

Land Tenure Regularization in Rwanda: Registration of Land Rights for Women and its Impacts on Food security

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Abstract

Securing women land rights through land titling programs is viewed as a potential means for enhancing their tenure security. The expectation is that women may gain greater influence on how to use the land, if they are registered as joint owners. Women are more likely to make decisions that improve food and nutrition needs at farm level than men. Increased level of women decision making through secured tenure rights is expected to have a positive impact on food security.

This research investigated the impacts of registration of land rights for women in Rwanda on food security at household level. The focus was on how women perceive land and land rights; women decision-making on food crop production and programs supporting women farmers. Results show that women perceive land as being a primary source of food, source of livelihoods, and owning land increases their status in society. Women are aware of their land rights and indicated to have obtained security of tenure. However, tenure insecurity is perceived when it comes to the limitations or land use restrictions in the formal land law. A crop intensification program influenced the women's decision making in relation to what food crops to grow, giving little room for freedom to grow food crops of their choice. This has implications on food security at household level. Women further indicated that they did not observe an increased harvest of growing food crops after their land rights were registered.

Key words: women land rights, food security, land tenure regularization, Rwanda

1. INTRODUCTION

Improving food security in Africa has been an ongoing discussion – with special attention being given to the pathways on improving food security (Maxwell et al., 1998; 1999; Gladwin et al., 2001; Rao, 2006; Godfray et al., 2010; Quisumbing, 2013), Owusu et al., 2011; FAO, 2006; Rockson et al., 2013; van der Molen, 2013). These suggest that conceptually, a relationship between land tenure and food security may be supported when land tenure is secure. At the same time securing land rights for women is viewed as an opportunity to enhance food security in rural communities. This is based on the fact that majority of rural populations engaging in farming activities are women and on the idea that by registering their rights to land, the women gain power and greater influence in making decisions on use of land. Studies also

indicate that women are more likely than men to make decisions that improve food and nutrition needs when using land (Allendorf, 2007; Guertin, 2013).

Women however often face obstacles and discrimination in access or owning land in various parts of the world. They mostly rely on accessing land through inheritance from family, as gift, through marriage, through government land allocation programs or by purchasing it (FAO, 2013). Empowerment of women in agriculture activities by increasing their access to land and enhancing their farm productivity may have a greater role in increasing food security (Agrawal 2004). Agrawal argues that it is not just the land rights, but coupling this with effective control may be more efficient. Facilitating women's access to land and enhancing their land rights are therefore a precursor to food security. Thus, while the subject of food security and

women's land rights are high on the agenda, The challenge of securing land rights for women and ensuring food security especially in sub-Saharan Africa is however yet to be met (Rockson, al., 2013) as it is often an overlooked factor by policy decision makers.

Progress towards securing land rights for women has emerged. In Rwanda for example, land rights for women were not recognized until 1999 (Uwayezu et Al., 2011). The Matrimonial Regimes, Liberties and Succession Law was introduced in 1999 with aim formalize the way in which inheritance was regulated and introduced within the regal system. It also aimed to block aspects of customary law which prevented women from owning and having control over land. This law granted daughters the right to inherit land from their parents equally as their brothers; it entitled women to a share of family land through inheritance and gives wives rights to matrimonial property (Polavarapu, 2011). In addition, national land policy of 2004 and land law of 2005 (amended in 2013), stipulates that all Rwandans should enjoy equal rights of access to land without discrimination. Men and women should enjoy equal rights to land and households are eligible for joint spousal land titles (GOR, 2005). For the first time – through the Land Tenure Regularization Program (LTR), women are having their land rights recognized, a deviation from a background of patriarchal tradition where only men made decisions in relation to access and use of land.

Much of the research conducted since the LTR implementation in Rwanda focus on the tenure processes and impacts on the society in general (Uwayezu & Mugiraneza, 2011; Daley, 2010; Ali et al., 2014) and overlooks addressing the impacts of LTR on women in relation to increased crop production and food security. About 80% of the population in Rwanda practice subsistence agriculture, which is the main economic activity in the country. According to the National Institute of Statistics in Rwanda 52% of households in Rwanda are food insecure

and vulnerable – among them 42% who are concentrated in rural areas (NISR 2012b).

This study aims to investigate whether securing women's land rights in Rwanda has resulted in improved food crop production and therefore improved food security. It provides insights on women's decision making powers over land and food crop production in the sector of Muyumbu in Rwamagana district, in the Eastern province of Rwanda. The study has three specific objectives: i) to describe women's perceptions of their land rights; ii) to identify women's decisions in terms of selection of crops, where to farm, agriculture inputs in food production and control of harvest from land; and iii) to assess how local programs and interventions influence women's decision making in food crop production and in improving food security.

