

Women in Post-harvest Activities: Understanding their Health and Nutrition Behaviour



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Contents

Executive Summary.....	3
Chapter 1: Introduction	1
1.1 Statement of the Problem	1
1.2 Significance of the Study.....	2
1.3 Research Objectives.....	3
Chapter 2: Conceptual Framework.....	3
2.1 Social Relation Approach (SRA).....	3
Chapter 3: Methodology.....	6
3.1 Why Narina Union?.....	7
3.2 Specific Study Areas of Narina Union: Selection of the Rice Mills.....	8
3.3 Data Collection Process in Detail	8
3.3 Selection of the Participants.....	9
3.5 Ethical Considerations.....	10
Chapter 4: Nutritional and Health Behaviour of Women Workers: Un/changing Perspectives	10
4.1 Nutritional Behaviour of Women Workers.....	11
4.2 Health Care Behaviour of Women Workers	14
Chapter 5: Working Environment of Rice Mills and Issues of Women Workers	16
5.1 Safety and Security Issues of Women Workers	16
5.2 Hygiene Arrangement at Rice Mills: Water and Sanitation.....	17
5.3 Rest Room: A Right That Will Never be Fulfilled.....	18
5.4 Gender Division of Labour and Wage Discrimination.....	19
5.5 Longer Work Time: Workplace rights and double burden perspectives	21
5.6 Bargaining Power of Women Workers: Inside and outside of the mills and households	21
Chapter 6: Needs of Women Workers and Incorporation of AEP	22
6.1 Needs of Women Workers.....	23
6.2 Incorporation of Agricultural Extension Program.....	24
Chapter 7: Recommendations and Conclusion.....	27
7.1 Recommendations	27
7.2 Concluding Remarks.....	28
References	29

Executive Summary

Bangladesh is a country with mainly paddy-based agriculture, which has managed to triple its rice production since independence in 1971, from 10 million metric tons to over 33.83 million metric tons (Krishi Dairy in Khatun, 2015). 76% of the country's people live in the rural areas and 90% of them have livelihoods directly related to agriculture (Dev et al., 2014). From this perspective, rural women's participation in post-harvest activities are one of the most important contributions in agricultural production in Bangladesh. However, in traditional Bangladeshi context, post-harvest work is simply seen as part of women's household responsibilities; in other words, this work has little monetary value or social recognition. Though this scenario has been changing due to the new technological intervention and frequent market affiliation with rice production and processing, nowadays many women are working in mills (usually called rice mills) as cheap and conventional labour for their livelihood. In this aspect, the aim of this study is to explore the health and nutritional behaviour of rice mill women workers in Narina Union of Shahjadpur.

Traditionally, the post-harvest tasks at rice mills are considered women workers' responsibilities. Though new technological interventions are associated with the rice mill, many women workers are responsible for performing the more labourious work. Due to longer working hours and insufficient work facilities, they have to face different health related problems as well. In this way, the reality of Narina Union's women is no different than those from other parts of Bangladesh. In order to understand their health and nutrition behaviour, women workers from M/S Molla Traders Rice Mill and Surutunnessa Rice Mill were interviewed. They are Upazila Agricultural Officers, Upazila Food Controllers, rice mill owners, and supervisors. A qualitative research method was followed to get an in-depth understanding of women workers' behaviour regarding health and nutrition along with their needs. Regarding this aspect, this study has followed Naila Kabeer's (1994) Social Relation Approach to explore the study objectives.

In Narina Union, with high rice production and mill set-up, many women work in rice mills to provide for basic needs. However, due to the laborious work at rice mills, they are facing health-related problems, such as back pain, chest pain, joint pain, restlessness, vomiting, fever, diarrhoea, and more. They do not have enough nutritious foods to stay healthy. Receiving adequate healthcare is also a challenge for them due to poor income. This study reveals a comparative changing perspective for women workers as they get more opportunities to go to the nearest pharmacies and Upazila Health Complex to see doctors and get medicines. Regarding nutritional behaviour, this study finds two groups in the study area: a conscious/aware and an unconscious/unaware group. Interestingly, nutritional improvement is almost the same for both groups due to their limited income.

Additionally, women workers from both selected rice mills face difficulties because of gender divisions of labour, low bargaining power, lack of clean drinking water, a proper sanitation system, and a rest room. Besides, lack of nutritional and health care related information and gender sensitive knowledge, training, and technology limit their productivity and bargaining power at households and rice mills.

Although agriculture consists of two phases - crop production and food processing - post-harvest work is not yet considered part of agricultural division in Bangladesh. Therefore, this study proposes a prospective joint collaboration for responsible organizations to ensure women workers' needs regarding health and nutrition. Further studies can be done in this sector to incorporate post-harvest work in the Agricultural Extension Program jointly with the adjunct organization to bring positive changes for rural women post-harvest workers in Bangladesh.

Chapter 1: Introduction

1.1 Statement of the Problem

Women's work in post-harvest activities in Bangladesh make one of the most important contributions in agricultural production of the country. Traditionally, post-harvest work is considered part of women's household responsibilities without any monetary value or social recognition. However, the scenario has been changing due to new technological intervention and frequent market affiliation with rice production and processing (Bala, et al., 2010 & Khatun, et.al, 2015). Women's involvement in producing and harvesting rice is not limited anymore within the household sphere. Rather, with the changing technology and mode of rice production and processing, women are shifting their involvement from courtyard to rice mills, from house to market. To earn money through conventional labour, many women are currently working in rice mills¹. In other words, now women's contribution to post-harvest work is not only for household consumption but also for large-scale production and marketization. There are approximately 40,000 rice mills in the country with almost 5 million unorganized workers; more than 60% of them are female (Anonymous, 2003 in Khatun, et al., 2015).

