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Empowerment and Improving the Life Status of Rural Women through Agrofarming in Bangladesh



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ABSTRACT

The current study was conducted to identify the factors that influence rural women in income generation, household activities as well as their capacity-building status after participating in small-scale agro farming. The overall objectives of the study are to recognize the changing livelihood status and their empowerment status at the household level. A total of 75 respondents (women) were purposively selected from three villages of Trishal Upazilla under the Mymensingh district of Bangladesh. FGDs, KIIs and Case studies were performed for the collection of qualitative data from the study area. Numerous narrative, descriptive and content analyses were executed to attain specific objectives. The output of the qualitative analysis revealed that women who had engaged in farming considerably made a significant change in their life, and they can maintain

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dominance over their decision and income. In addition, the findings of the study represent the complex real-life situations of rural women, including the position of women in a family, their capability of decision-making, as well as contribution to generating income and their participation as a member of various organizations, which ultimately expresses their empowerment status. Moreover, the study indicates that active involvement in low-scale farming activities plays a key role in overcoming prejudice and gender-based violence and inspires them to be self-reliant.

KEYWORDS: *agricultural farming, women, income generation, livelihood*

Introduction

In Bangladesh, women are traditionally very conservative by nature. Mostly they are treated as a docile daughter, a complacent wife and an ideal mother. Women were rarely involved in economic activities. More specifically, in the case of farming, their percentage was remarkably lower than men. However, an increase in women's engagement in various financial activities has been witnessed (BBS, 2015). (Khatun & Kabir 2004) studied the topic of ensuring women's empowerment in Bangladesh through entrepreneurship. They stated that the social, political, and economic conditions of women are very vulnerable. Women who are not permitted to go outside can also run their businesses in their homes by making cakes, tailoring, gardening, poultry, fishing in their family ponds, and so on. Now, their contribution to economic growth and employment is noticeable, and the above-mentioned reviews represent small-scale agricultural farming, women's role and status in agriculture, their contribution to the family and overall economy, and the status of women's empowerment.

Rural women's empowerment, as well as agricultural technology adoption, may have a positive impact on technical efficiency, which can contribute to more efficient use of resources, better management of time and risks, increase in female farmers' productivity (Nigam and Rajendra, 2019). These production and quality improvements may lead to maximizing the returns to women's limited time, labor, land, and capital (Seymour, G.2017, Peterman, et al. 2010).

Sustainable agriculture, rural development and food security cannot be achieved through efforts that ignore or exclude more than half of the rural population - women; women constitute more than half of the agricultural labor force and are responsible for most of the household food production in

low-income food-deficit countries. Poor rural women represent the most vulnerable group in Bangladesh; they are isolated and deprived (Hashemi et al., 1996; Radović-Marković, Kabir Shajahan, Jovičić, 2020).

A large number of machines and tools has developed for the betterment of agriculture, but these are not a substitute for a human. Nowadays, Bangladesh is facing a huge scarcity of labor in the farming sector due to the development of the garments industries, which bound women to participate in farming for growing crops (Jaim & Hossain 2011; Birner & Ahmed 2010). Furthermore, it has been reported that the contribution of rural women in farming significantly improved their livelihood status (Kabir et al., 2021).

We hypothesize that the participation of rural women in small-scale agricultural farming might be an important factor in their socioeconomic condition. Therefore, research has been designed to explore the hypothesis, and it will be very effective in policy-making, particularly related to women empowerment by the GOs and NGOs in different circumstances. The specific objectives of this research are:

- i. To discover the factors that affect rural women's income in small-scale agricultural farming
- ii. To recognize the changing status of livelihood through agricultural farming
- iii. To examine the women's empowerment status in the household
- iv. To identify the major obstacles faced by women in farming activities.

Theoretical Framework and Methodology

A large number of research on women's empowerment has more or less been conducted to find out whether women's participation in income-generation activities led to positive changes in their lives or not in terms of greater agency. To elaborate, participation in decision-making, freedom of mobility, purchase capability, holding beneficial assets, independence in life, as well as social and political awareness are treated as agency in this case. Furthermore, access to household income and participation in crucial family decisions by women was also observed during the study period.

There are three inter-dependent dimensions in terms of empowerment such as:

- 1) Self-empowerment,
- 2) Mutual empowerment,
- 3) Social empowerment.