2. LITERATURE REVIEW

This section describes the main concepts of the research. It explains the role of women in food production and its relation to household food security. This is followed by highlighting the importance of security of tenure for women and the role of women land rights. The literature continues with a short introduction to the role of land administration in recording and securing the land rights of women.

2.1 Food security and household food production

Food security is achieved when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for a healthy and active life. This can be achieved at individual, household, nation, regional and global levels (FAO, 2001). In this research the focus is on food security at household level. According to FAO (2006) household food security is defined as ensuring households to have the means, including access to land, to produce sufficient food of acceptable quality for their own consumption for all household members in the

year-round. Increasing food crop production has a major role in achieving food security.

Women are the main actors in food production in Africa. It is estimated that in Africa women do most of the agriculture work and they provide between 60% and 80% of agriculture labour in Africa (Nnadi et al., 2012). Securing women's land rights are repeatedly explained as means to enhance food security in rural communities (Allendorf, 2007, Agarwal 2003; Deininger et al 2008; Daley 2010; Ali et al 2014; Menon et al 2014; Sraboni et al., 2014). More security of tenure will increase the likelihood that women invest time and resources in the land they own, for the production of food crops, and adopt environmentally sustainable farming practices (Guertin, 2013).

Even though women are major actors in food production in Africa, they are still facing challenges to exercise the same land rights as men. Giving and assuring women land rights will increase their tenure security.

2.2 Women security of tenure

Tenure security is the perception of people on the certainty of their rights to land. Place et al, (1994), define land tenure security indirectly by describing the existence of such a perception as follows: 'land tenure security exists when an individual or group is confident that they have rights to a piece of land on a long-term basis, protected from dispossession by outsider sources, and with the ability to reap the benefits of labor and capital invested in the land, whether through direct use or upon transfer to another holder'. The security that a land right holder has on his land is largely dependent on how many rights to land he has and to what extent he can enjoy them, how long these rights last, and how well they are enforced (Nguyen, 2015). The level of tenure security can thus be measured by its three main elements, namely (1) breadth, (2) duration and (3) assurance (Place et al, 1994).

Security of tenure for women is particularly important because of women's key role in agriculture and within the household. Case studies and surveys carried out by FAO and other development organizations show that women do not have equal rights to land than men (FAO, 2013). The FAO supported studies clearly indicate that women's access to land and other productive resources is limited. Daley & Englert (2010), in their study on some eastern African countries, call for a stronger focus on gender equity- on securing equal land rights for both women and men-in order to achieve sustainable positive change .

Over the last twenty years governments in the wider eastern Africa region have been highly involved in land tenure reforms and land law making (Daley & Englert, 2010). In drafting these new policies and laws, securing women's land rights and gender equality were main issues of discussion and resulted in progressive laws and policies protecting the land rights of women (Daley & Englert, 2010; Daley et al., 2010). Land rights are defined as rights to own land, to use, to control and associated freedom to lease out, mortgage, sell, purchase and bequeath land that are legally and socially recognized and enforceable by external legitimized authority, it can be on village level, institution or executive body of the state (Agarwal, 1994; Meinzen-Dick et al., 1997).

Women's land rights are important because they will increase the women's ability to make decisions on the land they own. Allendorf (2007) states that women's land rights act as source of empowerment. Increasing women's access to land and security will result in increasing their control over the land they own by making major decisions such as decisions on the crop to grow, and other inputs, and technologies to use in their farms. Consequently, this leads to the understanding that women land rights support household food security.

However, even where women are titled to access to land and given land rights by laws, they may still face challenges in practice to exercise their rights (Daley, 2010; Polavarapu, 2011; Simbizi et al., 2014). How the laws are enforced and implemented plays a role, together with existing beliefs, religion, customs, status within the household, economic status and education (FAO, 2002).

2.3 Land registration and land administration

The developments in land tenure reform and drafting of new land laws resulted in major investments in land administration and land registration (Daley & Englert, 2010). Land right recordation systems document and map people's tenure rights to parcels (pieces of land). Examples are cadastral maps, land registries and other forms of land records. Cadastre and land registration are often considered together as a whole and indicated by land recordation. They form the core of a country's land administration system.

Land registration is a process of official recording of rights in land through deeds or title (on properties). It means that there is an official record (the land register) of rights on land or of deeds concerning changes in the legal situation of defined units of land. Land registration systems are part of a country's legal framework and play a key role in the context of climate change, natural disasters and conflicts.

Having tenure rights registered or recorded is considered to bring various benefits. In general it gives people greater security of tenure, and reduces the chance of your losing your land or being evicted from it. People will be more willing to invest in or on the land and can sell the land more easily. People can get credit by using

the land as collateral. Local and national governments can more easily plan and manage land use, and collect revenue from it in the form of fees and taxes (UN Habitat, 2012). Therefore providing and improving systems of tenure right recordation will improve security of tenure rights, including those held by women (FAO, 2012).

