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Original Research

Roles of Rural Women Income Generating Activities to Household Food Security: The Case of Jimma Arjo District, Western Ethiopia

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Abstract

In Jimma Arjo district, Oromia region, Ethiopia, the study was carried out with the intention of examining the role that rural women's income-generating activities have in household food security. The study used a mixed-methods research design with a descriptive study design. There were 329 responders in the sample. Purposive sampling was employed to choose key informants and simple random sample was utilised to choose respondents. Data collection tools included questionnaires and structured interviews. The study states that rural women are important contributors to various agricultural and non-agricultural tasks as well as household food security. However, depending on the socioeconomic situation of the household, rural women's roles in ensuring food security activities differ from one household to the next. The study made the following recommendations: local development organisations should support microcredit, offer extension services, and undertake other capacity-building initiatives in order to help society recognise the critical responsibilities that rural women play in household food security and associated activities. Household food security has been aided by the varied tasks played by rural women, including generating revenue from both farm and non-farm sources, managing their homes, and producing food.

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INTRODUCTION

Traditionally, women have been very important in providing food for their families. Women do not, however, have as much access to agricultural resources, inputs, or services. They encounter more severe barriers than men almost everywhere when trying to access markets, services, and productive resources. Their productivity is hampered by the gender gap, which also lessens their contributions to the agricultural industry and the accomplishment of more general objectives of social and economic development. More than 25% of the world's workforce consists of women farmers, who make up an average of 43% of the agricultural labour in developing nations. This percentage varies from 20% in Latin America to 50% in eastern Asia and sub-Saharan Africa (Neely et al., 2009). In this sense, Ethiopia is not an exception. Ethiopian rural women are vital contributors

to their homes' food security since they work in agriculture and produce food. Rural women make a substantial contribution, but they also have limited access to financial and practical resources and are typically disregarded by their community. In addition, local authorities and community organisations do not acknowledge their role or contribution to household food security.

The researcher has observed that women are undervalued in society despite being the engine of progress; this is evident from her personal experiences. They don't have as much access to resources to manage small enterprises and make money. Even if they start the business, their husbands control the money they make from it. Therefore, in order to investigate how women participate in and contribute to household revenue creation in Jimma Arjo district, this study looks at the role of women's money-generating activities in household food security.

Statement of the problem

In developing nations, women are not granted the same rights as men in terms of property ownership and social customs. According to data, women's economic empowerment is significantly impacted by men's domination in a variety of income-generating occupations (Tegegne, 2012). In terms of getting access to credit networks, women are subject to many sorts of systemic discrimination. Due to the lower incidence of corruption and bribery among women's groups, borrowers who are female have a reduced default risk and greater payback rates. Research indicates that expanding women's control over financial resources has a significant and direct impact on the welfare of the following generation as well as the rate and amount of accumulation of human and physical capital (Cammack, 2004).

Additionally, Taye (2015) studied how rural women contribute to household food security in the Southern Nation Nationalities and Peoples Region (SNNPR) of Ethiopia. He discovered that these women engage in agricultural activities like crop, fruit, and vegetable production as well as animal husbandry. However, the study discovered that depending on the socioeconomic level of their home, rural women's contributions to ensuring food security for their families and engaging in agricultural activities vary from woman to woman. In a similar vein, Messay (2012) discovered that women make up the majority of the domestic workers in the study community in his case study in Halaba Special District. In other words, they engage in both agricultural and non-agricultural pursuits. They place more emphasis on agricultural pursuits, and this study attempts to be carried out in several IGAs, encompassing agricultural pursuits.

In order to provide for the needs of the home, this study attempted to evaluate the roles that rural women play in income-generating activities related to agriculture and other off-farm pursuits. Furthermore, the researcher observed from her lived experience in the community that women's contributions to household food security in Jimma Arjo District are not as well acknowledged as they could be because of a lack of understanding of our society. This is because there hasn't been much research done in this field. Furthermore, research does not sufficiently address how

rural women contribute to ensuring food security or the significant role that IGAs played in household consumption by women.

Examining how rural women's income-generating activities contribute to household food security is the study's main goal.

Women's Participation in Income-Generating Activities

According to Ahmed and Maitra (2010), women are employed in agriculture as paid or unpaid labourers on other farms and agricultural businesses, as well as as independent farmers. They also work as unpaid labourers on family farms. Both at the subsistence and commercial levels, women are involved in the cultivation of crops and livestock. They manage diversified agricultural enterprises that frequently involve crops, livestock, and fish farming, produce food and cash crops, and are regarded as members of the agricultural labour force (Mekouar, 2017). Mekouar (2017) also discovered that, on average, 43% of agricultural labourers in developing nations are women. In Eastern and Southeastern Asia and sub-Saharan Africa, the proportion of women in the agricultural labour sector varies from roughly 20% in Latin America to nearly 50%.

