

Gender Equality, Agriculture and Rural Development: Evidence from Nyamasheke Coffee Production in Rwanda

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Abstract

This study examines and proves how women contribute to gender equality and rural development through cash crops. Although, women in agriculture sector have a greater role to everywhere in the world, which differs from country to country, state to state, work to work, society to society and region to region. Combination of the quantitative and qualitative survey methods was used. The analysis targeted on primary data by using observation and interview. Based on previous culture in Rwanda; most of women were not used to participate in cash crops, thought that was for men; so far, it was identified that women who intervene in cash crops prove their capability in it, and contribute more to gender equality as one way of empowering them economically. This study will help rural women farmers from rural area who were not participating yet in cash crop to change their minds, and be able to participate in cash crops as men do. The context is essential and policies can be founded on sound materials and gender analysis.

Keywords: women in agriculture, coffee, gender, cooperatives, income, household

1. Introduction

Agriculture is a backbone of development in developed and developing countries as well (Swaminathan, 1981). Women directly or indirectly represent an important role in various economic activities especially in agriculture, whether the country is developed or not, women should not be put away from any development program (Chauhan, 2012). The gender-founded labor division varies from one culture/society to another, and with that culture external challenges influence the level of activity (Nigst, 2004). In fact, except a small number among the majority developed countries, the effects of these women are not well comprehensible to the society, especially to cash crops.

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Through their limited income generating capacities; women form an economic stronghold of most of the farming households (SupriyaGarikipati, 2008). They are involved in over half of the farm activities in most developing countries, bear most of the responsibilities for household food security and contribute to household well-being over their income creating activities(Etenesh, 2005). In order to improve the capacity of African countries in reaching their food demand, women's roles have to be recognized by the society and should be given equitable access to the: land, credit facilities, extension services and improved tools as well as membership in cooperatives and to other rural benefits(Tegegne, 2012).

In Rwanda, 80% of the populations do agriculture, and the sector gives 30% of the GDP, with a report of 86% in jobs creation, and contribute 90% of the country food needed, coffee is the greatest export crop that comprises 450,000 and above farmers (Koss, 2016), Coffee takes first place in cash crop and more than 500,000 families depend on coffee production, and in Rwanda there is two kinds of the coffee: Arabica (98%), and Robusta (2%) (KABERUKA, 2000). The research on Rwanda Socio-cultural practices found that either men or women perform many activities in this sector, but some activities are productively by a particular gender like in coffee production, where the contribution of women has a clear gap compare to men, particularly in value chain and decision making(Burnet, 2011). Faced more challenges, few numbers of women participate to cash crop production in increasing their household's incomes. In politics, women are still well presented and Rwanda boasts the topmost rate of women in parliamentary office. But the decision making ability of them in agriculture productivity is still low (Herndon & Randell, 2013). In terms of farm ownership proportions, and productive resources' control, Rwandan women did not get the desired level in gender equality(Abbott & Malunda, 2016). In addition, the influence of men in different revenue generating activities affects deeply empowerment of the women in economic growth particularly in cash crops (Izere, 2017).

The aim of this study is to examine and prove how women contribute to gender Equality and rural development through coffee production, by presenting evidence facts from Nyamasheke district located in the Western province of Rwanda. The district dominant cash crops are: coffee and tea.

2. Materials and Methods

The study used both methods; quantitative and qualitative with analysis strategy which was selected in the study. Data given in the analysis are collected from primary and secondary sources. Primary data was obtained directly from respondents by using interview and observations instruments (Brief, 2012). For the intention of the research, the rural women as our dependents in Nyamasheke district country of Rwanda were the target people. The message sought from women and interprets on the ground their contribution in rural development through coffee production in the study area. Four (4) sectors out of the fifteen (15) in the district namely Mahembe, Gihombo, Nyabitekeri, and Karambi, were selected randomly with a survey of 100 households. Quantitative data was determined by using the formula of Cochran, 1977 as expressed by J. Kotrlik and C. Higgins (Kotrlik & Higgins, 2001),with the help of SPSS computer program. The research used the below formula of Cochran to determine her sample size;

$$n = \frac{N}{1+N(e)^2}$$

The below steps used to calculate sample size due to the above formula, where:

n: sample size

N: Total number of family/households in four sectors

e: Margin/maximum variability/error of 5% (0.05)

f: Probability to the event occurring

$$n = \frac{N}{1+N(e)^2} ; n = \frac{100}{1+100(0.05)^2} , n = \frac{100}{1+100(0.0025)} , n = \frac{100}{1+0.25} , n = \frac{100}{1.25} , n = 80$$

Twenty (20) women were communicated in each of the four (4) selected sectors totaling of eighty (80) sample sizes. We used properly purposive sampling with simple random techniques to select respondents. A purposive sampling technique used only for the respondents who were dependents and simple random techniques gave the same opportunity to every woman in the selected sectors. The interview and observation systems were applied to receive information from the respondents. In selected sectors, most of the rural women cannot write and read, there is why we implicated the interview system. The researcher used the open-ended and closed-ended questions and for particular facts replied by respondents after explanations. The researcher used also direct scrutiny during her evaluation procedure to allow more understanding and describe answers for occurring around and approve the given information. After collecting all data, the researcher edited them for ensuring the regularity of answers.