3. MATERIALS AND METHODS

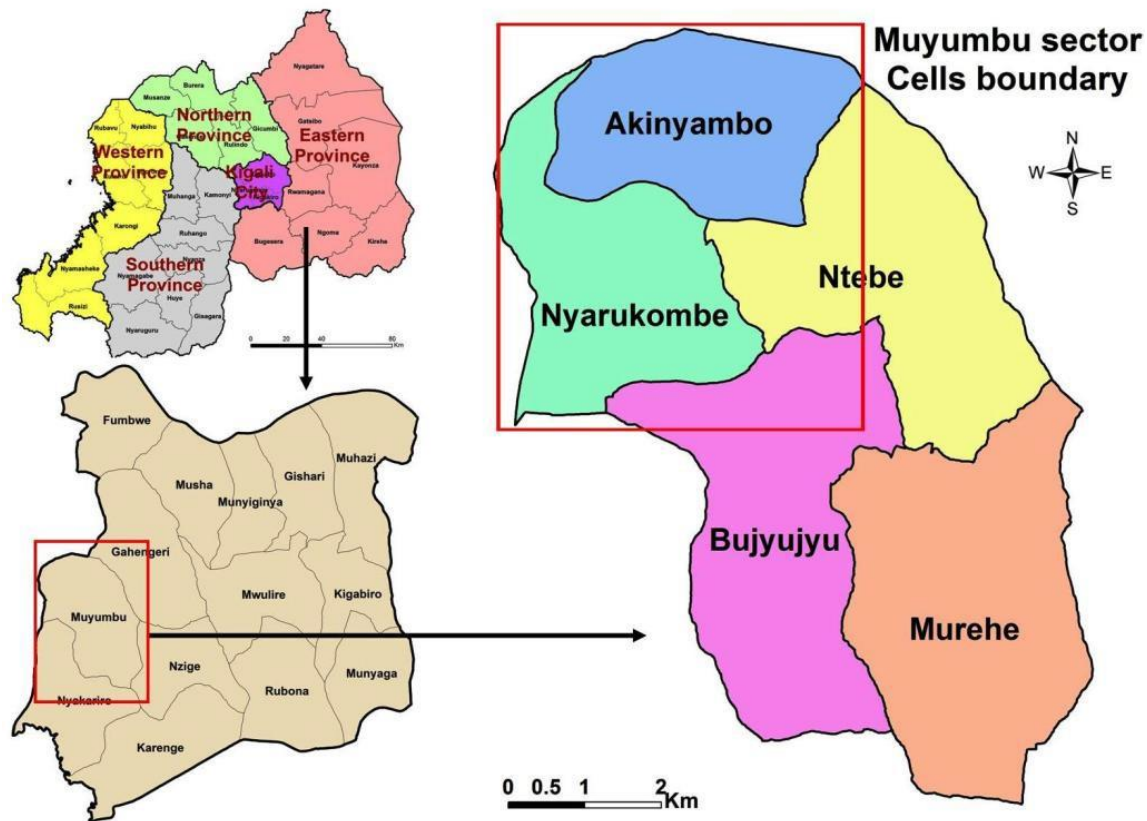
To achieve the research objectives a qualitative research approach was considered most appropriate. A case study was conducted covering one sector of the district of Rwamagana, in Rwanda. This section describes the study area and explains the field data collection and data analysis.

3.1 Study area

The case study area is Muyumbo sector, in the district Rwamagana in Eastern Province. Eastern Province is one of the four provinces in Rwanda. With the exception of Kigali City which is the capital city of Rwanda, the majority of population (92 %) lives in rural areas and depend on subsistence farming.

The choice of study area was based on a multi-stage non random sampling procedure. First, Eastern province was selected because it is the most rural province of all provinces. Then time, accessibility and financial resources defined the choice for Muyumbu sector. This sector has five cells which are Akinyambo, Nyarukombe, Ntebe, Bujyujyu and Murehe (figure 1). The dominant land use is subsistence agriculture. Lastly, two cells in Muyumbu sector were selected for the field data collection: Akinyambo and Nyarukombe

Figure 1. Study area in Rwanda, Eastern Province, Muyumbu Sector



3.2 Field data collection and analysis

Sampling

The women to be interviewed were selected based on the non-probability sampling strategy of all women farmers who registered their land, either jointly or individually (Sahu, 2013).

A list from the RNRA with all parcels in the two cells was used. In the next step purposive quota sampling was used, 5 for single ownership and 5 for jointly owned (woman and husband or others) with a total number of 10 parcels in each cell. The women registered as owner or co-owner were contacted and interviewed. Where the people did not want to participate, a replacement strategy was used to find sample another parcel and thus respondent. The sample size comprised

20 women farmers who are owners of land, either individual or jointly, spread over 2 cells.