Mutual empowerment arises from communication with others, but individual actions, psychological attributes along with the removal of social, political, legal and economic obstacles generate social empowerment.

According to the International Centre for Research on Women (ICRW), when a woman has both the ability to influence financials and execute a plan, then it can be cited that she has achieved economic empowerment.

Two interrelated components are essential for determining the existence of economic empowerment (Golla, 2011) as (a) Economic Advancement Indicators, (b) Agency or Power Indicators. On the one hand, questions on productivity and skills, factors for economic participation, business practice, personal income, consumption, work environment and prosperity, etc. are included in economic advancement indicators. On the other hand, questions about control over assets, decisions making abilities, autonomy and mobility, personal well-being, gender norms and roles and responsibilities are encompassed in the agency and power asks indicators (Golla, 2011; Radović Marković, et. Al., 2022).

Lower-Scale Agricultural Farming Changes the Status of the Rural Women

To assess the changes in rural women after involvement in small-scale agricultural farming, their yearly income, housing condition, sanitation, drinking water, speaking in public, leisure, and contribution of rural women in expenditure time were calculated. To present the current situation of rural women, various development indicators were also measured.

Women Empowerment Index (Wei)

Considering the participation of women in the household decision-making process in agricultural and non-agricultural activities Women Empowerment Index” (WEI) has been constructed by using the methodology of (Bose et al., 2009). For example, the higher value (K) of an indicator (X) goes to indicate the higher empowerment level of a woman. K ranges from 1 to 3.

X₄ = Voting in the election (freedom of voice, choice and social activities)

Therefore, the overall WEI is shown in equation 4:

$$WEI = \dots\dots\dots (4)$$

Measuring women's empowerment using Women Empowerment Index (WEI) is shown in (table 1) where.

No. of respondent = 75

WEI_{argil.} = 1.96

WEI_{non-argil.} = 2.01

WEI = $\{(1.96 + 2.01) / 2\} = 1.98$, Decision making criteria: if WEI ≤ 2, Less empowered and if WEI ≥ 2, Highly empowered

Table 1. Women's involvement in the decision-making process

Decision making parameters	Male head alone, 1	Jointly by Women and Men, 2	Women alone, 3	Average Women Empowerment Index (WEI)
Decision to farm (poultry, Dairy, Homestead Gardening)	24	30	21	1.96
Farming management	27	29	19	1.89
Purchase of inputs	25	28	22	1.96
Selling of Goods	28	30	17	1.85
Post harvest operation	27	26	22	1.93
Use of money after selling	14	33	28	2.18
Agricultural indicators		1.96		
Cash management	17	35	23	2.08
Travel and recreation	25	29	21	1.94
Children's education	22	29	24	2.02
Voting in election	23	26	25	2.01
Non-agricultural indicators		2.01		

Source: Field survey, 2018

It can clearly be seen from the current study that almost in all cases, males and females equally contributed to decision-making. However, it has been noticed that in the cases of the utilization of money after marketing of crops, children's education, voting in the election, and cash management, female alone was the decision maker. Additionally, to know the overall empowerment status of all 75 rural women in agricultural and non-agricultural activities or both, the empowerment index has been calculated. The data presented in the table clearly showed that WEI scores are less than the average level indicating that women are less empowered.

Qualitative Analysis of Rural Women Taking Part in Small-Scale Agricultural Farming

In the study area, several qualitative approaches have been followed to uncover trends, thoughts and opinions concerning the respondents as financially active participants in agriculture. For determining whether economic empowerment has taken place or not, it's important to look at the two components of economic advancement, power and agency, which are applied to measuring the process of economic empowerment (Golla, 2011).

Concept of Agricultural Farming

It was a general question asked by the researcher to furnish the questionnaire.

Respondents answered this like a farm is an area of land where anyone can do agricultural activities to produce food and other crops.

Some others said farming is a business activity where anyone can grow crops or raise livestock to earn money.

Economic Advancement

Factors Affecting Involvement in Participation in Agriculture Farming

The qualitative analysis normally tries to find answers which can't naturally be obtained from the numerical data. The researcher asked the respondents which factors are generally responsible for influencing them to start agricultural farming. In that case, most of the respondents replied that

they took part in small-scale agricultural farming only to increase their income for the betterment of their family life.