All data were classified and summarized mathematically. The researcher analyzed her data by using the following ways; quantitative data was determined by descriptive statistics with SPSS support, and data were interpreted in tables and figures, and then deduced and discussed due to the problem from the fields.

3. Results and Discussions

In Rwanda, agriculture is a keystone of economy. Rwanda Government has taken out barriers in commerce and generated incentives of teams/groups in cooperatives and individuals farmers (Howard, 2014). After genocide of 1994, there are about 400,000 farmers in coffee crops, 190 coffee cooperatives with 80,600 members where the women take 29% of the total members (Genereuse, 2012). There are two types of coffee: “Arabica beans” or “bourbon” (98%), and Robusta (2%) (Spaniolas, May, Bennett, & Tucker, 2006). The Arabica coffee is the one found in Nyamasheke district. In Rwanda before, culture was a barrier to women in general for several activities, where everything about money was for men as the head of family that is why until now some rural women are still scared to invest in cash crop like coffee, and their participation level is still low in it. This habit has been given bad impacts to some sectors in development of the country such as agriculture especially to coffee production. So far, their number has been increased a little and starts to invest in cash crops as men do (Genereuse, 2012).

Agriculture sector in Rwanda is playing a big role to country development (Pritchard, 2013). Due to gender equality and women empowerment (Rosa, 2017) women are calling to join agricultural cooperatives especially to cash crops. As the aim of this study is to examine and prove how women contribute to gender Equality and rural development through coffee production in the study area. Researcher has picked 4 sectors out of 15 randomly to collect her needed data, and in every sector took 20 rural women work in coffee production, which gives us the total of 80 respondents.

The demographic used to define the relationship among their economic and characteristics role in rural agricultural development are following:

Figure 1: Ages of respondents

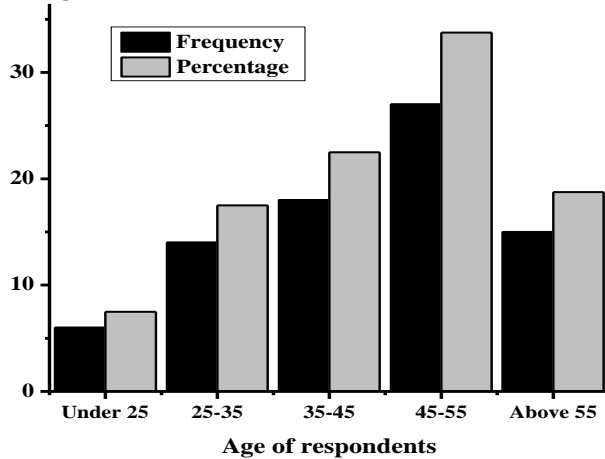


Figure 2: Level of Education

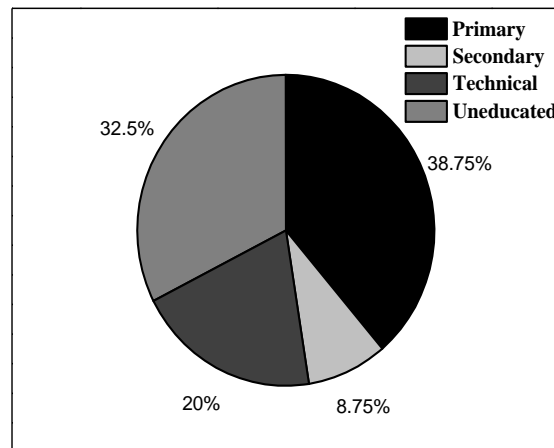
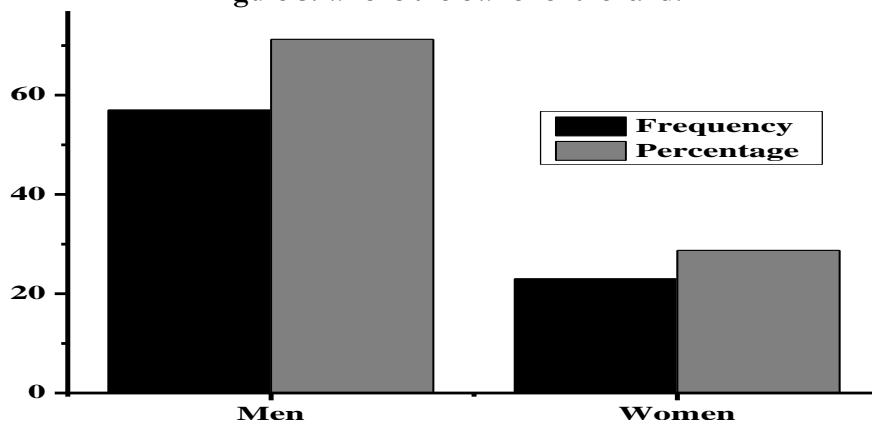


Figure 3: who is the owner of the land?