In addition 5 local leaders were selected to be interviewed as key informants. These were selected based on their role in programs and interventions in the study area that support women farmers in food crop production.

Interviews

The women farmers were interviewed using semi-structured interviewing. The interviews took place on their plots. Pilot interviews were conducted to test whether questions were appropriate for the women to answer. Adaptations were made to the initial interview schedule.

The 5 key informants were interviewed in their offices: the executive secretary of Muyumbo

sector, the agriculture extension officer in charge of CNF, a teacher, the land notary and the manager of Sacco Muyumbo. Unstructured interviews were considered appropriate for the key informants.

Field observations

Observations were made to get information of the fields women were working on, the crops, the practices and technologies used to farm food crops, and to observe their attitude during answering questions. It was important to relate the field observations with their decision-making, in order to get insights in the impact of their decisions.

Documents

The field work included a document search on women land rights and LTR, securing women land rights and the impact on food security in Rwanda and in particular in the study area. Content analysis was carried out on journal articles, books, conference papers, reports and project documents.

Data analysis

The open questions in the interviews were transcribed and analysed using open coding. In addition to open coding, verbatim response approach was applied. The closed questions were documented, processed and analysed using Excel and SPSS. The data was further elaborated by descriptive analysis. The outcome is presented in tables and graphs and overviews of key thoughts.

4. FINDINGS

The research findings are presented in this section focusing on perceptions of women and their land rights, women's decision making in food production and programs and interventions to support women farming.

4.1 Perceptions of women on their land rights

4.1.1 Meaning of land

The responses on how women perceive land were collected through qualitative interviews. Similar ideas were merged together to form a common theme. Table 1 presents the various explanations that express how women meaning of land. It reveals how valuable or important land is for women. Land is the primary source of food and the source of livelihoods. In addition, land is viewed as a playfield for raising a family, and that on land; women have the opportunities to carry out activities that they see as source of school fees for their children. Furthermore the women are assured to have shelter because of the land they own. Land is viewed as a prestige asset for women to own. It increases women status in society because people respect and trust them.

Thus, women perceive the land as important asset to own. This was enhanced by their comments that they considered themselves better off compared the others who do not own land in their community. And lastly, women view it as an important resource to pass on to the children through inheritance, suggesting that the children and generations to come would benefit in a similar way.

The majority of the interviewed women owned land through own purchase (35%). Other women owned land through their spouse (30%) who owned land before they got married. Another mode of land acquisition by women was through the government. Returned refugees obtained land through land redistribution. All women explained that no problem or conflict between previous owners and them experienced since they started using the land. They clarify that they did not run into difficulties in registering the land jointly or alone.

Table 1 The meaning of land for women

Theme	Description
Land as the primary source of food	All women shared same view, where in their word food was coming explicitly and frequently. They acknowledged the land as a primary resource for their households' food production. One woman said that <i>"I eat because I cultivated the land"</i> . Additionally, they explained that they can sell their harvest to buy other types of food they need. As an example, one said that <i>"land is where we get our daily food, we get food from the crops we grow on it, we can sell our harvest to get money, and because of my small land, my children are fine"</i> .
Land as the source of livelihood	Land was recognized as the source of life. This was also a distinguished meaning of land. The reasons were that they get their livelihoods from land, because agriculture is their primary occupation, they are paid by their own harvest after selling it. In one interview, a woman said <i>"land is a source of all life, [...] from my harvest I can get money, my children are able to study, and my children are not thieves because we have land"</i> .
Land as crucial for social status, wealth and power	Women stated that land is the basic means for respect in their community, a source of wealth and power. They confessed that to own land is valuable because it helps them to be trusted and they can borrow money from the neighbors because they know that the land is there. <i>"...Land is the source of everything, [...] if you don't have land you are nothing, they respect you if you have the land..."</i> <i>"...Land is source of wealth, I use land to develop myself, my children are studying because I have land and I have feelings that we are trusted in our neighborhood because we have our own land..."</i>
Land as crucial for development, shelter and children's education	Women explained again land as their crucial mean for development, the place to stay on, and they can use it for children's education.
Land as heritage and transferable thing	Another meaning mentioned by women was that land was a heritage from ancestors because land was always there it is not them who created it, moreover land will be inherited by their children.

4.1.2 Women's awareness of their land rights

Women were aware of their land rights and acknowledged several rights they possess. In table 2 these are summarised.