Around the world, women play crucial responsibilities in assisting their community and family in meeting their food needs. The most unexpected finding, though, is that the community's efforts over the past few years have not been appreciably underutilised. More than half of the labour needed to produce the food consumed in developing nations is performed by women who work in agriculture and rural development (Etenesh, 2005).

In the poor world, women are particularly interested in engaging in occupations that provide revenue. It is a fact that over half of the working-age female population in the majority of SSA countries—93 percent in Burkina Faso, 87 percent in Angola, 98 percent in Burundi, 96 percent in Malawi, and 92 percent in Mali and Tanzania—works in agriculture (Mekouar, 2017). Because the majority of the goods produced by women in the agricultural sector are meant for domestic use rather than the market economy, their labour is frequently invisible (Ibnouf, 2009).

Although poverty affects homes as a whole, women are disproportionately burdened with alleviating poverty due to gender division of labour and women's duties for household welfare. For instance, Tanzania eliminated price controls and subsidies as part of its trade liberalisation agenda. Due to the increased cost of food, this compelled women to look for other sources of income. Because they are the primary food providers in their households, women have been disproportionately impacted by the legislation (Makombe & Associates, 1999)

Social and economic challenges that affect food security among women

There is a statistical and qualitative decrease in the amount of information, technology, land, inputs, and loans available to women farmers. The majority of those involved in agricultural support services—policymakers, managers, agents, and participants—are men, and they frequently lack adequate awareness of the unique issues and requirements facing

women farmers (Chepkoech, 2018). Because of this, information and extension services are usually targeted to male farmers with the hope that women will eventually catch on. The information that is currently available, however, indicates that this is not the case.

Women farmers have significant barriers to increasing agricultural productivity because they lack access to financing. Without credit, they cannot hire labour or purchase inputs like fertiliser, seeds, and advanced technology (Anhal et al., 2003). Women's restricted autonomy suggests that they have significantly fewer marketable assets under their control, which may prevent them from developing their own independent creditworthiness reputations (Anhal, A. et al., 2003).

According to Lynn (2001), one of the main causes of food insecurity is poverty. Food security is influenced both by an individual's purchasing power and the actual availability of food. Hunger is a result of economic policy structures and practices that are ineffectual, immoral, and corrupt in both wealthy and developing nations (Lynn, 2001). Additionally, sociocultural variables may raise the likelihood of malnutrition and hunger. Sociocultural issues that might lead to malnutrition and poverty include food taboos, women's lack of status and influence, lack of nutrition education for women, high rates of illiteracy, and insecurity (Lynn, 2001).

Women's capacity to contribute to household food security will undoubtedly be impacted by supportive agricultural policies that acknowledge this vital connection between women and food production. However, there are also some institutional barriers in the agricultural industry that prohibit women from utilising their greater authority as smallholding managers. The inability of women to make important management decisions due to a lack of control over land resources, such as the inability to use land as collateral for agricultural loans, the provision of extension services, marketing, training, and membership in co-ops that frequently favour male landowners, are some of these factors (Suda, 1993).

MATERIALS AND METHODS

Description of the study area

The east Wollega zone's Jimma Arjo district served as the study's location. Jimma Arjo is a district in the Oromia region's east Wollega zone. The capital of the zone, Nekemte Town, is 48 kilometres away, and Addis Ababa, the capital of the nation, is 379 km away. With 22 rural kebeles and 93,547 people in total—47,109 men and 45,438 women—this district is home to a considerable population.

Population, sample size, and sampling techniques

Various sample approaches were utilised by the researcher in order to achieve the research aims. The district was chosen using a purposive sample method. Furthermore, Kebeles was chosen by employing a basic random sampling method. Data from the Jimma Arjo District Agricultural Office indicates that as of right now, there are 20 rural kebeles, 11,995 total families, and 93,547 total individuals. Five Kebeles—Wayu Kumba, Lalo, Hara Cheku, Hindhe, and Tibe Cafe—were chosen at random from this group

to be included in the study. Thirty percent of the kebeles were made up of this. The sample size was calculated at a 95% confidence level with a 0.05 degree of variability using a simplified formula given by Yemane (1967) (Table 1).

Table 1

Distribution of Total Population in the Sampled District

No	Kebeles	Total number of households
1	Tibe Café	355
2	Wayu Kumba	384
3	Lalo	331
4	Haraa Cheku	557
5	Hindhe	318
	Total	1812

Because the problem is highly behavioural and the respondents were chosen at random, the researcher planned to use a 5% level of precision to reduce the sample size. The following formula is required:

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

where "e" is the degree of precision, N= is the overall research population, and n= is the sample size. $n=1812/ (1+1812(0.05)^2) = 329$ as a result. As a result, 329 people made up the sample size for the current investigation. Additionally, responses to the structured questionnaire comprised this sample.

Research Design

In order to illustrate the significance of the problem at hand, the study used a descriptive study design that combined qualitative and quantitative research methods to define ideas, attributes, descriptions, counts, and measures. The study made an effort to apply a contemporaneous mixed-methods research design in light of this. The researcher thinks they can address the research challenge at hand by combining these two approaches at the same time. Since both qualitative and quantitative methods have inherent flaws of their own, using a variety of methodologies can help mitigate some of the shortcomings of certain approaches. Creswell et al. (2003) assert that combining various approaches can improve a study.