As a part of the Bangladesh Agricultural Extension Program (AEP), new automatic rice mills are being set up at a growing rate as rice processing becomes more technologically advanced. In recent times, thousands of small and medium husking mills have been established in rural and semi urban areas in Bangladesh (CBECL BD, 2014 & Krishi Dairy, 2015). Due to the poverty situation and lack of proper technical knowledge, many women are engaged in rice mill work without considering their payments and working environment. Women workers perform more laborious work than male workers such as drying and husking paddy, as well as packing the husked rice into sacks (Siddika, 2012). The working environment in these mills is neither conducive nor favourable to the health of women workers (Khatun, et al., 2015). In the long run, many of them face various health hazards. For example, the unhygienic environment without proper water and toilet facilities in the workplace may give working women diseases like urinary tract infections and severe back pain. Rural, poor women – even after their post-natal period - have to work hard for their daily living and suffer more from lack of proper rest. If a healthy working environment is not provided for those women in the post-harvest processing mills, they will not only suffer from various health hazards but also their productivity will fall. According to Khatun, et al. (2015), 'no facility for recreations', 'no health check-up facility', 'no facility for consulting with doctors' and 'no insurance for accident' have been identified as issues regarding health of rural women agricultural workers. Even in the rice mills, which intend to provide labour at as low of a cost as possible can hardly provide a congenial working atmosphere for the workers. Moreover, low payment, and lack of awareness and information on nutrition and health are making them less productive. Men own most of the rice mills and they can hire women as cheap labour without providing a healthy working atmosphere. Women have hardly any 'bargaining power and, therefore, cannot negotiate the context.

The aim of agricultural extension services is to support farmers to make efficient productive and sustainable use of their land and other resources. It is an educational process by which information/advice is generated, shared, and used for decision making for farm/farm household livelihood development (Agricultural Services Innovation and Reform Project, 2003). Technically, agricultural extension programs are responsible for helping women farmers. Unfortunately, these

¹In Bangla called *Chatal*

programs are more likely to view women's farming activities from a subsistence or nutrition perspective, rather than a commercial perspective, which is limiting their effectiveness for raising the efficiency and incomes of women farmers (Berger, et.al, 1984). Different studies have identified some factors that prevent extension programs from reaching rural women. The traditional focus of most extension services is on landowning farmers, who are mostly men and in a position to claim credit and invest in inputs and new technology. The majority of women are falling behind in these areas (FAO, 1996). Further, social norms and customs, lack of mobility, and burdens of domestic responsibilities restrict women from benefitting from the agricultural extension programs. This not only affects their access to credit, improved seeds, fertilizers, and community participation, but it also negatively affects their health and nutrition.

Additionally, we know that the food production system consists of two sub-systems: crop production and post-harvest operations. Ensuring food security and nutritional value requires increasing technical efficiency of crop production as well as the efficiency of post-harvest operations. In Bangladesh, post-harvest crop losses are higher than the global average and severely affect already endangered livelihoods. An estimated 10 percent of crop productivity is lost during post-harvest operations (Bala, 1997 & Bala, et al., 2010). This is mainly because most subsistence farmers do not have either knowledge or access to appropriate post-harvest technologies. A wide range of existing food processing technologies are not accessible to or adopted by farmers in Bangladesh (Bala, et al. 2010) where, in most cases, rice mills are very much dependent on human labour, with five million unorganized workers, 60 percent of which are women (Sultan and Afrad, 2014).

Against this backdrop, this study will broadly focus on women's participation in post-harvest activities to evaluate their access to, control over, and changes in knowledge, power, and types of information they receive to take part in market activities. To understand this study, first, there will be an analysis of the nutritional behaviour of women and men working in rice mills. Then, the study will explore the safety-security issues, such as working hygiene at rice mills to assess the health impacts on workers that affect overall productivity. It will further help to understand the needs of women labourers, which will lead to required changes in the AEP. To understand the behavioural change, it also focuses on the investment pattern of women to avail health services and nutritional facilities because nutrition is a 'multi-layered substance' (Dupas, 2011). Improvements in nutrition cannot be achieved in isolation. There is a need to strengthen the linkage between the three important sectors concerned with the improvement of nutritional status of the people, namely agriculture, food, and health.²

1.2 Significance of the Study

The agriculture sectors in many countries are underperforming in part because women, who are often a crucial resource in agriculture and rural economy, face constraints that reduce their productivity (World Bank, 2007 & FAO, 2011). Among these, two common constraints are inconvenient working environment and low nutritional status of the women workers. Women in rice mills face various health-related environmental problems. Zaman, et al. (2001) reported that no first aid was given in case of emergencies – there was no first aid treatment facility either – and there was low lighting and a lack of ventilation. Besides the unhygienic environment, concerns brought up concerning women's health and hygiene in rice mills include no sanitary latrines. Furthermore, there

²Article 2.1- National Food and Nutrition Policy, Bangladesh.

was excessive stress due to labour burdens (because they work continuously due to shifting duties), with no device (mask) for dust protection.