Table 2 Women perceptions of their land rights

<p>(i) Rights to use the land and manage it properly. This usage included:</p> <ul style="list-style-type: none"> ▪ to use their land as collateral, ▪ to pass down the land to their children, ▪ to divide the land in separation case for those who are married; ▪ to own the land alone because she is single owner; ▪ to use the land in agriculture production; ▪ to own the land jointly with the husbands; ▪ to use the land for development of themselves and <p>(ii) To have equal rights with their husbands</p>

Having their names written on land titles gave the women confidence that the husbands would not sell the land without their consent; they have rights to give a heritage to their children through inheritance; and that it made them feel that they have value in society and they perceive that their government cares about women.

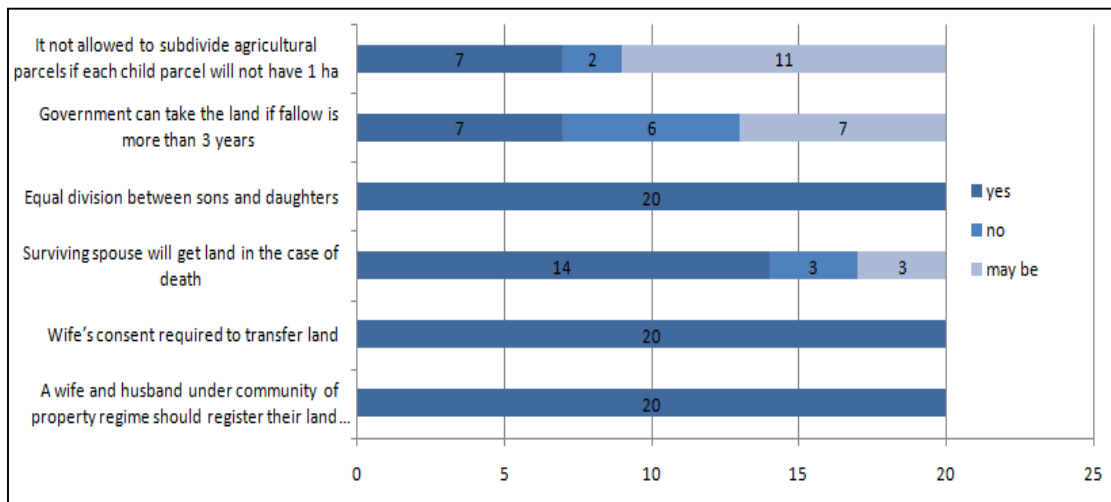
Additional information was collected by use of closed questions. The aim of this was to quantify not only the awareness of the land rights, but also the restrictions on the land rights as formulated in the land law. Figure 2 presents the results.

All women are aware of rights relating to ownership, inheritance and transfer. Most are however unaware of the limitations attached to their land rights, such as how many years land can be left fallow or unused or the minimal size of parcels, under which subdivisions are not permitted. These results show differences in perceptions that although women may perceive

tenure security by having their names appear on the land title, the unawareness of the limitations

attached to their land rights by the land law may be deceiving of the tenure security for women.

Figure 2 Knowledge of women on rights and duties in the land law



4.1.3. Perceptions of women on their tenure security

In order to investigate their tenure security women were interviewed about their fear for evicting. 13 out of 20 interviewed women see that there is no possibility of unwished transfer of the land they own by their husbands or relatives and 15 out of 20 interviewed women responded that there is no possibility to be evicted by the government in the next 5 or 10 years, respectively. However, others responded that there are possibilities of unwished transfers by their husbands and relatives which were 7 out 20 of interviewed women, and others 5 responded that there is a possibility to be evicted by government in next 5 or 10 years.

4.2 Women's decision making in food crops production

4.2.1 Women's decision making in food crop production

Registration of land rights generally confers decision making powers on access and use of land individuals. This section presents the results

of the impacts of registration of land rights for women in the study area by focusing on food crop production. It reports on if the women responding contribute in making decisions on the crops they grow, which in turn have implications on food security. Responses for this section were collected by use of closed questions (figure 3).