Instruments for Data Collection

Two sources were used to gather the data: primary sources and secondary sources, such as journal publications and organisational reports, as well as research participants and pertinent documents.

Questionnaire

In order to gather information on the socioeconomic and demographic characteristics of the respondents, a structured questionnaire was created that included both an open-ended section where respondents could formulate their answers in their own words and a closed-ended section where they had to tick a box.

Interview

The interview was conducted with the intention of gathering further corroborating views to support and validate the questionnaire response. So, five development agents, one rural agriculture development officer, and one person from women, youth, and children's affairs were interviewed using a semi-structured interview schedule.

Methods of Data Analysis

Data analysis, both quantitative and qualitative, was done separately and then combined. As so, the examination of the quantitative data came first, and then the examination of the qualitative data. Version 20.0 of SPSS was utilised to do the quantitative analysis. In order to analyse the quantitative data obtained from closed-ended surveys, descriptive statistics including frequency, percentage, mean, and standard deviation were used. The mean values of the male and female respondents were also compared using a single sample t-test. When comparing two means or scores, the statistical t-test is employed.

RESULTS AND DISCUSSION

Demographic Characteristics of Respondents

According to the respondents' age distribution, 31.6% of them are between the ages of 21 and 30, 37.4% are between the ages of 31 and 40, and 31% are older than 41. The responders' ages ranged from 31 to 40 years old on average. As a result, the majority of responders (70%) were at their prime earning years, signifying the area's most economically engaged population.

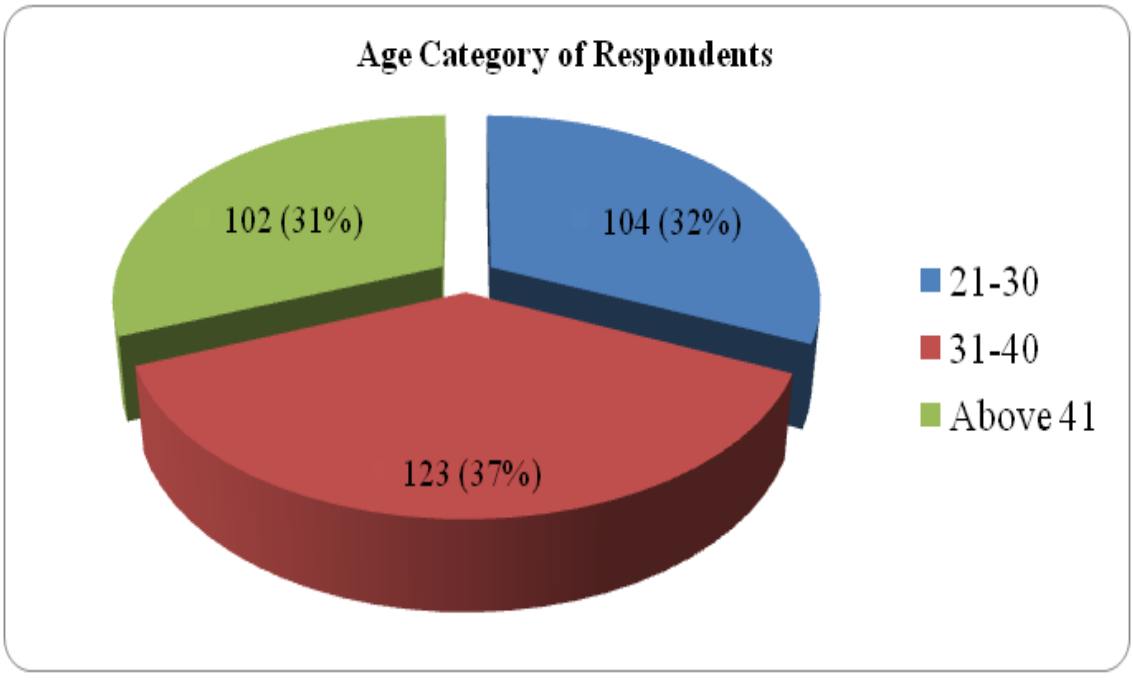

Figure 1 *Age of respondents*

Table 2

Socioeconomic Characteristic of Respondents

No	Variable		Sex	Frequency	Percentage
1	Marital Status	Married	Male	125	96.9
			Female	193	96.5
		Divorced	Male	2	1.6
			Female	4	2.0
		Widowed	Male	2	1.6
			Female	3	1.5
2	Religion	Orthodox Christian	Male	44	34.1
			Female	77	38.5
		Protestant Christian	Male	53	41.8
			Female	88	42.5
		Muslim	Male	32	24.8
			Female	38	19.0
3	House Hold Size	1-5	Male	69	53.5
			Female	118	59.0
		6-10	Male	55	42.6
			Female	76	38.0
		Above 10	Male	5	3.9
			Female	6	3.0