To Increase Income

Most of the respondents said that they belong to a low standard of living. Their income was too little to run their family. The head of their household's income was not sufficient to regulate their family. They thought about how they could increase their income. Some of them said that would be their home. At first, they had grown vegetables of their own. After, they thought that they could take it for business purposes. Some others said every woman in rural areas rears chickens and ducks or has at least one cow. In the past, they rear it for their own purposes. But they thought as they couldn't move outside, they had to remain home for social prejudices; they thought they could start a small farm that could bring some additional income to their household.

While others explained that various NGOs worked in the study area, these NGO people always tried to motivate women to do income-generating activities. As most of them were living under the poverty line so it was the main reason behind involving women in farming activities.

To Become Self-Dependent

Very few participants in FGD said that they engaged in agricultural farming not only for their increasing income but also to become self-dependent.

One of the participants said-

“When I was not engaged in income generating activities if I needed 5tk., I had to take it from my husband. Every woman needs some personal things, and for each and every single one, I think I had to beg my husband, and I did not like it. I thought I had to do something on my own. My husband's income was not that bad, but for my self-respect only, I have engaged with this. And I am really a fortunate woman that my husband never discouraged me.”

Use of Income

The highest percentage of money earned by the women was utilized for the children's education and nutritional purposes, but it is quite the opposite when the earner is male. Moreover, they also said that, although their income is not higher compared to their husband, their income has a significant impact on the education of their family.

One of the participants said:

"I have one daughter and one son. My daughter reads in class 10, and my son in class 8. As I had only completed primary education, it is not possible for me to teach my children. I have hired a teacher for them at home to whom I had to give 1100 Tk. a month. My husband did not want that because of the extra expenditure. But I said as I earn from poultry rearing, I can maintain this cost. Then he did not oppose that."

The study found that many earning women in the study area possess better control over their earnings. Most of the respondents in FGDs said that they could use their income by their own decisions or jointly make decisions to spend their income. However, a few of them said that they couldn't spend their income without their husband's permission or their elder son's permission.

One of the respondents in FGDs said:

"I had one son and one daughter. My son recently opened a shop in the Sadar of Gazipur. For this shop he needed 1 lakh tk. and my husband had not agreed to open this shop. But it was my own decision to help my son to open this shop. In this Eid I sold my cow at 63000 tk. My husband did not take this money; he gave up this whole amount of money, as it is my own income. Along with this money, I took credit 32000 tk. from ASA as it is more convenient for women to get credit. And my husband did not oppose me for doing this"

Some others opposed that they did not have any right to make decisions. One of the case studies represents that. "In my family, every decision is made by my husband. I am not even allowed to go my neighbor's house. And my earnings are fully spent by my husband. But that does not mean that my husband does not fulfill my needs. He fulfills my

needs by his own choice. But sometimes it gives me pain that I cannot spend my own money as I decide.”

The respondent's situation opinions vary from person to person. By summarizing the overall situation researcher found that most of the women in this area jointly make a decision about the use or control of income.

Training Facilities

Qualitative studies reveal that women in the study area get very few training facilities. They said there are various NGOs, BRRRI and BARI that come here to train them about farming activities, poultry and dairy farming, but they can't sometimes go there because of their workload. Most of them said training could increase their skill. It helps them to motivate them in a positive outlook which is very helpful for their life. Although some respondents also complained that their instruction did not give any positive results, rather it brought negative results for the theme. Some others also complimented that they are influenced to participate in income-generating activities by them.

Consumption Pattern

The researcher asked if there were any changes in their consumption pattern after their participation in income-generating activities.

The majority of the respondents frequently said that their income had changed their consumption patterns. They said that, along with their husband, they are also earning members. As earnings have increased, consumption has also changed.

One of them said:

“As my husband works in the garments, he comes home late at night. Sometimes he does not have time to buy necessary goods. During the last days of the month, he does not have enough money to cover those last days of the month, and I always try to cover those days from my earnings. During these days, I buy goods like rice, fish, oil, etc. from a nearby bazaar with my income. As I know that these days he does not have enough money, I do not require that money. If I were not engaged in earning

activities, I could not maintain these days. We would have to eat one meal instead of three."

Agency and Power

Control Over Land Under Ownership

The study's finding in this matter indicates that very few respondents had land under ownership, whereas the majority of the respondents had no cultivable land under ownership. However, the interesting thing is that a large number of the participants of FGDs had ownership of homestead land in the study area. Some of the respondents said that they did not get any property inherited from their father's family.