In terms of low nutritional status, data suggests that among the poor women in Bangladesh 40% of women have a Body Mass Index (BMI) of less than 18³ (NIPORT et al.2013) compared to 36% men that have a BMI of less than 18 (NIPORT et al., 2013). The poor population is more likely to work in rice mills to earn their living. Quite a significant percentage of women and men with low nutrition status will eventually lessen their productivity. As mentioned previously, women working in the rice mills add a burden of heavy work to their already heavily loaded routine household work, with hardly any time for rest or recreation. That is why addressing health and nutrition concerns at the workplace are particularly important for women so they stay healthy and make use of their productivity and skills.

1.3 Research Objectives

The objectives of the study are as follows:

- To assess if and how the agricultural extension impacts changing perspectives of women working in post-harvest activities in terms of their health and nutritional behaviour
- To evaluate the work environment of rice mills particularly for women with specific attention to health and hygiene arrangements in their workplace
- To make some suggestions in order to get a better understanding and incorporate the needs of women workers in AEP

Chapter 2: Conceptual Framework

To understand the health and nutritional behaviour of women and men who are engaged in post-harvest activities in this research, workplace environment has been considered as a vital indicator that contributes to enhancing women's productivity and improving nutritional outcomes. This study focuses on women's transition from traditional housework to cheap post-harvest labour at rice mills, which may influence their access to and control over information, knowledge, income, power, and technology. In turn, this access and control helps to ensure women's health and nutritional needs. Women are also likely to be more aware and to demand that the workplace meet their safety and hygiene needs. In this study, the social relations approach (SRA) has been used to analyse existing gender inequalities in the distribution of resources, responsibilities, and power, and for designing policies and programs, which enable women to be agents of their own development (Kabeer, 1996 in March, 1999).

2.1 Social Relation Approach (SRA)

We know that gender inequalities are not confined to the household and family but are reproduced across a range of institutions including the international community, the state, and the market place. According to Kabeer (1994), institutions ensure the production, reinforcement, and reproduction of social relations. They can also create and perpetuate social differences and inequality depending on the organization's structure. In this study, I focus on the market sphere in which the rice mill is one of the market structural forms/organizations.

³The Body Mass Index (BMI) is expressed as the ratio of weight in kilograms to the square of height in meters (kg/m²).

Changes in policy or practice on the part of the state and market affect relationships within the family. Simultaneously, changes within the family have an impact on the market and the state (March, 1999). Bearing this in mind, I focus on the differences between women and men regarding their access to information and knowledge, facilities at the workplace, and nutritional intake in order to reproduce gender sensitive service delivery mechanisms and better working environments, which can enhance productivity and improve knowledge regarding health and nutrition.

In Table 1, the five dimensions of social relationships are significant when analysing social inequality in general and gender inequality through institutional analysis. The first indicator – rules – will highlight the work setting of *chatal* to focus on what is done, how things are done and by whom, as well as who will benefit from the workplace. The gender division of labour and gender discrimination in payment or wages will be emphasized through indicator two: activities. With the help of indicator three, resources in *chatal*, such as technological tools, health and hygiene facilities, information, nutritional intake, decision-making in food consumption, and accessing the utilities will be highlighted from the perspective of both women and men. Additionally, indicator four - people - will help us to understand who is included or excluded from obtaining resources and whether there are any differences depending on gender. The last one - power - will help us explore the conflict of interest between owners and workers and their relationship with agricultural extension programs.

On the basis of SRA, social inequality and inequality in the workplace environment are interlinked with productivity and profitability, which create obstacles to improve women's income and bargaining. Women are excluded from various resources and responsibilities that could support a healthy working environment for them. To create a gender responsive service delivery mechanism and improve health and nutrition knowledge, we considered the differences between women and men in access to knowledge, working facilities, and nutrition intake. We analyse these differences through the five dimensions of SRA. We are expecting to find out the dimension and indicators listed in the box below.

Table 1: Dimensions of social relations in post-harvest work

Dimensions of Social Relations	Indicators	Post-harvest work indicators
Rules: How things get done	What is done? How is it done? Who will do it? Who will benefit?	Work setting
Activities: What is done?	Who does what? Who gets what? Who can claim what?	Division of labour, Payment
Resources: What is used, what is produced?	Human resources (labour, education, skill etc.) Material (food, assets, money) Intangible (information, contacts, goodwill)	Technology used Health and hygiene facilities Nutrition intake by the workers Decision making in consumption of food and accessing the utilities Information
People: Who is in, who is out, and who does what?	Whom do they allow in and whom they exclude? Who is assigned various resources, tasks and responsibilities? Who is positioned where in the hierarchy?	Workers
Power	Who decides? Whose interests are served?	Conflict of interest between owner and workers Agricultural extension project