Source: Authors' field survey, 2018

In normal life, **ages** affect every human life aspect as employment; age may help in a case of output, like retirement, and fertility rates. Age facilitates the accounting of life expectancy rates and different important aspects (Organization, 2011). The determination of the age in this research helped our model outperform to the description of the social economic input and their effective in working force. According to the figure 1, we found that most of sampled respondents were between the age-range of 45-55(33.75%) which means that more women concentrated to coffee production freely without pregnancy. The ages of 35-45 years (22.5%) of respondents were yet in fertility and sexually effective level of life. Below 25 years (7.5%) of respondents were young people also participate in coffee production as one factor of job creation to them, but their number was low because some of them had not finished school yet. At the age of 25-35 years (17.5%), the respondents were too busy with children. At the age of 55 years and above (18.75%); people started to decrease in number because some of them tending to retire. Due to the above results; the researcher found that women who were menopause participate more in coffee production than others.

The level of education classified in four (4) groups, according to the figure 2; the most of respondents (38.75%) finished primary school. Statistically, 32.5% (26) of the respondents have never passed to school before, only 8.75% (7) of respondents had finished secondary level, and 20% (16) women have been trained in technical/vocational skills. According to S. Weir who said that schooling has the significant effect over farm productivity and social benefits (Weir, 1999), the researcher found that there was a big difference between educated and uneducated women specifically to their understanding and coffee production in district of Nyamasheke.

Who is the owner of the land? According to the figure 3; most of land used by these women were for men 71.25% (57), it is hard to take a decision to the land for these women, even the possible implications include changing technology or make modification by increasing more production, most of the women said that always have to discuss with their husbands. 28.75% (23) of them have their own lands of coffee production and it has found that most of them are widowers, and the remaining ones use the lands of their parents who passed away and these women make a decision themselves in improving their coffee production and this made them more responsible. For those who participate in coffee cooperatives said that; the good thing is to share ideas with others, and got quick answers compared to the individual farmers.

Koirala, Mishra, and Mohanty had shown that the owner of the land can be the source of good or bad impacts on productivity (Koirala, Mishra, & Mohanty, 2014). If the owner used the land properly the production also will increase. We discovered that cooperatives helped them in many areas as they shared ideas between them in new techniques as one example; coffee production was increased, as it known that "unity is strength".

3.1. Intervention level of women from planting to exporting compared to men in coffee production

Table 1

Coffee activities	Participation level (%)		
	Men	Women	
Planting	65	35	
Harvesting	26	74	
Processing	Use machine	100	0
	Drying section	27	73
	Remaining part	25	65
	Collection	64	36
	Transport	92	8
	Guard(security)	100	0
	Stock	87	13
Selling (marketing)	Exporting	79	21

Source: Authors' field survey, 2018

The coffee plays a great role to Rwandan economy through foreign exchange earns. As an example of World Bank report of 2009, it contributed around 0.857% of the total country GDP, and concentrating 90% and above of total value to the exported crops (Edition, 2011). In 2017, the coffee revenue has increased from 58.5 dollars to 64.1 dollars (Tumwebaze, 2018).

From the observation of the researcher; generally, more women did not participate in exportation of coffee in Rwanda; some of them work together in cooperative with men and most of them participated in manual activities. The collected results in table1 identified the value of women and men due to their level of participation in coffee production, which gave the image of inequality to cash crop too, especially to the processing and marketing gaps. If the rural women can improve their participation level and their understanding in cash crops, it could increase their incomes and productivity, especially to coffee crop which is the first crop earned more money in nation export, and poverty reduction in the region, while the big number of the population is women in Rwanda.

We discovered that even in some difficult activities women have presented their parts according to table 1 in processing activities. The data confirm that the intervention of women in coffee production takes a high level in this district especially to export, transport and stock activities compare to other places of the country(Boudreaux, 2008). Not only for household needs benefited from them but also increase the value of coffee, and decrease the percentage of unemployment in the study area. We found that their intervention changed the mind of some people who thought that women cannot participate in cash crop as men do, and this contribute to the agricultural development in general.

3.2. Cooperatives ‘participation between male and female in coffee production

Table 2

Sectors	COOPERATIVES	Male	female	Total
Bushekeri	Kobakanya	47	14	61
Gihombo	Abaryoshyakawa	89	73	162
Kagano	COSHACO	95	45	140
Kanjongo	∪COPROCA Nyamasheke	12	2	14
	∪COCAN Duhuzimbaraga	21	63	84
Karambi	∪MUTOVU CWS	15	4	19
	∪KOUKAKA	10	0	10
Karengera	MWEZI Coffee	78	18	96
Kilimbi	∪COOVAKAF	28	12	40
	∪KOTEMUKAMA	94	7	101
Macuba	∪COTECAGA	7	3	10
	∪COPROCAGA	8	4	12
	∪COACAM Mwasu	8	1	9
Mahembe	COCOFANYA	221	116	337
Nyabitekeri	∪NYACO	92	33	125
	∪BUKIRO Coffee	8	2	10
Ruharambuga	KOAKA Abangakurushwa	72	30	102
Shangi	∪KOAKA	37	11	48
	∪Abangakurushwa	86	15	101
Total		1,028	453	1,481

Source: Authors’ field survey, 2018

Table 2 represents the results found from the case study about coffee production through cooperatives in comparison of males and females participation.