One of the participants of FGDs said:

"My husband gave me 35 decimal land near my house for producing vegetables last year. He believed I could manage with this myself during his absence." Because of the Sociocultural views rural area of Trishal Upazila, male partners of the household go to the garments for better earnings while female partners take the responsibility of farming. The researcher deeply saw that the male partners of their family did not permit women of their household to work in the garments; instead, they allowed them to do small shop business in front of the home or farming activities.

Control over Decisions in the Household

Asked this topic by the researcher about who makes the decision about what types of farming you should be involved in, most of the respondents said in the case of poultry and dairy, they spend more time taking care of it; so they had the right to choose. Most of the respondents said they make decisions solely on which vegetables should be produced and which animals should be reared.

Although some of them did not get this freedom, rather they had to wait for the decision of the husband or, in other cases, in the absence of the husband, their family member took this decision.

When deciding about children's education, most of the respondents said that they had better control over deciding where to admit their children or not.

One of the participants of FGDs said: "*My husband does not even know in which class my child studies.*" For identifying the capability of women in various decision-making related to the welfare of their families, another question was posed to them. A large number of women reported that they had a great opportunity to decide on education for their children, buying various groceries, voting in an election, planning, clothing expenditure etc. But it has also been found that most of the women in these areas make decisions with the help of their husbands, and they mostly prefer to make decisions by consulting with their husbands.

Rural Women and Small-Scale Agricultural Farming

Rural women are now trying to be self-employed by participating in small-scale agriculture like vegetable growing, poultry and dairy. In the study, these three types of farming have been chosen by the researcher. This study finds that due to the incidence, such as rapid men out-migration, women's increasing membership in the NGO, and the changing cropping patterns, women got the opportunity to work outside of their household area as economic participation in the agriculture section of the study area. The rapid industrialization and urbanization in central Bangladesh and the lower profitability of farming businesses both create push and pull for the men to go outside of the village for better earnings. In other cases, women in Bangladesh normally get a small amount of credit from various NGOs without collateral. This influenced women to participate in income-generating activities like small-scale farming. However, it has also been seen that the credit which women obtain is not normally used by men, which puts women in a trap because of the daily or weekly installment repayment. In this study area, the participation of rural women in small-scale farming made them economically empowered and considering self-empowerment, most of the participant women in these villages claimed that they had achieved self-empowerment. It also found that their relationship has been developed, but it has to be said that they still faced many difficulties in removing social obstacles as their social empowerment had not been achieved yet.

Findings of Case Studies

Five case studies were also done to collect detailed and hidden information about various queries that the researcher had in mind regarding the extent of involvement of rural women in the farming sector as well as the empowerment attainment by the respondents.

From these five case studies, three selective case studies, one covering livestock farming (*women*), one covering poultry farming (*women*) and one covering homestead gardening (*women*) is presented and discussed in this section of this chapter.

Respondent Involved with Livestock Rearing

Azmeri Begum lives in Bailor village under the Trishal Upazila and is a housewife of 45 years old. She has been living here for the last 23 years. She lives with her husband, Kamal Kazi, who is 53 years old and their four children in a three-bedroom space with a mud floor and a tin roof. Azmeri and her husband have been married for 25 years, and she feels lucky to have a husband who supports and encourages her to engage in different activities. She attended school and studied up to class five. Her husband works as a farmer. She said, *"When I was 21 years old, my father gave me into marriage to my husband. He was a day laborer. Then he worked in the people's field. My husband got a tiny amount of land from his father. We just built one bedroom on that land. After two years, my first son came into the world. Our costs increased as new members came to our family. My husband had one cow, which he took care of. After my arrival, that responsibility was given to me. Now I have two Australian cows which give ten to twelve liters of milk per day. And it's my good luck that I can sell milk from my house as buyers live nearby my home."*

To provide food for household consumption, her husband grows different crops with the help of hired labor; her three sons work outside the home and her daughter is married. She replied to the query regarding the changes in her life after participation in livestock farming: *"We were poor when we got married. I worked with my husband in the agricultural field, along with taking care of my cow. Our earnings from day labor were too low, and most of the time, women were ignored to take as day laborers. Then I thought of buying one more cow. My father helped me to buy that cow. With two cows, I started my farming. After two years, I sold my one*

cow and from that I got 60,000 Tk, which I used to reconstruct my house. And as I did not complete my education, I always wanted my children to complete their studies. Among three sons, my two sons completed S.S.C. and my daughter completed HSC. Our consumption pattern also changed when two became earning members of the house.”