Source: Adopted from Kabeer's (1994) social relation approach

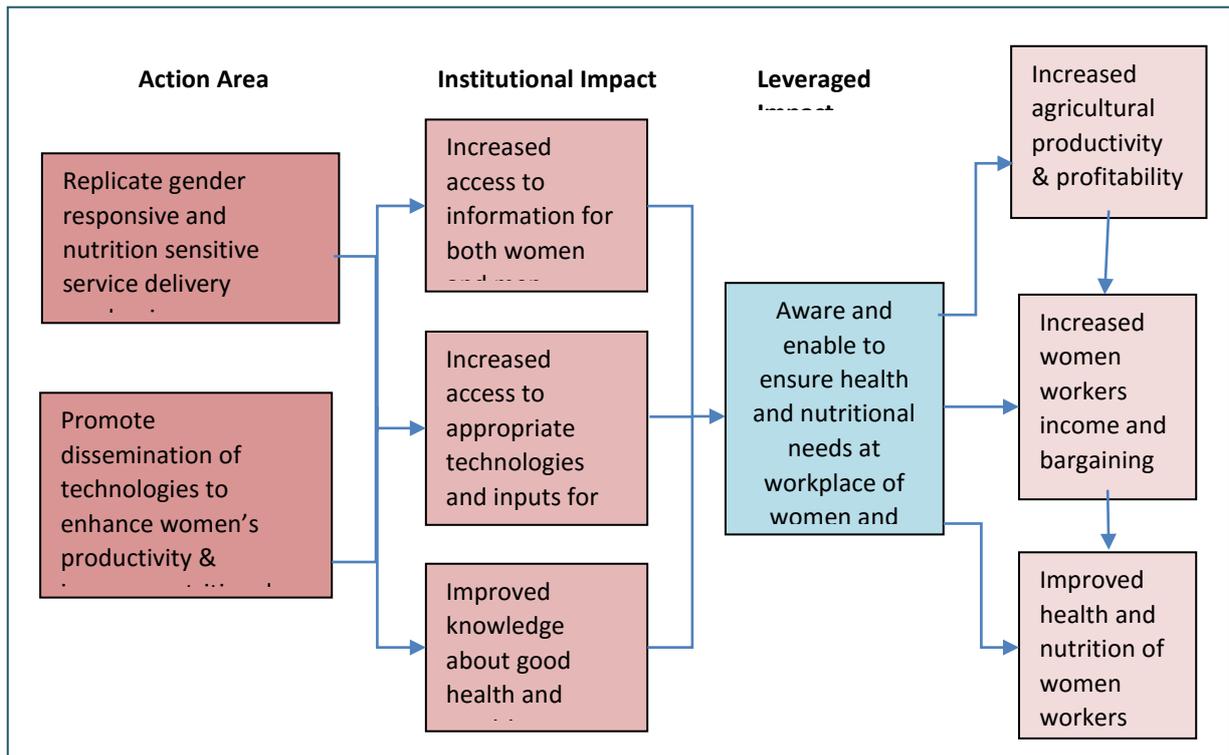


Figure 1: Conceptual framework

To understand the health and nutrition behaviour of women who are engaged in post-harvest activities, we will follow the above framework (figure 1). The framework has reflected that women's participation in cheap post-harvest work in *chatal* may have influenced their access to and control over information, knowledge, income, power, and technology. Given that both men and women workers have access to information and control over income, power, and technology, they will be able to ensure their health and nutritional needs are met as they become more aware, empowered, and able to demand decent health and nutrition standards at the workplace. Eventually, the women workers who were lagging behind in terms of nutrition and health will be able to become more empowered and productive.

Chapter 3: Methodology

'A methodology is a theory and analysis of how research does or should proceed; it includes accounts of how the general structure of theory finds its application in particular scientific disciplines' (Harding, 1987).

This study has a broad focus on feminist research methodology. Feminists argue that traditional theories have been applied in ways that make it difficult to understand women's participation in social life (Stanley and Wise, 1993; Harding 1987). Traditional social science research is mostly associated with masculine identity (Mies, 1983; Harding 1987; Oakley 2000). On the contrary, feminist research generally differs from conventional social science research (Miller and Treitel, 1991 and Nielson, 1990) and feminist methodology reveals the questions that are asked, and even more significantly, those that are not asked from a woman's perspective (Harding, 1987; Sarantakos 2005).

The purpose of the study is to investigate changing perspectives on women workers' health and nutrition behaviour through post-harvest activities in rice mills. In this regard, we followed

qualitative research methods to ensure we were emphasizing women’s experiences as a significant indicator to test the hypothesis (Harding, 1987).

Through semi structured in-depth interviews, key informant interviews, focus group discussions, and small group discussions, we collected information from the selected two rice mills of Narina Union in Shahjadpur Upazila, Sirajganj district.

3.1 Why Narina Union?

From the pre-study, Narina Union in Shahjadpur Upazila, Sirajganj District was identified as the research area to explore women workers’ health and nutritional behaviour. Shahjadpur is an Upazila of Sirajganj District in the Division of Rajshahi, Bangladesh. The Upazila occupies an area of 324.15 sq. km with its total population of 561,076, of which 283,330 people are males and 277,746 are females. The Upazila consists of 1 paurashava, 9 wards, 31 mahallas, 13 unions, and 291 villages. The average size of the population of each Union and village is 38,198 and 1,706, respectively. The main occupation of the people of Shahjadpur is agriculture (42.73% of the population). Non-agricultural labourers make up 5.90% of the workforce (Shahjadpur Upazila Parishad, 2016).

Among the unions of Shahjadpur Upazila, the 12th Union is Narina. The Narina Union covers a 2,517-acre area. The total population of the Narina Union is 20,842, of which 10,771 are males and 10,071 are females and the literacy rate is 39.22% (Shahjadpur Upazila Parishad, 2016). In order to acquire truthful information and get a sense of the reality of the situation, the Upazila Agricultural Officer’s Office, Upazila Food Controller’s Office, Upazila Health Complex and its adjacent and far-away mills were the research sampling zone. In Shahjadpur, there are a total of six rice mills, and of them five mills are situated in Narina Union due to huge paddy productivity and a good number of rural women mill workers. Regarding this aspect, we purposely chose Narina Union as the research area.