According to “JIJUKA MUHINZI WA KAWA” which is a women cooperative registered in July 18th, 2018 and is the first women farmers cooperative of its type in Rwanda.

These women are a good example to others in different areas of life particularly in cash crop to rural women, beside that is an other way of empowering them in socio-economic and poverty reduction (Agency, 2018). In Nyamasheke district also women have been proved their participation in coffee production.

It has been confirmed that women, who participated in cooperatives, performed well in promoting agriculture productivity and economy development. In this district females were welcome to cooperatives (table2) as well as males but their participation level is still low. The study identified that some cooperatives represent a critical number of females, example of Gihombo sector to Abaryoshyakawa cooperative they have 89 males and 73 females; it gives us a good image that women are doing a great part in coffee production. The findings confirm that women are a key element in jobs creation, and source of income through cash crop in a way of fulfilling their needs, especially to those who have to care of their households alone in the study area. We found that through these cooperatives, participants' women are able to exchange ideas and get the quick solutions than individual's ones, and also got trainings easily as a team, which helped them to learn new technologies to improve their coffee production.

In Nyamasheke district, the researcher has found that women who invested in cash crop were still few as to most of the places of Rwanda, in 19 cooperatives of the study area, women numbers are still small, if the number could be increased, the problem of hunger also will be less than today. Cooperative in Rwanda as a good way of creating power together and keep a means to those who are weak and raise the community power with the personal abilities and increasing of incomes should be a basic tool in cash crop too, especially to our big number of females we have. However, cooperatives will influence their knowledge, confidence and skills, including their networks and resources which will help them to change their understandings.

3.3. The key elements support women to participate more in coffee production

Table 3

Key elements support women	Women from 4 selected sectors				Frequency /Total	Percent (%)
	Mahembe	Shangi	Nyabitekeri	Karambi		
Access to credit	5	4	3	4	16	20
Cooperatives	2	3	2	3	10	12.5
Trainings	1	3	1	2	7	8.75
Land size	2	1	1	1	5	6.25
Experience	3	3	2	1	9	11.25
Household size	7	6	11	9	33	41.25
Total	20	20	20	20	80	100

Source: Authors' field survey, 2018

Table 3 gives the key elements support women in coffee production;

3.3.1. Access to credit

It represents 20% of respondents, it found that this access will help them in the treatment of coffee growing by paying wages to workers, replacing old coffee trees, expanding land, and support them during harvest. If you need a credit to invest to the agricultural area, there are some key issues; as market research to understand client needs, offering the right products and services based to the market research, and to the dedicated implementation system embedded with the gender lens (Group, 2015). In Rwanda according to access to Finance (AFR) team, there are 5 Keys result areas, which are: SACCOs and Savings Group Development, Agriculture and Rural Finance, Digital Financial Services, and Risk Mitigation and Market Development which help farmers to get loan conveniently, in agricultural sector, there are projects for helping farmers; PROFIFA is one of the projects work with 446 people who are living with the disabilities, 65% of them are women (Rwanda, 2017). There are more opportunities for women with projects plans well prepared. In Nyamasheke district coffee farmers has been given more opportunities to get credit through projects or banks. That is why the research picked it as one of the key support women in participating more to coffee production.

3.3.2. Cooperatives

They represent 15% out of sampled people and had a good impact on the women participation in Nyamasheke coffee production. It helps more when people are working in cooperatives; they got trainings easily, communication and interaction between them is very convenient too.

The researcher has found that coffee cooperatives in this district help more to beneficiaries. According to the ICA (International Cooperative Alliance); a cooperative is defined as "autonomous association of the persons united voluntarily for meeting their common economic, cultural needs, social and aspirations through the jointly owned plus democratically controlled enterprise (Novkovic, 2008; Prakash, 2003). In Rwanda cooperatives are all considered as a tool to people's participation in a sense of the ownership to the cooperatives which exclude the members, for the members and by the members in a process of development and a factor for poverty alleviation (Allahdadi, 2011; MUKAMUTESI, 2014).

A cooperative can be explained as a way of increasing the economy of its members, it is also accomplish a social aspect, which brings members to unity form in a way of democratic and equality. (Warman & Kennedy, 1998) This unity was needed in Rwanda, after the genocide of 1994. So far, Rwandans women are creating power together through cooperatives which keeps a great means to those who were weak to increase their community power and personal abilities, boost their incomes and social unification. This influenced their confidence, knowledge and skills, including their resources and networks which helped them to change. However; coffee cooperatives in Nyamasheke helped farmers to get information on coffee price so easily, and share their ideas with others during meetings and help them to get necessary materials to reach a great productivity. As the big number of the citizen is females, it could help if women participate more in the coffee cooperatives, especially to widowers. However, in Nyamasheke district some women had seen these all above benefits from coffee cooperatives, and a researcher took it as the one of key elements support women in participating more to this coffee production.