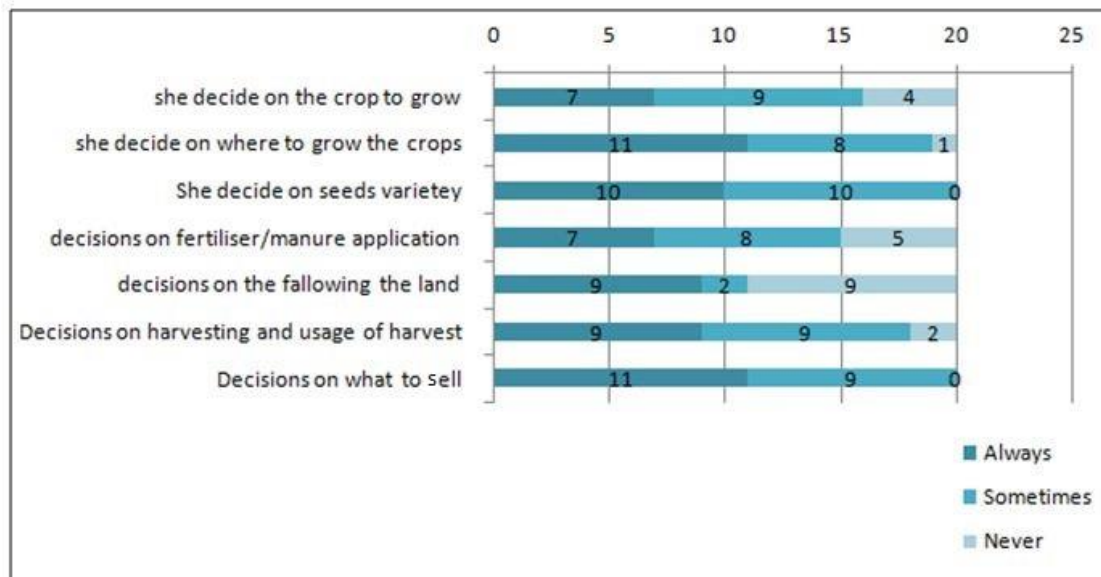
Figure 3 shows that overall, less than half of the women always made decisions regarding the choice of crop to grow; always decided on farm inputs i.e. manure; always decided on leaving the land fallow; and always had control over what to do with the harvests. This suggests that although the women basically have the rights of control and decision making, not all the women exercise these rights. Women were able to explain that external factors influence the degree to which they are able to make the decisions in relation to crop farming. For example, the government of Rwanda, through the Crop Intensification Program (CIP) determines what crops are grown and where. Instructions for recommended crops are delivered by local leaders. Some women did disclose that to increase food availability security for the families, they did plant food crops in the middle of the farms and got them surrounded and

obscured by the crops recommended by the authorities.

On fertilizers, culturally this activity is carried out by men. Carrying forward such sociocultural activity in to the formal context of land tenure has influence on women’s involvement in making decisions relating to the use of fertilizers on the farms. Overall, about half of the women

always contribute in making decisions about the site to grow the crops, the seeds variety, following the land and harvests. The seeds are bought or sourced from previous harvests. Those who purchased seeds said that they borrowed money from their husbands. Others said that they borrow seeds from their neighbours.

Figure 3: Women’s Decision Making on Food Crop Production



4.2.2 Impact of their decisions on increased harvest

The women who always and sometimes made decisions were asked to explain whether they noticed an increase in their harvest; if yes, whether the increase could be a result of the decisions they made; whether respondents changed crops they grew after their rights were registered; and whether they have changed their diet since they are now in a position to make decisions on what to grow to enhance food security. Qualitative interviews were used to collect the responses.

The women related harvests to the types of seedlings used. It was indicated that purchasing improved seeds yielded better than seeds sourced from previous harvests. The improved seeds were attributed to introduction of new types crops e.g. bananas and maize that accompanied the Crop

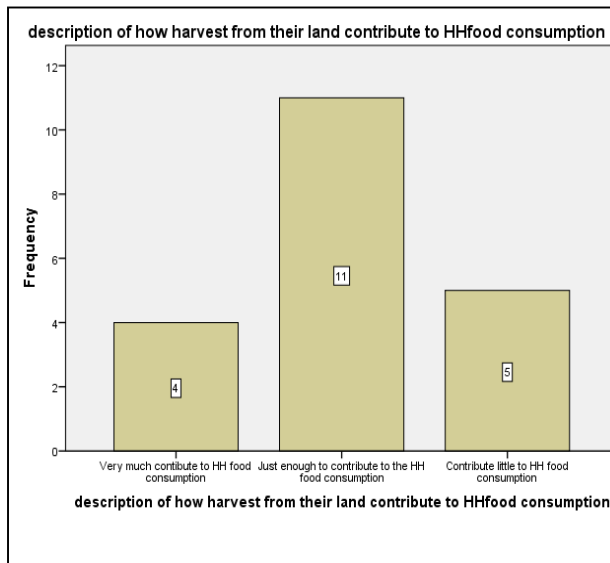
Intensification Program. Further majority of women did not see a relation between land titling and improvement in farming practices as most of them continue to practice traditional farming techniques.

“...what I used to do before getting land rights is the same as I do now, so I do not see that increased harvest...”

Lastly, majority of women (14 out of 20) did not change their diet after the land rights registration. Even though the majority not perceive increased harvest, 11 out of 20 responded that their harvests are just enough to contribute to the household food consumption. Figure 4 shows the distribution of responses on how the harvests contribute to their household food consumption. According to these responses, the registration of

land rights has had little impact on increasing household food consumption.