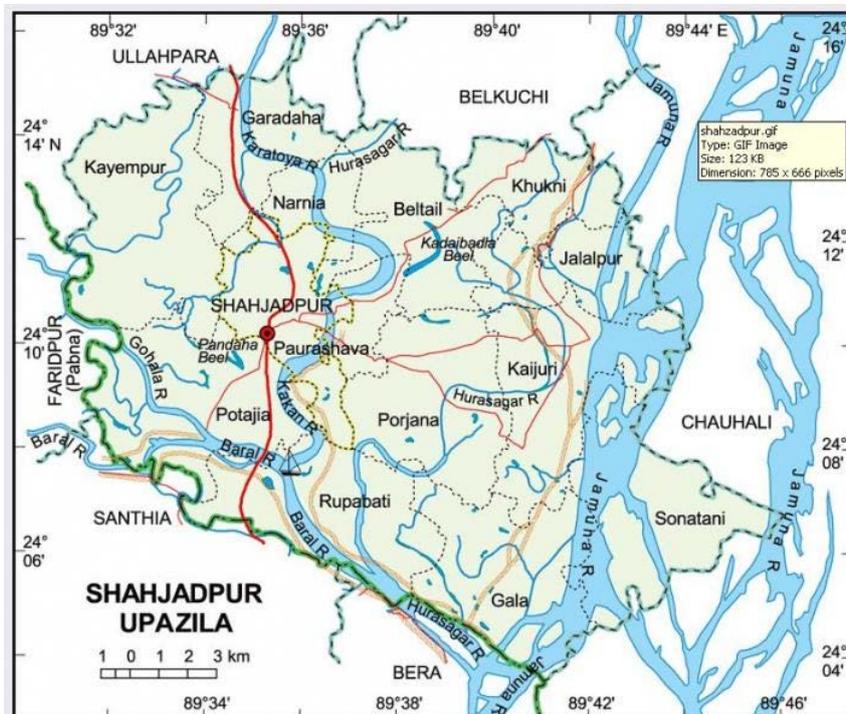


Table 2: Rice mills in Shahjadpur Upazila

Name of the Rice Mills	Location
Suratunnessa Rice Mill	Narina Union
N H Omor Rice Mill	Narina Union
M/S Kuddus Rice Mill	Narina Union
M/S Molla Traders Rice Mill	Narina Union
M/S Jahangir Rice Mill	Narina Union
M/S Aziz Rice Mill	Garadaho Union

Source: Pre-study Findings, 2016

3.2 Specific Study Areas of Narina Union: Selection of the Rice Mills

To explore the changing perspectives of women workers' health and nutrition behaviour through post-harvest activities, we designed this study to be conducted in two specific rice mills (adjacent to and a far distance from the agricultural extension office) in Narina Union: M/S Molla Traders Rice Mill and Suratunnessa Rice Mill. M/S Molla Traders Rice Mill is located in Bachamara village, Narina Union. It is adjacent to the offices, 2 miles away. It was established in 2012 and started to function in 2014. The name of the owner is Ayub Ali Molla. Six women and five men work at the mill. Suratunnessa Rice Mill is in Narina village, Narina Union as the far away rice mill. It is about 3.5 miles away from Upazila government offices. Hazi Abdul Manan is the owner of this rice mill. 12 women and 30 men work in his rice mill. It was established in 2005. We chose the adjacent and distant rice mills to understand the women workers' changing health and nutrition behaviour through post-harvest activities.

3.3 Data Collection Process in Detail

To explore health and nutritional behaviours of the women workers in post-harvest activities, this study selected 10 women workers from two rice mills from Narina to be part of 10 semi-structured in-depth interviews from the focus group discussion (FGD) and small group discussion (SGD). We conducted one FGD and one SGD with women workers in rice mills and six KIIs with operators/supervisors of the mills and Upazila Agricultural Officer, Ministry of Agriculture and Upazila Food Controller, Ministry of Food. All of the interviews were conducted within the participants' working areas. During in-depth interviews, FGD, and SGD, we also observed the participants to understand in-depth the features of the working environment, women's decision-making capacity, and their capacity to apply knowledge and skills.

Semi-structured In-depth Interviews

Ten 90-minutes, semi-structured in-depth interviews were conducted using a questionnaire in the two selected rice mills: three in M/S Molla Traders Rice Mill and seven in Suratunnessa Rice Mill. Participants were selected from the prior small group discussion. The interviews were recorded and later transcribed.

Key Informants Interviews

Six key informant interviews were conducted in the study area: Upazila Agricultural Officer, Upazila Food Controller, rice mill owners, and supervisors. 90-minute key informants interviews were also conducted. The interviews were recorded and later transcribed.

Focus/Small Group Discussion

A focus group discussion was conducted in Suratunnessa Rice Mill and a small group discussion in M/S Molla Traders Rice Mill to understand the women workers' experiences, working environment, and their health and nutritional behaviour.