3.3.3. Trainings

They represent 8.75% out of sampled people and had also a good impact on the women participation in Nyamasheke coffee production. Trainings have a great role in a progress of human achievement in any work. It is a given growth system of information or knowledge and skills for helping a farmer to work effectively. The good trainings need to give an image of how a trainee will put in practice the information given, after the trainings (Sajeew, Singha, & Venkatasubramanian, 2012). In a case of Rwanda, trainings in agriculture sector are very important; especially to cash crops; through different projects. After the civil war of 1994, the country has found hope in these crops: coffee. By turning its own problems to its advantage, Rwanda made premium coffee-growing a national priority which is supported a level on what one day the blood of enemies resolve their bad history.

Coffee has played the important part in a different positive ways in Rwanda. In 1990's, coffee has 60% to all exports after genocide it become 20% in 2001 with the world crash in coffee prices (FRASER, 6 August, 2006). The government of Rwanda has put the efforts in increasing the quantity and quality of coffee, so far, it accounts for 30% of total exports. You cannot grow without trainings; Rwanda also used trainings to upgrade their farmers. Pearl is one of projects which promoted the coffee production by organizing farmers cooperatives and trained their members in agricultural techniques, quality control, coffee processing, marketing and by building relationships directly with the roasters who buy coffee. (Fraser, 2006).

In Nyamasheke district, the collected data confirm that trainings was efficient to women farmer, most of the sampled people said that through trainings; they learned more skills and knowledge; as new technologies to develop their farming system, disease management and personal skills which were helped them to get a good productivity. In general, the half of the world who work in agriculture sector are women (Manandhar, Hawkes, Buse, Nosrati, & Magar, 2018); that is why trainings to women is very inevitable. In the research study, we found that trained women are able to solve challenges faced by coffee in its growing period earlier possible than untrained ones and it is a key in rural development. In case these trainings increased, Women's participation will increase more. It has found that the trainings with formal education develop fast the women in rural agriculture, they may perform more also by receiving the correct information, and learning new strategies to improve their coffee productivity.

3.3.4. The size of land

The data in table 3 shows that 6.25% out of sampled respondents are participating in coffee production because of their large size. Nyamasheke as a land fragmentation, it has low agriculture productivity in general, and the researcher has found that the land size is still a barrier to many people in investing to coffee production, According to S. Ehui and Pender said that reduced production is due to reduced use of agro inputs and reduced land size allocated to coffee production (S Ehui, 2005). When the production decrease, participation level of people also decrease. It has confirmed that land size has a big impact to women participation in the study area.

We have observed through our respondents that; “the more land size expands the more coffee production increase”, and increase also its participation level. Small land is one of the barriers to them in planting coffee trees in the study area; it is not reducing their participation only but also decreases their productivity due to land size used. The fig.3 shows that most of men (71,25%) are owner of the land; which means that only 28.75% of women are owners of the land to the research place, through these findings; we suggests that if the land size could be big, it can be a good opportunity to get more number of women in coffee production and being profitable to them.

3.3.5. The experience

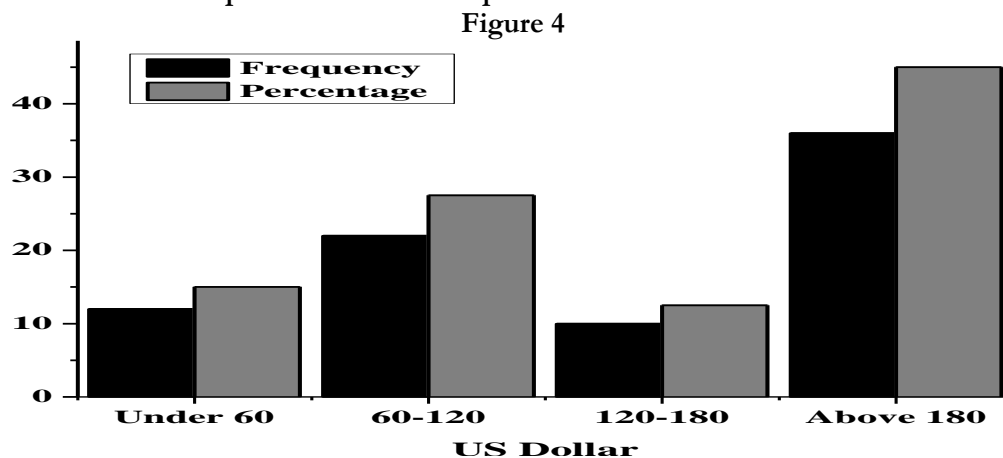
It represents 11.25% out of sampled people. Experience in agricultural sector has a big impact to the productivity, it is encouraging the farmers to participate more or not. As the researcher said it in the previous notes; in Rwanda, before genocide of 1994; coffee accounted 60% of the total exports, but after the civil war, things have changed; in 2001 was 20% , and in 2012 was almost 30% of the whole total exports(Hakorimana & Akçaöz, 2017).