One significant aspect that has been identified as potentially influencing women's involvement in income-generating activities is their marital status. In terms of the respondents' marital status, the data indicates that 96.6% of them were married, with the remaining 3.4% being widowed or divorced. According to Novarty (2005), married couples are more likely than single women to be involved in income-generating activities because of the labour reinforcement that comes with carrying out both farm and non-farm tasks. Married women are therefore more likely to be in a secure food position. In addition, a variety of religions were practiced in the research region. The majority of responders were Protestants and Orthodox Christians, making up roughly 42.8% and 36.7% of the total, respectively. Muslims came in second (see Table 2). Respondents' family sizes were small (1-4 people), medium (6–10), and large (>10 people), with 56.8%, 34.3%, and 3.3%, respectively.

Respondents' educational level

Education is always valued as a means of liberation from ignorance and enables one to perform effective economic activities. Out of the total survey respondents, about 40.4% were not literate, 36.5% read and wrote, 15.5% were in grades 1–8, 4.3% were in grades 9–12, and 3.6% were other (Figure 2).

Because educated women have better roles than uneducated ones, the data also showed that around 60% of women had attained a different level of education. Women make a substantial contribution to family well-being and the security of food in the home. About 40% of respondents were illiterate, primarily as a result of the negative perception that society has of education in general and girls' education specifically, as well as the preferential treatment that men receive in all spheres of life. Parents, who are primarily from rural areas, tend to place greater value on the domestic responsibilities that girls perform than they do on their daughters' education. Naturally, this is a reflection of the circumstances facing rural women in our society. The respondents' educational attainment revealed that a greater proportion of them had only completed primary school as their greatest degree of schooling.

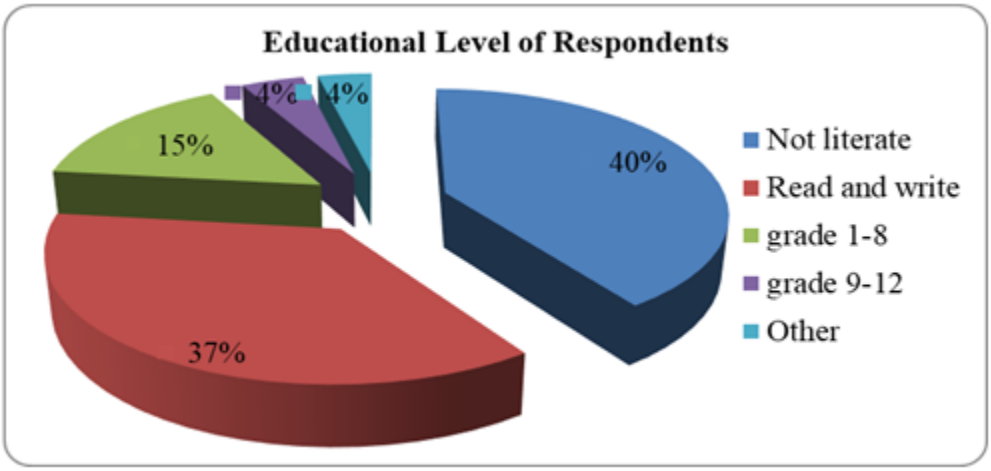

Figure 2 Educational level of Respondents

Respondents Major Source of Income

Women play a crucial role in agricultural operations, from tilling farm land to carrying goods to homesteads, as agriculture is the main driver of the economies of developing nations like Ethiopia. Furthermore, Table 3 shows that the majority of respondents (90.90%) derived their income from farming, but a sizable portion of respondents (7.60%) did so from small companies. Salary income made up only 1.5% of the respondents' sources of income. Production of crops and cattle is combined with other agricultural operations. The majority of crop production is rain-fed, with conventional small-scale irrigation serving as a complement in some places. In a similar vein, the idea was also validated by the data acquired using the qualitative method.

Accordingly, one female farmer stated that:

Agricultural farming is our source of IGAs. Crops such as teff, bean, pea, maize, sorghum, and noug are the main products. Among vegetables, potatoes, carrots, and cabbages are the main ones. Women's have many roles in the process of producing farming activities, starting from land preparation up to the end of the season.

(F1)From this quote, we understand that the main source of income is farming. The role of women in IGAs is very high, and they also participate to improve their means of life from what they get.

Table 3

Respondents Major Source of Income

No	Source of Income	Frequency	Percentage
1	Salary	5	1.50
2	Farming (crop, fruit and vegetable production and livestock)	299	90.90
3	Small Business (pity trade, selling local drink, wood product works, livestock trade)	25	7.60
	Total	329	100

Women play a crucial role in agricultural operations, from tilling farm land to carrying goods to homesteads, as agriculture is the main driver of the economies of developing nations like Ethiopia. Also, Table 3 illustrates that the main source of income for respondents is farming, which accounts for 90.90% of their income, and the source of income for a significant number of respondents (7.60%) was small businesses. Only 1.5% of respondents' source of income was salary earned. Production of crops and cattle is combined with other agricultural operations. The majority of crop production is rain-fed, with conventional small-scale irrigation serving as a complement in some places.