Azmeri also said that they were successful in bringing solvency to their life by rearing cattle. She also said, “My husband’s contribution is higher than mine, but my contribution is not low to my family. I am happy that I can also contribute to my family.” She replied to the query regarding decision-making: “I am a fortunate woman whose husband loves me a lot and he always consults with me about anything.”

Respondent Involved with Homestead Gardening

Shefali Akter is a 44 years old housewife. She lives in Dhanikhola Village under Trishal Upazila of Mymensingh District. Her husband Hasem Ali is a garment worker. She replied to the query about migration to under areas from their village as,

“Due to financial crises as well as less profitable farming system and availability of various industries in my district, my husband had preferred to go work in the industry. He had worked in the industry for the last ten years.” She said she had been involved with homestead gardening for many years. When her husband went to the garments, she thought she could take it as a business. Shefali Akter had two sons and one daughter. Her husband earned 3000 Tk/month. When he went into the garment industry, his earnings were enough for their consumption at that time, but were not enough to maintain their children’s educational cost, medicine etc. She also thought of working with her husband, but he did not agree with that, she said.

“*My husband did not like that I work outside of the home.*” She said that they had 18 decimal land in front of their home, which was cultivated by her husband. After her husband’s migration, she thought she could use vegetable cultivation. She said:

“At first, I produced brinjal in my field. In Trishal Upazila, the maximum number of people is involved with brinjal production. So I thought it would be easy for me. I took two laborers to prepare the land. After four months, I

can sell them in the market, which was done by my brother. That was my first income."

She also said after involvement in vegetable cultivation, she could contribute her income to the household. Her income is most of the time expended on her child's education and family's consumption. Her son completed his degree, and her other son's and daughter's education is still running. She replied to the query regarding decision-making:

"My husband is a kind person. He loves my family a lot, but he has a problem - he does not like me going to my neighbor's house or my father's house. My husband and my family members make maximum decisions."

Respondent Involved with Poultry Rearing

Aklima Begum is 34 years old and a housewife. She lives in the village Radhakanai of Fulbaria Upazila of Mymensingh District. She has two daughters and one son. Her husband died two years ago. I tried to console her by saying everything would be all right by the grace of Allah. She replied:

"With the grace of Allah, my husband has been absent from my life. We were very poor, but we lived as a happy family. After his death, my life has become hell." She said: "Look at us that we had no piece of land; we just lived in this house that my village leader gave to us."

I asked her about sources of income. She answered:

"As my son is so little, he is only 3.5 years old, it is impossible for me to go outside for work. I work nearby in someone's house as a helping hand. They give me 1500Tk/month and also give me lunch. Along with that, I also rear poultry. I earn an average 3300Tk/month from poultry. This is mainly my earning source. My son, who is ten years old, works as a helper in laguna. He gets 110Tk/day." She said: "As my husband worked as a hired laborer, our conditions were not good enough then, but our condition has become worse than before. She also said:

"Poultry is a good sector for rural women earning. Although there is a risk of theft, as I have no option to choose another farming, I choose this." She said, "Every

Friday of the month, my son takes two or three chickens to the market. As there is a huge demand for indigenous breeds, one chicken can be sold at 400Tk or more. I earned from eggs which are 12Tk/piece. Although my income from poultry is not sufficient, it makes my condition better as my husband is no more. Without these earnings from poultry, my situation would be worse.”

Observations and Opinions of Key Informants

The changing conditions of rural women, particularly by joining in agro-based farming, are analyzed. In this interview, information about opinions, ideas and common beliefs are collected from the three key informants and are summarized here.

Recent Socioeconomic Changes

Throughout rural communities, women have seen some improvements in education, family planning, infrastructure, food availability, income activities, and social activities. The number of NGO activities has increased over the past few years, facilitating microcredit, access to education, and providing training in income-generating activities (for example, cattle breeding, poultry farming, vegetable cultivation, and handicrafts).

Most of the rural women in this area still do not start poultry farming on a large scale. That’s why their income from this sector is not a large amount. They thought poultry had much risk or had to take a lot of care and needed proper vaccination. Although this situation has changed, many women are now involved in poultry rearing like Sonali or Layer chicken which gives enough income in a short time.