Most interviewed women said that” the farmers who experienced both periods, are productive and get to know well the value of coffee than inexperienced ones, especially in case there are some challenges in farming they can do better than inexperienced ones by using known technologies, and skills to solve the problems, and lead to good harvest”. In addition: the research revealed that during the coffee production growth, has passed through various problems as instability of climate, use of chemical fertilizers, and marketing channels, these all challenges 'impact were not the same to the farmers due to their experiences. The researcher during her research in the study area, she found that the experience in Nyamasheke coffee production was the key elements support women to participate more in coffee production.

3.3.6. The household size

It represents 41.25% of respondents out of 4 selected sectors in Nyamasheke district. According to Anna Josephson, 2014; The large rural population density makes farmers to be unable to maintain their productivity stronger (Josephson, Ricker-Gilbert, & Florax, 2014). And to Omideyi, 1988 also said; the more family size is high, the more agricultural productivity become low as is income derived, and affect the family savings as well as their life(Omideyi, 1988). Most of women in the study area said that, the only reason which brings them in coffee production was the size of their families, where they can found more benefits in solving their own and household's problems; like school fees of children, family insurance, and access to credits; the big number of them were widowers and the other ones their husbands are still in jail due to civil war Rwandans experienced. We discovered that women in this district by using these above key elements, will develop or not their region depend on their choice or household size. The Researcher suggests that if they can reduce the size of households through birth control strategies; the productivity of their coffee also will be increased.

3.4. Average income of women per harvest in coffee production



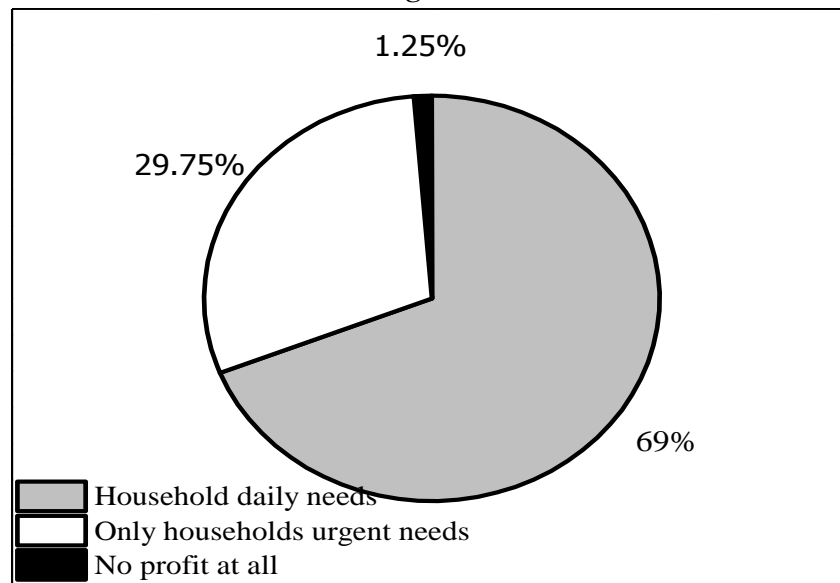
As indicated in fig.4, most of women earn between 120\$-180\$. Only 22 women out of sampled ones, are able to earn 180\$ and above per a harvest. 13 women earn below 60\$ per harvest.

And due to collected data; the big number is earning the significant amount of dollar per harvest in coffee production, which is gives us a hope that if Rwandans rural women may continue to participate more in coffee production, will be a key to rural agricultural development, poverty reduction and development of the country in coming days.

Income to women is one of the 5 domains from their empowerment in the Western Economic Association International (WEAI), when she controls overuse of the income and expenditures, it helps her to develop agricultural production (Alkire et al., 2013). According to Logeswari who said that when a woman can be able to empower herself in agricultural area, the nation also starts developing faster and be more widely (Logeswari & Thiruchenduran, 2016). It found that 80% of sampled women expressed that they were willing and continuously take adopted distinct possible methods, to adjust their revenues in a way of poverty reduction in their families. In addition, it is worth that till women have income in their hands, it gives a great significance to their capability and increases their participation and decision making level into their household and change the image of rural agricultural in Rwanda.

3.5. Benefits from women to households in coffee production

Figure 5



Source: Authors' field survey, 2018

The above data give us a clear picture about how households benefit women's income from coffee production. The fig. 5 shows that most of women's income (68.75%) spent to household daily needs. And 29.65% of their income is used only in the household when an urgent condition happens. Only one woman (1.25%) has said that her household did not profit at all, because it was her first year in coffee production, the coffee trees were still growing. During the research, it observed that the big number of sampled women was trying hard to contribute financially in wellbeing of their people. And due to their incomparable love to their kids, they are doing their bests to avoid hunger in their families, especially for those women who have husbands when they did not offer it for maintaining a peace and protecting their families. In addition: Nyamasheke women in cooperation with Rwandans in achieving vision 2020, are not only involved in coffee production but also engaging in other daily activities to improve their development; like; -hairdressing, -arts and crafts, -services, and commerce. These activities also help them to accomplish the needs of their households and fulfill the financial gaps before coffee harvest time.