Similarly, the data gathered through the qualitative method also supported the idea. Accordingly, one female farmer stated that:

> *Agricultural farming is our source of IGAs. Crops such as teff, bean, pea, maize, sorghum, and noug are the main products. Among vegetables, potatoes, carrots, and cabbages are the main ones. Women's have many roles in the process of producing farming activities, starting from land preparation up to the end of the season.* (F1).

We might infer from this sentence that farming is the primary source of revenue. Women play a very important role in IGAs and participate to enhance their standard of living.

Number of Working Hours

The number of working hours for respondents who were male and female is shown in Table 4. Of the total number of workers, 39.60% of females and 8.82% of males work more than eight hours every day. In a similar vein, a sizable portion of men (16.72%) work fewer than five hours per week. Because they play more roles than men, women work longer hours than men, as the study's findings (see Table 4) demonstrate. Women in the rural areas of the study region have successfully enhanced the diversification of their livelihood

systems despite the added demands on their time as mothers and housewives. As a result, they make an effort to engage in all home and agricultural activities. In a similar vein, a young farmer who participated in a focus group discussion FGD expressed the following opinions about women's working hours:

> *Compared to men, women in rural areas work longer hours. In addition to their domestic duties, such as gathering firewood and water, they engage in food production, revenue-generating activities, and housework. Women in particular typically cook with crop leftovers and firewood.*

Numerous indicators from various research suggest that women are essential to ensuring and enhancing food security in households. Numerous scholars have noted that women are more likely than males to use the resources and abilities at their disposal to further improve the welfare of their family, particularly in terms of nutrition and health issues (Elmasoud, 2001). Given their higher contribution of working hours than males, women would become the primary breadwinners in most nations if their unpaid labour was appropriately rewarded. Because of the underappreciated economic contribution that women make, any fair assessment of their labour would result in a significant shift in the framework that now shapes social, economic, and political policy (Leonard, 2003).

Table 4

Number of Working Hours of Male and Female Respondents

No	Number of Working Hours	Sex	Frequency	Percentage
1	Less than 5 hours	Male	55	16.72
		Female	15	4.56
2	6-8 hours	Male	45	13.67
		Female	55	16.72
3	More than 8 hours	Male	29	8.82
		Female	130	39.60
	Total	Male	129	46
		Female	200	54

Local Leaders Recognition and Training for Operating IGAs

Table 5 shows that while 44.6% of respondents did not think local leaders' attitudes were acknowledged, 55.6% of respondents said they were. Those who advocate for non-recognition contend that the local authorities are unsupportive and hold the view that women's roles should be restricted to childrearing, procreation, and household duties. Additionally, they believe that selling income crops like coffee and nug, primary crops like tef and maize, land distribution, and

the purchase of oxen should be prohibited for rural women.

The idea that entrepreneur training boosts productivity is widely accepted, and numerous academic studies have been conducted to confirm the training's beneficial benefits on the development of human capital (Mwanyika, 2001). According to the survey results, which are displayed in Table 5, 44.6% of respondents had received training on income generation, while the majority of respondents (61.4%) had never received any. Arjo Districts Agricultural Office and Jimma Arjo Districts Women and Children Affairs, the researchers asked them what they had done for rural women's in IGAs. They said that we give them some training and create awareness for them, for example, on saving through women's associations and how they use agricultural inputs. Also, Jimma Arjo, District Women and Children Affairs, said that we are doing justice and with whom we are doing justice. For women's, we do things with them like court offices, policies, and the justice office of the district to create awareness and short training for their rights. But when we say that there are limitations to address the training and also awareness creation totally for rural women's, like lack of budget, political instability, etc. Similarly, interview participants' similar ideas on training for operating IGAs indicated that:

> *A multitude of factors impede women's access to extension training: insufficient focus on crop production and technology for rural women; lack of awareness of gender roles in curricula and training; lack of funding; and absence of specific NGO programmes for rural women.*

Table 5

Local Leaders Recognition to Role of Women and Access to Training

No	Items	Response category	Frequency	Percentage
1	Do local leaders recognized the role of rural women	Yes	183	55.6
		No	146	44.6
2	Have you received any training on IGAs	Yes	127	38.6
		No	202	61.4
3	Do you participate in different income generating activities	Yes	287	87.2
		No	42	12.8

Participation in Income Generating Activities

The responses of the respondents indicated that rural women engaged in a range of activities at varying degrees of income-generating activities. Nearly every household member participates in agricultural pursuits. There is only one agricultural season in the study region. Rain-fed agriculture accounts for the majority of production, with traditional irrigation systems serving as a supplement. The district uses a mixed farming method, which includes both animals and crops. Corn, sorghum, millet, coffee, noug beans, peas, vegetables and fruit crops are the main crops farmed in the region.