Dairy farming is very much popular in this sector. The researcher observed that almost every house in the village had at least two cows, and rearing is most of the time done by women. One of the respondents of dairy farming said:

“I can sell milk every day, which is very helpful for my family, and after 2 or 3 years, I can sell the cow from which I can get a handsome amount. With this amount, I can do various things.”

Respondents' Annual Income from Various Types of Agricultural Farming

Income is an important factor in measuring individual living standards. After the involvement of rural women in different agricultural activities their annual income increased remarkably.

In this respect, one of the case study participants is quoted here:

“I owned a small portion of land near my house. My husband worked in the garments. With the pressure of his work, he did not involve with any type of farming. I thought I should use this for vegetable growing. Although I also did vegetable production on that land only for my family, I thought I could use this land as a source of income on a large scale. I hired labor to prepare seedbeds, and I sowed bottle gourd at that land, and the production of bottle gourd was quite satisfactory. I earned a large amount from this, which was my personal income.”

Among these three types of farming, dairy farming gave higher income than these two. Most of the dairy farming owners in this area rear Australian cows, increasing the annual average income of rural women.

According to several studies, rural women who participate in microcredit programs with NGOs significantly impact household income and generate more of it from rural non-farm sources (Hashemi et al., 1996; Khandaker, 1998).

Training Experience of the Respondents

Training experience plays a vital role for rural women towards involvement in income-generating activities like fisheries, poultry, dairy, homestead gardening etc. In rural areas, most rural women are uneducated, and they have few opportunities for doing any type of outside activities. Usually, most women have little training experience or zero training experience. Table 2 displays the distribution of respondents based on their access to training facilities, with 82.67% of rural women receiving training programs and 17.33% receiving no training at all. Therefore, it can be inferred that rural women are now eager to take part in agricultural training, which is undoubtedly necessary to improve their expertise. Women participating in dairy farming received 92% more training resources than

those involved in the other two agricultural farming kinds in the case of three different farming types.

Table 2. Distribution of respondents according to their training facilities

Type of Agricultural farming	Trained	Non-Trained	Duration (Days)	Average (Days)
Homestead Gardening (N=25)	19 (76)	6 (24)	31	1.24
Poultry (N=25)	20 (80)	5 (20)	23	0.92
Dairy (N=25)	23 (92)	2 (8)	33	1.32
Total (N=75)	62 (82.67)	13 (17.33)	87	3.48

Source: Sample survey, 2019

Changes in Annual Income of the Household after the Involvement of the Respondent in Small-Scale Agricultural Farming

In this respect, one of the case study participants quoted: *“I prefer to save in NGOs because it is easy rather than banking as the bank is far from my house. It is difficult for me to go there. I save my money in ASA, whose workers come every Monday near my house. I go there and deposit 70 Tk. each week.”*

Another explanation discovered by the researcher was the requirement that all women who are members of NGOs save money every week. This requirement is mandatory, and each member must contribute at least Tk. 10 per week to the group savings fund. Because of this, rural women in the research region choose to save their money in an NGO.

Women’s Contribution to Family Expenditure

In this respect, one of the case study participants is quoted: *“As a woman, I have to do the whole work of my house. Along, I have to run my small farm with two cows. There is no one to help me. My son goes to work, and my husband also does work outside. It is quite difficult for me to manage these cows, but we need extra income to smooth our family. If I get some cooperation from my family member, I think I can earn more from this.”*

This table shows that it is quite satisfactory that rural women now get moderate cooperation from their family members.

In this respect, one of the case study participants is quoted here:

“My husband was not conscious about sanitation. I told him several times to install a sanitary latrine, but he did not hear that. But when I started to receive income from my poultry, I saved something to install a sanitary latrine. Then one year after my farming, I installed a sanitary latrine last year at the cost of Tk. 480.”

The research area's rural women's income needs to be sufficiently high. As they said, their income now brings a positive change in their life like sanitation, water, electricity, food consumption etc. Now the table shows that 74% of the total household have a sanitary latrine and only 26% of the total household have a katcha toilet, so a significant change occurs in the sanitation condition of the respondent household.

“I used tube well water for drinking and cooking purposes throughout the year except for the summer season when the underground water level decreases. In the past, I collected water from my sister-in-law's house. To install a tube well, we needed 2000 tk, and it was not possible for us at that time. After participating in vegetable growing, I clearly remembered that I had saved 1590 tk, which I gave to my husband and said to add another amount. We installed a tube well jointly, and I am happy for this.”