Figure 4: Contribution of harvest to household food consumption



4.3 Programs and interventions aiming at food security

4.3.1 Identified programs and intervention in the area

The following main programs and initiatives were active in the study area in supporting women farmers and agricultural food production:

- i) Crop intensification programs (CIP): is aimed to increase agricultural outputs by advocating that farmers grow crops such as bananas, maize, beans, potatoes and vegetables as food crops and coffee as cash crop – within the study area. The Ministry of Agriculture (MINAGRI) provides seeds and fertilizers, which farmers will purchase at the sector office. A local agronomist described the CIP as
“...a great opportunity for rural farmers to get seeds and fertilizers close to them...”

Despite this level of support i.e. that costs for seeds and fertilizers are subsidized, the women viewed it challenging to obtain funds to purchase them.

- ii) Umurenge Savings and Credit Cooperative (Umurenge SACCO): This program is a member-based cooperative. It encourages locals to save money and to take loans, with the aim of helping Rwanda’s rural poor to become more financially secure; be better able to manage economic shocks; and to invest in business opportunities. All the women interviewed have opened an account with this cooperative, citing the intentions to apply for a loan and securing their savings as motivations for their membership. Seven (7) out of the 20 women applied for credit. Of the seven three received a loan. The motivation to take credit was to invest in business for their husbands. Two of the loan beneficiaries bought motorcycles for their husbands, whilst one beneficiary paid school fees for her children. The majority who did not apply for credit were concerned about the 10% interest rates required. It was mentioned that taking loans for agriculture investments was viewed to be risky due to the unpredictable changes in climatic conditions – i.e. prolonged dry seasons or excessive rains in the rainy season may lead to crop failures and losses. Such challenges may make it difficult to pay back the loans.

“...I can’t ask loan for agriculture because dry period may be prolonged as it happened last year, or rain may be intense and destroy the crops, what can I pay back? They would take my land. I don’t want that to happen to me...” – respondent

- iii) Girinka Munyarwanda, meaning “one cow per family”. This is a government program aimed at enhancing food security by providing a cow to a selected poor family. Milk and dairy

products play an important role in the households' food security while manure provide organic fertilizers. According to the local leaders government provides the basic support such as veterinary services and follow up on the health of the animals. The veterinaries provide services such as vaccination and artificial insemination. Beneficiaries are trained to care the cows. One out of the 20 women has benefited from one cow per family program. While she benefits from having milk and manure for her farm, her challenge is that the size of her parcel is not large enough to provide enough pasture for the cow and incurs extra costs by having to purchase forage.

All these three programs aim to increase opportunities for women to increase productivity as well as provide food security. From these three programs, the issue of affordability arises. Obtaining better seeds and fodder for livestock (under the one cow per family program) cost money, yet women did not apply for loans to invest in their farms in fear of failures from climatic conditions. For all these programs in order to benefit a certain investment for the women is required. Not always the women have the possibility to invest or cannot afford to take the risks involved

5. DISCUSSION

This section discusses the research results in relation to other studies. It allows understanding and explains the implications of various aspects of the findings.

5.1 Perceptions of women on their land rights and tenure security

Women in the study area acknowledged land as important and valuable asset. They indicated how land is important in food production and as basis

for their livelihoods. Land ownership was also important for the interviewed women because it increased their status in society.

These findings are also found by Ali et al (2014). Women in Rwanda showed enthusiasm to own land for the first time due to registered land rights by LTR. Agarwal (2003) found similar findings in India, where women state that it seems like a dream they might have land on their own. Similar findings were found by Rajgor (2008) in a study in India on perceptions of women about obtaining land ownership through government land. Women felt that legal ownership was an overwhelmingly important issue. Women acknowledge the importance of owning land.

All women in the study area were aware and supported inheritance and ownership rights given to them. This could mean that they are contented to own land themselves. Santos et al. (2014) who evaluated the inclusiveness of Rwanda's land tenure regularization program found a high awareness for women of their inheritance rights, but a low awareness on the legal status of land rights. The actual research was carried out at a later stage and it could be that women have become more aware of their land rights over the last years.

The majority of women is aware that they have equal land rights with their male co- owners. Equally they know that their husband or other co-owners require their consent to transfer the land they co-own. Having their names registered on the land certificate made women feel that their land rights are secure. It can be concluded that the legal provisions in Rwanda and the land certificate obtained through the LTR supported achieving tenure security for women.

However, women's tenure security is, in some way, affected by restrictions on land use. According to the land law, leaseholds are granted for 99 years, while freeholds are awarded depending on the completion of the developments in accordance with the land use

planning and zoning regulations. The women in the study area are unaware of some provisions that relate to some of the restrictions related to the usage of land. In particular women were not aware of how many years the land can be left on fallow. According to the law governing land, land left idle for more than three years may be confiscated by the government. Furthermore, the women were also unaware of the minimum size of land (hectares) under which land should not be subdivided further (1 hectare). This could result in women unexpectedly, and unaware of the rules, have to revert their land to the state if the rules and regulations are not adhered to. This may lead to tenure insecurity for the women.