Table 6 shows that the percentage of respondents that take part in fruit and vegetable product activities were 38.5%, poultry 22.5%, pity trade 19.1%, 5.4% sell local drink, 3.9% participate in beekeeping, 3.2% sell wood

products, and 0.7% participate in hair plaiting activities.

Similarly, the data gathered from interviews and FGD participants was stated and summarized as follows:

> *In our society, women's participation in different IGA activities like vegetable products, poultry, different pity trade, irrigation, livestock production, wood production activities, different agricultural production, etc. If they are not included in the activities, we cannot succeed, and men cannot be alone.*

From the above quote, we understand that women have a great role in IGAs for them and their families, as well as in the development of the country.

Table 6

Women's participation of income generating activities

No	Income generating activities	Frequency	parentage
1	Fruit and vegetable product	157	38.5
2	hair plaiting	3	0.70
3	Poultry	92	22.5
4	petty trade	78	19.1
5	Beekeeping	16	3.90
6	selling local drink	22	5.40
7	from selling wood products	13	3.20
	Total	381	

Purpose of Alternative Income

According to respondents' responses, rural women participated in various income-generating activities for different purposes. Thus, the majority of respondents (38.71%) engaged in different alternative incomes to meet their families' food consumption; 23.20% of women respondents participated in IGAs to satisfy family needs (health care services, child education, and other facilities); 14.43% of respondents used the income to buy household materials; and 11.35% of participants used the income to purchase farm inputs (fertilizer, plowing, oxen, etc.).

Table 7

Respondents Response on the Purpose of Alternative Income

No	For what purpose do you use such alternative income	Frequency	parentage
1	To meet families food consumption	164	38.71
2	To buy household materials	61	14.43
3	For saving	22	5.20
4	To satisfy family needs (health care services, child education facilities…)	98	23.20
5	For house construction and maintenance	18	4.25
6	To purchase farm inputs (fertilizer, plough, oxen)	48	11.35
7	Other	12	2.85
	Total	423	100

Similarly, Ellis (2000) proposed that diversifying a household's assets, income streams, and range of activities is a key method for improving the standard of living for rural households. One important component of household food security is activity diversification. The many alternative income-generating activities (IGAs) were suggested as a way to increase revenue, diversify revenue streams, and supply food. Among the IGAs are crop farming, which is recognised for promoting food security and providing additional income to households; raising cattle for milk and meat to supplement diets; and raising poultry for eggs and meat (Table 7).

For some households, cash cropping and off-farm employment are significant sources of income. Such activities would probably increase the household's food security when they were added to a livelihood system. We might infer from the aforementioned quotation that rural women engaged in a range of revenue-generating endeavours for diverse objectives.

Expectation from Local Leaders

The responses of the respondents about the support that local leaders provide for women's roles are shown in Table 8. As a result, the majority of respondents—44.19%—thought that local leaders encouraged women psychologically to participate in IGAs, while 32.07 percent said that local leaders valued and acknowledged the roles played by women. Additionally, material incentives have been used to encourage housekeeping duties in 15.90% of women's families. The percentage of women's households with credit facilities is just 7.82%. The primary goal of women's development initiatives is to support women in creating profitable businesses that they can run in or close to their homes. IGAs that are typically carried out by women and are situated in or close to the house should be promoted in order to optimise the benefits for women. Activities that allow women to apply their existing skills should be the focus of potential IGAs. Rural women have the abilities and know-how to produce, process, and preserve small-scale plants, animals, and agriculture.

Table 8

Expectation from Local Leaders to Women's Role

Nº	Expectation from local leaders	Frequency	Parentage
1	Supporting house hold activities by material incentive	63	15.90
2	Appreciation and recognition	127	32.07
3	Psychological encouragement to their participation	175	44.19
4	Giving credit facilities	31	7.82
	Total	369	

Farm Activities Rural Women

As illustrated in Table 9, respondents were asked to rate women's role or involvement in various farm activities. Accordingly, different groups of respondents have shown their strong agreement with the items regarding the involvement of women in various farm activities (mean = 4.18). Accordingly, land clearing and planting/transplanting were rated as high, with mean values of 4.17 and 4.24, respectively. In the same Table, the perception of farmers towards fertilizer application (mean = 4.27), chemical application (mean = 3.20), threshing (mean = 4.42), and weeding (mean = 4.67) was rated as having a high mean value, indicating women's great labor-intensive participation in major farm activities'.

Moreover, harvesting, crop processing, and transporting or storing farm products were also areas of farm activities that were rated as the main role of women with a mean value of 4.39, 4.12, and 4.11, respectively, by both groups of respondents. Thus, the results show that various on-farm activities were performed by the women to support their household food security, as indicated by both groups of respondents. This implies that women's were engaged in all and every farm activity (land clearing, planting, fertilizer or chemical application, threshing, weeding, harvesting, crop processing, and transporting) so as to ensure household food security (mean = 4.18, SD = 0.86).

