about the benefits that female farmers bring to the household, in terms of financial benefits (sale of surpluses) and in fulfilling the needs of their households. When male farmers become more aware of the important roles their wives play, they are more inclined to involve them in decision-making related to household tasks. This is already happening in interventions that specifically targeted women.

Another very important aspect is to create awareness among the wider community, so that greater participation of women in training and decision-making becomes more culturally acceptable. DAs have to become aware of the necessity of including female farmers in trainings, farm visits and field days. Culturally, female farmers do not talk to male DAs and there is a lack of female DAs. This needs to be addressed, in order to provide better services to the female farmers.

The participation of children in agricultural activities also needs to be reduced. Households and communities must become more aware of sending children to school and giving them time to complete their homework. Education needs to be seen as a necessity. It is particularly important for this to be addressed in the Jimma cluster, where the agricultural participation of children is very high.

The workload of female farmers also needs to be reduced, as it was the main challenge faced by female farmers in the study. Research needs to be conducted on technologies that can reduce the workload of female farmers. Male farmers also need to be involved because they are the decision-makers. Therefore, it is very important to have a household approach.

When fewer activities need to be performed, or the labour involved in each one is reduced, the work burden of female farmers will reduce. Since children support female farmers, this will likely reduce their work burden as well.

The group with the biggest challenges regarding labour are non-model FHHs. Organised labour groups, or community labour, which is already used by MHHs would prove to be very useful.

Non-model farmers also need attention. With fewer resources and less frequently visited by DAs than model farmers, they are often not targeted by agricultural projects. This group therefore needs to be given more attention to strengthen their position within the community. The community needs to be aware of the importance of including non-model farmers in projects, training and field days to improve the economic position of the whole community. Receiving training on new agricultural practices and financial inputs will enable them to improve their livelihoods and become model farmers.
DAs also need to be more understanding of the difficulties non-model farmers face and therefore need to visit them as well. The focus on model farmers by DAs impacted CASCAPE interventions, which needs to be taken into account when conducting further projects.

New CASCAPE interventions must keep the above recommendations in mind. Some interventions resulted in gender shifts, which caused a higher workload for female farmers. Implications like this need to be taking into account before an intervention is introduced. If the overall goal is to improve the livelihoods of rural households, interventions that specifically target women (like vegetable gardens and poultry) should be implemented. These types of interventions result in multiple benefits: the household gains more income through the sale of surpluses, household diets become more nutritious and diverse, and female farmers are more involved in decision-making.
References

Appendix 1  Daily activity calendar of clusters

Case two: Potato, Bahir Dar

Obtained from CASCAPE gender report 2014
Case three: Potato, Haramaya

Obtained from CASCAPE gender report 2014.
Case four: Malt barley, Hawassa

![Hawassa Daily activity calendar (Female group)](image)

Obtained from CASCAPE gender report 2014
Case five: Soya bean, Jimma

Obtained from CASCAPE gender report 2014
Case six: Wheat, Mekelle

2a: Mekelle Daily activity calendar (Female group)

PEAK SEASON

18:00
- Land clearance (hand tillage)
- Sowing
- Fertilizer application
- Weeding
- Harvesting

17:00
- Back to home

- Dinner preparation
- Taking dinner

05:00
- Wake up

00:30
- Fetching water
- Preparing breakfast and lunch (esp. baking injera)
- House cleaning
- Preparing coffee
- Taking breakfast (the whole family) including coffee
- Land clearing (hand tillage)
- Weeding
- Fertilizer application
- Harvesting

13:00
- Lunch (packed lunch)

Non-PEAK SEASON

06:00
- Wake up

03:00
- Fetching water
- House cleaning
- Preparing breakfast (esp. baking injera)
- Preparing coffee
- Taking breakfast (the whole family) including drinking coffee
- Preparing and delivering food to husband (to the farm site)

12:00
- Dinner time

00:30
- Clearing (cloth/children)
- Sewing
- Preparing local drink
- Fetching water
- Dinner preparation

Obtained from CASCAPE gender report 2014
Appendix 2  Gender roles on different agricultural tasks

Case two: Potato, Bahir Dar

Land Preparation_Bahir Dar

Cultivation and maintenance_Bahir Dar

Harvest/post-harvest_Bahir Dar
Case three: Potato, Haramaya

Land preparation_Haramaya

Cultivation and maintenance_Haramaya

Harvest/post-harvest_Haramaya
Case four: Malt barley, Hawassa

Land preparation_Hawassa

Cultivation and maintenance_Hawassa

Harvest/post harvest_Hawassa
Case five: Soya bean, Jimma

Land preparation Jimma

Cultivation and maintenance Jimma

Harvest/post-harvest Jimma
Case six: Wheat, Mekelle

Land preparation_Mekelle

Cultivation and maintenance_Mekelle

Harvest/post-harvest_Mekelle
Case eight: Maize, Bahir Dar

Activity analysis for maize minimum tillage

Case ten: Vegetable garden, Hawassa

Gender division of labour in vegetable production

Case thirteen: Maize, Jimma

Maize production activity analysis in the entire 4 kebeles
Case fourteen: Papaya, Mekelle

Involvement in agricultural activities

Involvement in harvest and postharvest activities