Changes in the Housing Unit

Housing quality refers to a home's internal and external structure as well as certain features of the interior setting. This section details the respondents' prior and subsequent housing situations.

In this respect, one of the case study participants is quoted here:

“Due to the inadequate structure of my house, I experienced significant hardships after my marriage. I used 13,000 Tk. of my poultry farming-related savings to cover my expenses.

I saved this amount for four years. After the reconstruction of my house, I have had no problem living for the last 3.5 years. “

Women's Status in Public Speaking

Speaking in public is considered one of the major parts of women's empowerment. Speaking in public is a quality that reflects women's equal rights to men. The respondents were asked individually about their speaking ability and opportunity in public. Women's status on public speaking after participation in small-scale agricultural farming was represented in (table 3) and respondents in the study area said that, although they attended various training programs or they attended group meetings, which is normally arranged by NGOs, they do not feel comfortable speaking in public. They still feel ashamed to speak with outside people. Although the income of rural women has changed a lot, women still do not feel free to speak with outside people.

Table 3. Women's status on public speaking after taking part in agricultural production on a modest scale

Women's status	No. of women	Percentage of total women
Do not speak in public	45	60
Speak in public	30	40
Total	75	100

Source: sample survey, 2019

Changes in Reproductive Health Status

One of the respondents also said: "The hospital is far away from my village and requires a long time and much money to go there. That's why I usually go to the pharmacy nearby my house, and the hospital is so expensive. Some common medications, such as paracetamol tablets, metronidazole tablets, oral saline, etc., are usually stored in-house, and I can use these medicines when I need them".

Some others said that now they are much more conscious of their health condition and family planning method than before. It is also clear to them that now they are also the earning member of their family, and they can make decisions about their family planning method or other health-related matter.

Problem Confrontation Index (PCI)

Problems Confrontation Index (PCI) is a measure of determining problems and constraints where problems are shown in tabulated form according to their severity. By using a structured questionnaire, women were asked to give their opinion in 12 selected problems during data collection. Following the methodology used by (Islam et al., 2015), "Livelihood of small farmers improvement through family poultry in Bangladesh" PCI has been calculated.

A four-point rating scale was used to compute the problem score of a respondent. The respondents were asked four alternative responses as 'high', 'medium', 'low' and 'not at all' against each of the 12 selected problems. Scores were assigned to those alternative responses as follows:

"High = 3,"

Medium = 2,"

"Low = 1 and

"Not at all = 0," respectively.

Problem Confrontation Index (PCI) was computed by using this formula,

$$\text{Problem Confrontation Index (PCI)} = Ph \times 3 + Pm \times 2 + Pl \times 1 + Pn \times 0$$

Where,

Ph = Total number of rural women expressed 'high' problem

Pm = Total number of rural women expressed 'medium' problem

Pl = Total number of rural women expressed 'low' problem

Pn = Total number of rural women expressed 'not at all' problem

Computation of Problem Confrontation Index

The Problems Confrontation Index (PCI) was calculated to assess the scope and severity of the issues rural women in small-scale agricultural production face. In comparison to a possible range of 0 to 225, the computed PCI for the 12 problems ranged from 158 to 114. As a result, the PCI for any individual problem may be anywhere from 0 and 225, with 0 denoting "no" problem confrontation and 225 denoting "high" problem confrontation. According to the severity of the problems, the results have been ranked, as indicated in (table 4).

Table 4. Computation of problem confrontation index

Sl. No	Problems	Extent of Problem confrontation				PCI
		High (3)	Medium (2)	Low (1)	Not at all (0)	
1	Lack of land	23	22	30	0	143
2	Lack of quality of seed and lower production of breed	20	21	34	0	136
3	High price of inputs	25	26	24	0	151
4	Lack of training facilities	27	26	22	0	155
5	Lack of profit	21	31	23	0	148
6	Transportation problem	12	16	47	0	115
7	Discourage from husband	10	19	46	0	114
8	Helping hand problem	25	28	22	0	153
9	High rate of interest	19	34	22	0	147
10	Lack of capital	20	41	14	0	156
11	Security problem	17	24	34	0	133
12	Lack of Credit	29	25	21	0	158

Source: Field survey, 2019

Concluding Remarks

According to the study's findings, the primary issues facing women who work in agriculture production include a lack of sufficient capital, a lack of credit, inadequate training, increased input costs, a lack of assistance, etc. Additionally, it was discovered that women engaged in agricultural farming in the study area had minor issues with transportation, discouragement from husbands, and security. The opinion of the key informants regarding changes in some socioeconomic issues affecting rural women over the past few years is shown in the study (table 5).