3.3 Selection of the Participants

The data collection process in this study involves a pre-study and final data collection. The pre-study was conducted from 19 April to 20 April, 2016 and a final study was conducted in the second week of May 2016 in Narina Union. All the participants of key informant interviews were selected by purposive sampling as their job designations were the main selection indicator. Women workers for FGD, SGD, and semi-structured in-depth interviews were selected randomly. All the participants in this study were selected after going to the study area with the help of local informants. Participant characterization for FGD, SGD, semi-structured in-depth interview, and KII are listed below:

Table 3: Participants for the Small Group Discussion (SGD): M/S Molla Traders Rice Mill

Name	Age	Educational qualification	Years/months of working	Husband's occupation	Number of issues
Mossammat Shilpi	40	Only can write her name	1 year	Weaver	2 boys and 1 girl
Joynob	40	Only can write her name	4 months	Unemployed	4 girls
Mahela	40	Only can write her name	5 years	Landless farmer	2 boys and 1 girl
Moyna	32	Illiterate	3 years	Van driver	3 boys

Table 4: Participants list for the Focus Group Discussion (FGD): Suratunnessa Rice Mill

Name	Age	Educational Status	Years/ months of working	Husband's occupation	Number of Children
Mossammat Nabia	33	Illiterate	3 years	Van driver	2 girls and 1 boy
Mossammat Razia Khatun	22	Can only write her name	2 years	Van driver	1 girl
Jobeda Khatun	30	Can only write her name	2 years	Van driver	1 girl
Ismat Ara	30	Can only write her name	5 years	Rice mill worker	2 girls
Fulmala	40	Illiterate	5 Years	Small business of cloths	1 girl and 1 boy
Rohiton	25	Illiterate	1 year	Van driver	2 boys
Bulbuli	35	Class-3	2 years	Weaver	2 boys and 1 girl
Bulu	30	Can only write her name	1.5 years	Unemployed	3 boys
Amena	30	Can only write her name	2 years	Disabled	3 boys and 2 girls

Table 5: Participants list for semi-structured in-depth interviews

Name of Women Workers	Age	Years/months of working	Rice Mill
Mossammat Shilpi	40	1 year	M/S Molla Traders Rice Mill
Joynob	40	4 months	M/S Molla Traders Rice Mill
Mahela	40	5 years	M/S Molla Traders Rice Mill
Mossammat Nabia	33	3 years	Suratunnessa Rice Mill
Mossammat Razia Khatun	22	2 years	Suratunnessa Rice Mill
Jobeda Khatun	30	2 years	Suratunnessa Rice Mill
Ismat Ara	30	5 years	Suratunnessa Rice Mill
Shahinur	28	10 years	Suratunnessa Rice Mill
Bulu	30	1.5 years	Suratunnessa Rice Mill
Amena	30	2 years	Suratunnessa Rice Mill

Table 6: Participants list for Key Informants

Name	Designation	Office
Md. Monju Alam Sarkar	Upazila Agricultural Officer	Upazila Agriculture Office, Ministry of Agriculture
Md. Nazmul Karim	Upazila Food Controller Officer	Upazila Food Controller's Office, Ministry of Food
Ayub Ali Molla	Owner	M/S Molla Traders Rice Mill
Hazi. Md. Abdul Mannan	Owner	Suratunnessa Rice Mill
Shawkot Osman	Supervisor	M/S Molla Traders Rice Mill
Md. Abdur Razzak	Supervisor	Suratunnessa Rice Mill

3.5 Ethical Considerations

I ensured that my activities and research would not be harmful to the persons involved in them. In addition, I analysed only those explanations for which I was specifically given permission.

Chapter 4: Nutritional and Health Behaviour of Women Workers: Un/changing Perspectives

Nutrition is an important determinant for every person's health. In this regard, ensuring proper nutrition is a prerequisite especially for rural women to reduce health-related problems and keep productivity up. In rice mills, women workers are responsible for most of the post-harvest activities in rural areas and their participation is gradually increasing day by day. Their involvement in post-harvest activities helps to reduce their poverty, but it has health costs due to the doubled workload. However, a good number of women workers are not aware of their nutritional and health status.

In this chapter, we will explore whether rural women's involvement in post-harvest work at rice mills is contributing to changing their health and nutritional behaviour. With the help of Kabeer's (1994) Social Relation Approach's institutional indicator no. 3 – resources – we analyse the nutritional

intake of women workers at rice mills as well as decision making in food consumption and health care facilities.

4.1 Nutritional Behaviour of Women Workers

Food production is not sufficient to determine health and nutrition of all. The kind and quality of food produced, women's access to quality food and the right quantities of food, and the distribution of food within the household matter. Health is especially affected by many determinants outside the sphere of agriculture. We understand that men and women face different health needs and risks that vary across contexts and life cycle. Additionally, food production is just one factor in the consumption and availability of nutrients. Food is stored, distributed, processed, retailed, prepared, and consumed in a range of ways that affect the access, acceptability, and nutritional quality of foods for the consumer (CGIAR, 2012). Keeping these in mind, this study explores the nutritional status as below. The participants' inspection about nutrition and malnutrition reveals two groups: one group is aware about nutrition and the other is unaware. However, it shows that women workers have improved access to food compared to the past due to their income earning opportunity at rice mills. Though this improved version of women workers' access to food is not a radical change, it may be a beginning. In this aspect, Jobeda Khatun said,

“Before working in rice mill, I was unable to eat thrice a day, but now I am able to eat thrice a day.”