According to Croppenstedt; women and men are sharing responsibility in farming land and managing different plots to some region in West Africa as an example (Croppenstedt, Goldstein, & Rosas, 2013). In 2008, International Trade Centre (ITC) by using data from 15 countries confirmed that women participate in labor force through coffee production; and the field work in coffee was around 70% while roughly 20% of coffee farms were operated by women(Council, 2018; Scholer, 2008). In the study area, women who participate in coffee production are creating jobs to themselves and others, typically in time of harvest and trees treatment. However, there are clear benefits from women to their households in the study area and engaged to different activities to fulfill some gaps before coffee harvest, it is not only the benefits of their families but also to the country development.

4. Conclusion

Our survey has focused on women's contribution to gender equality and rural agricultural development through coffee production in Nyamasheke district, Rwanda.

It has found that ages affect negatively their participation, especially during their fertility or retirement time. And the land used by these women, most of them were for husband, this took a big part to limit women in being wholly productive to coffee production, and it is still difficult to take a decision themselves to the land without the confirmation from the husbands, even if there is a new technology to use. Although, it has found that through the money earned by these women can raise; their status in society, rural agricultural productivity, poverty reduction and reduce hunger inside the country, all those good effects contribute to gender equality. In additional; to earn their own money is empowering them economically and increases their self-confidence, level of decision making, and great understanding to other rural women. In this research work, women contribute efficiently in their households in increasing: income, coffee values, job creation and country economy in general. And it is suggested that gender in Rwanda will continue to improve in various sectors especially to cash crop so that women benefit as well as men do.

Biographies

OPHI : Oxford Poverty & Human Development Initiative

FAO : Food and Agricultural Organization,

IFAD : International Fund for Agricultural Development

IFPRI : International Food Policy Research Institute

GDP : Gross Domestic Product

EAC : East African Community

OCIR : Rwanda-Office des Cafés

ILO : International Labor Office

MINAGRI: Ministry of Agriculture and Animal Resources.

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References

- Abbott, P., & Malunda, D. (2016). The promise and the reality: Women's rights in Rwanda. *African Journal of International and Comparative Law*, 24(4), 561-581.
- Agency, R. C. (2018). Rwanda Cooperative Agency (RCA), . Retrieved First women cooperative in coffee production, Rwanda.[Online available]
- Alkire, S., Meinzen-Dick, R., Peterman, A., Quisumbing, A., Seymour, G., & Vaz, A. (2013). The women's empowerment in agriculture index. *World development*, 52, 71-91.
- Allahdadi, F. (2011). The Level of Local Participation in Rural Cooperatives in Rural Areas of Marvdasht, Iran. *Life Science Journal*, 8(3), 59-62.
- Boudreaux, K. C. (2008). Economic Liberalization in Rwanda's Coffee Sector: A Better Brew for Success. *Yes Africa Can*, 185.
- Brief, A. I. (2012). Qualitative and Quantitative Research Techniques for Humanitarian Needs Assessment.
- Burnet, J. E. (2011). Women Have Found Respect: Gender Quotas, Symbolic Representation and Female Empowerment in Rwanda. *Politics & Gender*.
- Chauhan, N. M. (2012). Role performance of tribal farm women in agricultural and animal husbandry in Gujarat. *Karnataka Journal of Agricultural Sciences*, 24(5).
- Council, I. C. (2018). Gender equality in the coffee sector (pp. 19). Mexico City, Mexico: ICC 121-5.
- Croppenstedt, A., Goldstein, M., & Rosas, N. (2013). *Gender and agriculture: Inefficiencies, segregation, and low productivity traps*: The World Bank.
- Edition, S. (2011). Rwanda Economic Update.