Table 5. Key informants' perspectives on the changes in some socioeconomic issues of rural women over the past few years

Key aspects	Existing situation over the last few years	Reasons for changing
Education of children	↑	<ul style="list-style-type: none"> • Increased awareness of parents • Increased number of school and Madrasa
Food availability	↑	<ul style="list-style-type: none"> • Increased income of the household • Cultivation of high-yield varieties
Water facilities	↑	<ul style="list-style-type: none"> • Increased number of tube wells • Helped from GO-NGOs • Increased awareness
Sanitation	↑	<ul style="list-style-type: none"> • Availability of toilet construction materials • Helped from GO-NGOs • Increased awareness
Health status	↑	<ul style="list-style-type: none"> • Increased awareness • Change in attitude • GO-NGOs health programs • Motivation through media (radio & television)
Housing condition	↑	<ul style="list-style-type: none"> • Increased sources of income • Credit facilities
Credit availability NGO	↑	<ul style="list-style-type: none"> • Micro-credit program of NGOs • No collateral
Training facilities	~	<ul style="list-style-type: none"> • Maximum from NGO
Electricity facilities	~	<ul style="list-style-type: none"> • No availability
Supply of labor	↓	<ul style="list-style-type: none"> • Migration of male people • High income from auto rickshaw

Note: ↑ indicate increase, ~ indicate no change, ↓ indicate decrease

Obstacles Faced by Rural Women Regarding Participation in Small-Scale Agricultural Farming

Barriers to Rural Women's Participation in Small-Scale Agriculture Farming

Ideas from key informants addressing the challenges rural women experience in participating in small-scale agricultural farming:

- Negative attitude towards rural women;

- Difficulties in participating in NGOs meeting, training etc. ;
- Lack of support from their family;
- Social and religious barriers that persistently impede participation;
- Poor marketing channel;
- High-interest rates on microloans from NGOs;
- Inadequate time after doing huge household work;
- Workload pressure;
- Fewer extension workers;
- Much was believed in the suggestions of the shop owner of fertilizer rather than the extension workers.

Techniques for Overcoming Challenges

Key informants' ideas on how to help rural women overcome their challenges include:

- Offering them training based on their needs and low-cost input;
- Create rural women co-operatives and marketing channels;
- Ensure fair prices and, if possible, give subsidies;
- Improve micro-credit programs;
- Reduce the high interests;
- Increased support from rural women's family members;

In a nutshell, these studies explain how women have changed their lives by involving themselves in agricultural production and making their success stories.

According to the KII, the interviewer and participants of FGD found some remarkable changes in the last few years. These are:

Researchers noted it Consideration:

- Food availability
- Increased own tube well
- Improvement of sanitation
- Increased children's participation in school, College etc.
- Family planning decision
- Increased awareness of health status
- Improved capability to make decisions in family matters

- Improved capability to speak in public.
- Increased electricity facilities

Conclusions and Recommendations for Policy Implications

The investigation findings show that the chosen ladies' overall position fell between low and medium. The amount of income earned by rural women in a particular home is significantly influenced by their education, farm size, agricultural background, and training. The overall state of women's empowerment in the study area, where there is a ton of room for improvement, was unsatisfactory. Very few women in this field are able to make decisions on their own; instead, most of them do so after consulting their husbands. Women in this field deal with a variety of issues, including the lack of suitable credit, a lack of money, inadequate training opportunities, a lack of support systems, and high input costs.

Based on the overall study, the following recommendations for policy implications are made:

- Different GO and NGOs should allocate more credit for the rural areas as that they can invest more in their current farming or can expand their farming.
- Training in agriculture is very important for rural women. Extension workers and NGO workers should collaborate with each other to provide adequate training facilities.
- Government organizations need to step up and provide fair prices, so that rural women are more motivated to engage in income-generating activities. To guarantee rural residents a sustainable way of life, infrastructure facilities should be enhanced.
- To encourage rural women to increase their empowerment, many NGOs and other organizations should offer more awareness programs and services.

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