Knowledge and financial conditions of the women are responsible for ensuring their nutritional needs. From the participants, it is clear that nutrition is not a familiar topic for most of the women workers. As we know, green and colourful vegetables, local fruits, eggs, and pulses are available, accessible, and affordable all over the village areas. Furthermore, they are considered to be important sources of protein, vitamin and minerals. However, most of the women are unaware of the nutritive value of these vegetables and fruits, and many do not know how to preserve nutrients through proper cooking processes. A great number of participants pointed out that they are facing different types of health-related problems due to lack of Calcium, Vitamins A,B,C, Iron, Zinc, Folic Acid, and more.

Nutritious (or “nutrient-rich”) foods are defined as foods high in essential nutrients, including animal source foods (fish, meat, eggs, and dairy products), fruits and vegetables, biofortified staples, fortified foods, and traditional local crops sourced from biodiverse systems (including neglected and underutilized species and wild foods). Specialized processed and/or fortified foods for populations with special needs (acutely malnourished children, people living with HIV/AIDS, infants) are also included in nutrient-rich (or nutritious) foods. Medicinal plants, although not classified as foods, represent an additional potential set of commodities that may be explored in this component, in partnership with CRP6 (CGIAR, 2012).

The other group is mostly unaware about nutritious foods and the nutritional values from the foods they eat daily. Due to their extreme poverty, the group is not able to purchase nutritious food like meat, fish, and dairy products. Rather, they think only the non-poor can purchase nutritious and healthy food. They hardly believe their local food can also be the source of nutritious food. Furthermore, they do not have adequate knowledge to replace meat with lentils to ensure protein, and liver to taro to ensure iron etc. Regarding this aspect, Jobeda Khatun shared,

“This morning, I ate last night’s leftovers - soaked rice with salt, onion and chili, though most of the days I eat regular rice with lentils or potatoes or pumpkin leaves or taro. I do not know, whether these foods are nutritious or not.”

Working opportunities in rice mills do give the people a chance to have comparatively nutritious foods, but they are not aware of the nutritional level of the foods they eat regularly. Though they are eating carbohydrates, they think, due to their limited income, they will not be able to eat nutritious foods. Regarding this aspect, Ismat Ara, aged 30, said,

“Nutritious Foods!!! How would it be possible for us? We are not even able to have meat or fish regularly. I am the only earning person in my five member family and my income is not enough for us. Due to my limited income, my intention is to just be fed, nothing else.”

Despite their central role in the production of the country’s staple food, it is clear that nutrition is not a familiar issue for a good number of women rice mill workers. Moreover, though they are eating mostly carbohydrates (rice) and wild nutritious foods, it does not indicate that these foods are enough for the women to avoid malnutrition-related diseases. They need more nutritious foods daily to improve their immune systems. During FGD, SGD, and semi-structured in-depth interviews, this study reveals an average pattern of daily food habits of women workers that are unaware of nutrition:

Table 7: Food habits of unaware women workers

Food habit before joining rice mill	Food habit after joining rice mill
<p>Breakfast- Last night’s left over soaked rice with onion, salt and chili, or no breakfast</p> <p>Lunch- Rice and pumpkin leaves or lentils or no lunch</p> <p>Dinner- Rice and mashed potatoes or lentils <i>(mostly used to have meals twice a day)</i></p>	<p>Breakfast- Rice with mashed potatoes or lentils</p> <p>Lunch- Rice with vegetables or eggs or fish (sometimes)</p> <p>Dinner- Rice with stir fried potatoes or vegetables <i>(now mostly they are able to have meals thrice a day)</i></p>

On the other hand, **aware groups** are comparatively conscious of the nutrition values of plant based foods and medicines. From FGD, SGD, and interviews with women workers, this study illustrates food habits for the aware group:

Table 8: Food habits of aware women workers

Food habit before joining rice mill	Food habit after joining rice mill
<p>Breakfast- Last night’s left over soaked rice with onion, salt and chili, or no breakfast</p> <p>Lunch- Rice and pumpkin leaves, or mashed potatoes or no lunch</p> <p>Dinner- Rice and mashed potatoes or lentils <i>(mostly used to have meals twice a day)</i></p>	<p>Breakfast- Rice with mashed/fried potatoes or lentils</p> <p>Lunch- Rice with Vegetables or eggs or small fish (sometimes)</p> <p>Dinner- Rice with lentils and left over fish/egg curry from lunch <i>(Now mostly they are able to have meals thrice a day and sometimes they eat snacks like biscuits, chanachur or samosa, etc.)</i></p>

The women who are aware mostly understand nutrient-rich foods and nutrition values from their local knowledge and logic. They believe there is a strong connection between food and health. To be a healthy person, they need to eat proper food daily. Without having nutritious food, nobody will be able to work properly to earn a good income. Regarding this, Bulbuli, aged 35, shared her views:

“Foods are our body’s primary sources of fuel. Without having quality amount of nutritious foods especially local green leaves like Tala kuchi shak, Nati shak, Helencha shak, and small fishes like Mola, Dela, and vegetables like pumpkin, sweet potatoes, and protein contained foods like egg and milk, nobody will be able to work properly. Rather they have to face different kinds of diseases, a sign that indicates your body is not properly fuelled. If I am affected by diseases, I will not be able to work in rice mill properly and if I failed to work properly, owner will deduct money from my daily income. So, I have to be aware about my health to work properly.”