Table 9

Respondents Response on Farm Activities

		Mean by Sex		Total	SD	T-test		
№	Farm Activities	Male	Female	Mean		t-value	Df	Sig.
1	Land clearing/seed bed preparation	4.24	4.13	4.17	.878	1.112	327	.267
2	planting/transplanting	4.34	4.18	4.24	.904	1.631	327	.104
3	Fertilizer application	4.32	4.25	4.27	.785	.807	327	.420
4	Chemical application	3.28	3.15	3.20	1.250	.914	327	.361
5	Threshing	4.25	4.53	4.42	.753	3.366	327	.001
6	Weeding	4.62	4.71	4.67	.565	1.332	327	.184
7	Harvesting	4.31	4.45	4.39	.786	1.491	327	.137
8	Crop processing	4.23	4.05	4.12	.899	1.804	327	.072
9	Transporting and storing of farm products	4.02	4.17	4.11	.973	1.336	327	.182
	Total	4.18	4.18	4.18	0.86	0.66	327	0.19

Women were highly engaged or involved in various farm activities to maintain their household welfare. The statistical t-test value (t = 0.66, df = 327, and significance = 0.19) indicated in Table 9 also reveals that there was no statistically significant difference between male and female respondents in all measures of women's involvement in farm activities.

The data gathered through the qualitative method also supported the idea. Accordingly, a farmer who is 45 years old states that:

> *Traditionally, most agricultural activities like land preparation, plowing, and leveling fields are mostly taken as men's activities, whereas sowing, transplanting, weeding, and reaping are women's work. Post-harvest activities such as threshing, winnowing, seed management, and transporting grains from field to home are the work of both men and women. But in all agricultural activities, women's' participation in different works*

For this reason, everyone in smallholder households—male or female—participates in agricultural production. These results are in line with those of the Food and Agricultural Organisation of the United Nations, which said that women perform important responsibilities that contribute to home welfare in addition to unpaid labour (Makino, 2019). The amount that women contribute to agricultural production varies depending on the nation, the crop, and the task. In domestic agricultural production, women handle a variety of jobs such as planting seeds, pulling weeds, dousing crops with pesticides and fertilisers, harvesting, and threshing. They are also in charge of the marketing, transportation, storage, and processing of food after harvest.

Women in Livestock Production

Respondents were asked to rank how involved women were in livestock-related activities, as shown in Table 10. As a result, groups of respondents indicated that they strongly agreed with the items (mean = 4.45) that described women's involvement in livestock operations. As a result, the high mean values of 4.98, 4.70, and 4.26 were assigned to milking bars, clearing bars, and caring for animals, respectively.

Table 10

Respondents Response on Livestock Activities

Nº	Livestock Activities	Mean by Sex		Total Mean	SD	T-test		
		Male	Female			t-value	Df	Sig.
1	Clearing bar	4.74	4.68	4.70	.549	1.117	327	.265
2	Milking	4.96	4.98	4.98	.154	1.366	327	.173
3	Looking after animals	4.19	4.30	4.26	.774	1.305	327	.193
4	Feeding animals	4.26	4.36	4.32	.840	1.099	327	.273
5	Taking care of calves	4.19	4.26	4.23	.816	.0664	327	.507
6	Selling /exchanging livestock products	4.23	4.18	4.20	.785	.649	327	.517
	Total	4.43	4.46	4.45	0.65	5.6024	327	1.928

In the same table, the perceptions of respondents towards feeding animals, taking care of calves, and selling or exchanging livestock products were also rated as having a very high mean value, with a mean value of 4.32, 4.23, and 4.20, respectively. Thus, women's were involved in various livestock

activities to support their household food security. This implies that women's engagement in livestock activities such as clearing bars, milking bars, looking after animals, feeding animals, taking care of calves, and exchanging livestock products was high to maintain their household welfare (mean = 4.45, SD = 0.65). The statistical t-test value (t = 5.60, df = 327, and significance = 0.31) indicated in Table 9 also reveals that there was no statistically significant difference between male and female respondents in all measures of women's involvement in livestock activities.

These findings are also consistent with the Food and Agricultural Organization of the United Nations, which reported that significant roles played by women in addition to unpaid labor are aimed at maintaining household welfare (Makino, 2019).

Factors Affecting Rural Women to Generate Income

In all items included in Table 11, the mean values are well over the average mean, which is 2.5. More specifically, the calculated mean value for the rate of agreement ranges from 3.01 to 4.90. According to the report of the respondents, the mean values obtained for poor access to agricultural credit facilities from formal financial institutions and lack of access to farm inputs were 4.98 and 4.92, which were ranked first and second, respectively. Inadequate encouragement from local leaders; home care and child feeding responsibilities; and lack of basic education were put in third, fourth, and fifth with 4.86, 4.82, and 4.74 calculated values, respectively. Women's poor access to farm land was also reported as a significant problem (mean = 4.57).