- Etenesh, M. (2005). Women's empowerment through sustainable micro finance: Rethinking bestPractice. *Retrieved from: https://cgspace.cgiar.org/bitstream/handle/10568/29021/This_is_MessayTegege.pdf*
- FRASER, L. (6 August, 2006). Coffee, and Hope, Grow in Rwanda. Retrieved 05 November, 2018, from Today's Paper
Corrections <https://www.nytimes.com/2006/08/06/business/yourmoney/06coffee.html>
- Fraser, L. (2006). Coffee, and hope, grow in Rwanda. *The New York Times*, 6.
- Genereuse, U. (2012). Analysis of Factors Influencing Women Participation in Coffee Value Chain in Huye District, Rwanda.
- Group, W. B. (2015). *ACCESS TO FINANCE FOR WOMEN IN AGRICULTURAL DEPENDENT HOUSEHOLDS LESSONS FROM A LITERATURE REVIEW* (pp. 12). Retrieved from <http://pubdocs.worldbank.org/en/239071450386092259/Session-4-Access-to-Finance-for-Women-in-Agriculture-Panos-Varangis.pdf>
- Hakorimana, F., & Akçaöz, H. (2017). The Climate Change and Rwandan Coffee Sector. *Turkish Journal of Agriculture-Food Science and Technology*, 5(10), 1206-1215.
- Herndon, G., & Randell, S. (2013). Surviving genocide, thriving in politics: Rwandan women's power. *Cosmopolitan Civil Societies: An Interdisciplinary Journal*, 5(1), 69.
- Howard, E. (2014). Rwanda, 20 years on: how a country is rebuilding itself. *The guardian*.
- Izere, I. (2017). *Improving the value of coffee exports in order to improve the value of exports: A case of Rwanda*. University of Cape Town.
- Josephson, A. L., Ricker-Gilbert, J., & Florax, R. J. (2014). How does population density influence agricultural intensification and productivity? Evidence from Ethiopia. *Food Policy*, 48, 142-152.
- KABERUKA, D. (2000). Rwanda Vision 2020.
- Koirala, K. H., Mishra, A. K., & Mohanty, S. (2014). *Impact of land ownership on productivity and efficiency of rice Farmers: A Simulated Maximum Likelihood Approach*. Paper presented at the Paper of Agricultural and Applied Economics Association (AAEA) Annual Meeting, Minneapolis.
- Koss, E. J. (2016). *Does coffee matter?: Women and development in Rwanda*. Northeastern University.
- Kotrlik, J., & Higgins, C. (2001). Organizational research: Determining appropriate sample size in survey research appropriate sample size in survey research. *Information technology, learning, and performance journal*, 19(1), 43.
- Logeswari, S., & Thiruchenduran, S. (2016). Empowerment of Women Farmers for Agricultural Development. *Imperial Journal of Interdisciplinary Research*, 2(8).
- Manandhar, M., Hawkes, S., Buse, K., Nosrati, E., & Magar, V. (2018). Gender, health and the 2030 agenda for sustainable development. *Bulletin of the World Health Organization*, 96(9), 644.
- MUKAMUTESI, O. (2014). *The profitability of rural Agricultural Cooperatives in Rwanda. A comparative study of two selected cooperatives*. University of Rwanda.
- Nigst, S. (2004). Gender Main streamlining world vision. *World Vision International*, UK.
- Novkovic, S. (2008). Defining the co-operative difference. *The Journal of Socio-Economics*, 37(6), 2168-2177.
- Omideyi, A. K. (1988). Family size and productivity of rural households in Nigeria. *Janasamkhyā*, 6(1), 29.
- Organization, W. H. (2011). National Institute on Aging, National Institutes of Health, US Department of Health and Human Services. *Global health and aging*.
- Prakash, D. (2003). The principles of cooperation: A look at the ICA cooperative identity statement. *New Delhi: PAMDA Network International*.
- Pritchard, M. F. (2013). Land, power and peace: Tenure formalization, agricultural reform, and livelihood insecurity in rural Rwanda. *Land use policy*, 30(1), 186-196.
- Rosa, W. (2017). Goal 5. Achieve Gender Equality and Empower All Women and Girls. *A New Era in Global Health: Nursing and the United Nations 2030 Agenda for Sustainable Development*, 301.
- Rwanda, A. t. F. (2017). Annual Report , 2017. 16.
- S Ehui, J. P. (2005). *Resource degradation, low agricultural productivity, and poverty in sub-Saharan Africa: pathways out of the spiral*: blackwell publishing.
- Sajeev, M., Singha, A., & Venkatasubramanian, V. (2012). Training needs of farmers and rural youth: An analysis of Manipur State, India. *Journal of Agricultural Sciences*, 3(2), 103-112.
- Scholer, M. (2008). *Women in Coffee*. Paper presented at the International Trade Forum.
- Spaniolas, S., May, S. T., Bennett, M. J., & Tucker, G. A. (2006). Authentication of coffee by means of PCR-RFLP analysis and lab-on-a-chip capillary electrophoresis. *Journal of agricultural and food chemistry*, 54(20), 7466-7470.

- SupriyaGarikipati. (2008). The Impact of Lending to Women on Household Vulnerability and Women's Empowerment: Evidence from India. *World development, Volume 36*,(Issue 12).
- Swaminathan, M. (1981). *Introducing nutritional considerations into agricultural and rural development*;[paper presented at the] 7. Sess. of the ACC Sub-Committee on Nutrition, Rome. Paper presented at the Symposium on Introducing Nutritional Considerations into Agricultural and Rural Development, Rome (Italy), 2 Mar 1981.
- Tegege, M. (2012). *An assessment on the role of women in agriculture in Southern Nation Nationality People's Region: The case of Halaba Special Woreda, Ethiopia*. Indira Gandhi National Open University.
- Tumwebaze, P. (2018). Rwanda: Coffee Export Receipts Increase to Rwf55.3 Billion in 2017. Retrieved 31-Mar-2019, from The New Times <https://allafrica.com/stories/201802270065.html>
- Warman, M., & Kennedy, T. L. (1998). *Understanding cooperatives: agricultural marketing cooperatives*: US Department of Agriculture, Rural Business-Cooperative Service.
- Weir, S. (1999). The effects of education on farmer productivity in rural Ethiopia. *The Centre for the Study of African Economies Working Paper Series*, 91.