5.2 Women's decision making for food crop production

The government crop intensification program (CIP) played an important role in women's decision-making in food production. The selection of the main crops to grow is guided by the CIP. Women consulted their neighbors in order to be sure about which crops are required to grow. Although women have a land title, they were not free to make their own decisions on choice of crop; they had to conform to the requirements of the CIP program. Meanwhile, where women did not participate in the CIP program, they were limited in their ability to acquire good seeds and fertilizers which were provided by the CIP. Those women used local seeds secured from previous harvests and organic manure.

Women decision-making on usage of harvest and selling the harvest was also investigated. This showed that those women who are married normally ask permission from their husbands; those who are widow might ask their children before making decisions on harvest. Women did not confirm that their decisions had an impact on increased harvest. Women made sometimes decisions on their land for food production or not at all. ActionAid (2013) found that women's empowerment by land rights is represented in the

ways they are able to produce what they need for family food consumption. Wiig(2013) who assessed the impact of joint titling in rural Peru on women participation on households decision making, found that women's decision making is still low. The low participation of women landowners in agriculture decision- making in India, Ecuador and Ghana was also found by Deere et al (2013). This study could not find the experiences of increased harvest due to the land rights given to them. This is slightly different of what found in Nepal by Allendorf(2007) that the majority of women who own land have also a final say in households' decisions and it resulted in increased production.

5.3 Programs and interventions in crop production and support

There were several programs of importance for the women farmers in the study region. One main program was the government's crop intensification program. This program is run by the Rwandan government to support citizens to improve national food security and improve their economic status. For the women farmer it remained a challenge to have the money to buy the seeds and fertilizers.

Umurenge Savings and Credit Cooperative (Umurenge SACCO) is a financial member-based cooperative. It is intended to encourage local people to use formal financial institutions to save money and to take out loans, to help the rural poor to become more financially secure, be better able to manage economic shocks, and to invest in business opportunities. All women said that they have account in this cooperative, however only few of them requested for loans. And if loans were requested they were not used to support their food production.

A third important program for the women in the area is Girinka Munyarwanda, 'one cow per family', a government program to enhance food security by distributing one cow to poor families. The dairy products play an important role in food

security and the cow produced manure to fertilize the crops. One of the women got a cow through this program. However, it was not easy for her to keep the cow without enough land to pasture and forage to feed it.

However, there were no free supports which helped women to increase their food production and women do lack the prerequisites to be supported by those programs. Pritchard (2013) has found that inefficient implementation of these programs has not permitted succeeding to help the intended beneficiaries.

Women farmers strongly agreed that documented land rights given to them are more important than the programs and interventions in the area for food crop production. Like other findings on the need of financial support for the rural women, these programs should be regulated to work closely with

6. CONCLUSION

This study investigated whether securing women's land rights in Rwanda has resulted in improved food crop production and therefore improved food security. The study sought how women perceived land and their land rights, if women engage in decision making on the farm in order to increase productivity and thus food security, and the impact of existing programs and initiatives that in support of increasing food security. A qualitative case study approach using semi structured interview and field observation was used in this study.

These results showed the women in the study area perceive land as important and valuable asset to own. They had confidence cultivating on their own land. The rights of inheritance rights, ownership rights, use the land as collateral and such are generally well known. However they are unaware of the limitations or restrictions on their land rights as dictated by the land law for example on the minimum parcel size beyond

which subdivision is not allowed. But being unaware of the limitations in the land rights was did not affect the women's perceptions about their tenure security and were positive that the government is gender inclusive in relation to land rights.

Registration strengthened women's land rights and empowered them to make decisions on land. Women however did not fully exploit their decision making powers in relation to food crop production and therefore increasing food security. External factors and initiatives introduced by the government and aimed at increasing agricultural productivity i.e. CIP interfered women's decision making powers. Besides the CIP, the local cooperative and the one cow program were met by the issue of affordability by the women. Access to improved seeds – although subsidized, was considered costly by the women. Further, women did not apply for loans to invest in their farms in fear of losses as climatic conditions have become unpredictable, and the interest rates. Further, land titling was not associated with change in farming methods as most women continued to practice traditional farming methods. At the same time, sociocultural factors from the customary practices were carried forth into the formal tenure. One of those is that men were responsible for manure and fertilizer application on the farm. Women thus left this role for the men. In all, this study could therefore not link that registration of land rights for women in the study area contributed to increased food productivity and therefore food security.

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