Table 11

Respondents Response on Factors Affecting Rural Women to Generate Income

Nº	Factors affecting rural women's to generate income	Mean by Sex		Total Mean	SD	Rank	t-test		
		Male	Female				t-value	Df	Sig.
1	Poor access to agricultural credit facility	4.98	4.98	4.98	.13	1	.54	327	.58
2	Lack of access to farm inputs	4.90	4.94	4.92	.29	2	1.08	327	.27
3	poor access to farm land	4.59	4.55	4.57	.64	6	.540	327	.59
4	poor access to nutrition diets	3.01	3.01	3.01	1.02	8	.207	327	.84
5	post-harvest losses	3.12	3.04	3.11	.92	7	2.56	327	.011
6	Lack of basic education	4.75	4.73	4.74	.49	5	.394	327	.69
7	home care and child feeding responsibilities	4.81	4.82	4.82	.44	4	122	327	.90
8	Inadequate encouragement from local leaders	4.83	4.88	4.86	.35	3	1.29	327	.19
	Total								

This finding is consistent with the findings of Amha (2000). This was stated as rural and urban low-income women's being unable to obtain financial services from the formal financial

sector. As a result, they were unable to purchase important farm inputs such as fertilizers and improved seeds (Amha, 2000).

Also from the interview, similar ideas on the other challenges facing rural women in IGAs are as follows:

> *lack of different agricultural input supply, male dominance, cultural and social problems, lack of infrastructure, market problems, the expected role of women being more than men, also land-related problems, political instability, women themselves not considering themselves equally with men, dependence on their husbands and lack of capital, illiteracy, economic and social status of them, etc.*

From the aforementioned concept, it is clear that rural women have numerous obstacles to successful participation in IGAs. There is a statistical and qualitative decrease in the amount of information, technology, land, inputs, and loans available to women farmers. The majority of those involved in agricultural support services—policymakers, managers, agents, and participants—are men, and they frequently lack adequate awareness of the unique issues and requirements facing female farmers.

CONCLUSIONS

Therefore, it can be concluded from the data findings that women make up the majority of the working force in the research community's families. Both agricultural and non-agricultural activities are undertaken by them. The study's findings indicate that while women participated in more productive work in most households, they frequently earned a supplementary income. Poor access to agricultural credit facilities, poor access to farm inputs, poor access to farm land, home care and child-rearing responsibilities, lack of education, insufficient support from local leaders, and sociocultural issues are some of the factors that impact women's roles and their capacity for decision-making. For the majority of the households in the research area, IGAs constitute their primary source of income. The study's conclusions indicate that the various tasks performed by rural women—such as preparing the land, planting seeds, weeding, harvesting, threshing crops, post-harvesting, transporting, and marketing goods—have made it more difficult for them to obtain loans.

To augment the food security of their households, women in the study area also plant fruits and vegetables in their backyards, coffee, and other legume crops, in addition to producing large amounts of crops. They also work in the cattle producing industry. It is discovered that rural women in the research area have limited access to productive resources like land, animals, etc. Household heads have the majority of decision-making authority notwithstanding their significant contribution to the food security and extra income generation of their households. Furthermore, it was discovered that the research area's rural women had limited access to financing and extension services, which prevented them from learning about contemporary farming practices and technology that increase agricultural output.

Women perform the twin roles of mothers and wives in society and culture. In rural areas, the majority of women are in charge of their family members' education, health, and nutrition. Women participate in a variety of off-form activities to generate revenue for the family in order to fulfil the enormous responsibility of providing for the necessities of the family. These include trading and employment with the government. For economic

growth, women's participation in income-generating activities is crucial.

More significantly, women's development and the realisation of their economic potential depend on acknowledging and assisting rural women. Rural women are maybe the most potent untapped natural resource in the world, despite the fact that they are frequently unseen, mute, and undervalued. Over the past 20 years, there have been significant changes in the development process, yet neither poverty nor the vulnerability of women have decreased as was anticipated. It is crucial to support women's IGAs as a means of enhancing family food security in the research area.

Recommendations

The study's conclusions lead to the following suggestions being sent out:

In addition to marketing and enacting policies that can meet the expanding needs of microenterprise operators, local governments and non-governmental organisations must give women access to institutional credit. They also need to provide adult and non-formal education and training on various strategies for leveraging IGAs.

In addition, women must have access to productive resources like land, credit facilities, various infrastructures, extension education, and inputs to grow enough food for their households. It is desirable that local governments facilitate the infrastructure for women and provide adequate capacity building or empowerment.

The critical role that rural women play in their IGAs must be acknowledged by society. Additionally, development partners must endeavour to raise public knowledge of gender roles in society.

It is important to take action to introduce contemporary farming systems and innovative farming practices to rural women.

For the country to continue developing, women themselves must be willing to adapt and modify society in new ways.

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DECLARATION

The author would like to declare that there is no conflict of interest.

DATA AVAILABILITY STATEMENT

All data are available from the corresponding author upon request.

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