In other words, to work properly, women workers are gradually becoming more aware of nutrient-rich foods. However, due to extreme poverty and intra-household disparity, a large number of women workers are not able to change their nutritional status. Although they are earning and aware of nutritious foods, by patriarchal social norms and practices remain barriers to ensuring nutrient-rich food for them and their family members. Rohitan, aged 25, said,

“Though I earn money, I have no control over my income. I am not able to spend my money as I wish. After receiving money from the owner of the rice mill, I have to hand over it to my husband. I just carry the money from mill to home for my husband. He will decide everything as he wishes. I have no purchasing power. If I do not give him the money, then he will be rude to me. Just to get his good behaviour, I have to give my salary to him.”

Another participant named Razia, aged 22, also said,

“My husband will not allow me to go hat (weekly market), though I am working in a rice mill. Due to my lack of mobility, I am unable to buy fruits for myself. Even I do not have any power to spend my income on my purposes. Sometime having money is not enough to eat healthy foods. I have some money, but who will buy nutritious foods for me? If I request my husband, he will not accept it by saying our poor conditions.”

Additionally, a few workers said they are feeling restless, nervous, and weak due to not having proper food. According to Bulbuli, aged 35, most of the women workers are doing double work but not getting double the food. Because of a lack of adequate foods, they feel weak to work properly. She also said,

“Before working here, we were eating twice in a day and now thrice in a day. We were used to having fermented rice with onion and salt, now we are eating regular rice instead of old fermented rice. Though I am eating thrice a day now, I am feeling too weak to carry or move paddy or sacks. It is happening because of lack of nutritious foods and workload. When I ate twice a day, I had only household responsibilities and now I am eating thrice a day with having both household and mill’s activities... when I earn a good amount, I try to buy green vegetables, small fishes and eggs... during lunch and dinner, firstly I distribute my husband and children’s meals, then lastly, mine.”

From Bulbuli’s opinion, we can say that working opportunities in rice mills help to slightly improve women’s food consumption, but they do not have any power or control over their income. In addition, the fact that rural women work is not a way to ensure their freedom from household

responsibilities; rather, it imposes a double burden upon them. However, from the participant's views, their satisfaction regarding nutrition is given below.

Table 9: Connection between nutritional satisfaction and workloads

Before working in post-harvest activities	After involving in post-harvest activities
Eating twice a day + Household responsibilities= single burden + apparently satisfied with nutrition	Eating thrice a day + Household responsibilities + rice mill's work = Double burden + dissatisfied with nutrition

Does being involved in post-harvest activities ensure women workers nutritional security or not? If we compare table 7 with table 8, the answer will be no. On the contrary, it does have some positive attributes. Due to their working opportunity, most women workers are now able to have food thrice a day and earn money to buy foods and other daily necessities for family members. However, there is a long way to go to achieve women workers' nutritional security and alleviate their doubled burden. From the study it is clear that they mainly depend on rice and vegetables. Women need some supplementation like fruits, dairy products, meats, etc. to increase their level of immunity and physical strength. Since they mostly eat to mitigate their hunger, hardly considering nutrition. Their workload is an important reason behind their dissatisfaction with nutrition, as they have to work 8-10 hours normally, and 16-18 hours during the paddy seasons. In addition, intra-household food politics mean that women workers are the poorest of the poor and they remain physically fragile.

4.2 Health Care Behaviour of Women Workers

After becoming involved in post-harvest activities, women are facing different types of health related hazards than before. Mostly they are affected by back pain, joint pain, chest pain, numbness of the body, the legs, or the hands, headache, and fever. Therefore, have to visit the nearest Government Health Complex once every two months to receive a few days of free medicines. However, this is not always sufficient for women workers. Sometimes they have to visit two or three times a month. In this regard, Fulmala, aged 40, said,

“During paddy drying, I feel more restless and headache, because I have to move relentlessly for a longer hour period. It is harder, during summer time. Additionally, I also feel knee pain (joint pain) and fever. In this case, I go to the nearest health complex instead of private doctor's chambers, but if it turns into very bad symptoms, then I have to go to the doctor's chamber. Before working in the rice mills, I was used to go only to the nearest pharmacy to buy pain killers and consult with pharmacy man to check my health condition.”

We can say that working in rice mills encourages women workers to go to the hospital or nearest doctors to check their health and take medicines. Income-earning capacity also increases their health awareness, though sometimes they are not happy with the limited free treatment from government hospitals. From their discussion, it also reveals that they need adequate free treatment and required medicines from hospitals, as mostly they came from poor families. In this aspect, Shilpi, aged 40 shared her views,

“Normally I visit to the nearby dispensary, because I do not want to go to the health complex. If I feel intolerable pain in my hands or legs, I have to go the health complex to get relief from pain, but they do not provide very much medicine. Only a few types of medicine they provide

us but not for required days always. Additionally, the location of hospital is quite far away from the house to go on time to visit doctors.”

Due to long distances, most of the women workers struggle to visit a doctor on time. In the meantime, there is no way to get initial treatment from rice mills, as they do not have any medical facilities. Even owners are not keeping oral-saline for their workers. Due to this, most of the women workers have health related problems. Unfortunately, a good number of workers are not able to diagnosis their health problem. Moreover, there is huge chance to lose job due to sickness. In this regard, Ismat aged 30 said,

“Upazila Health Complex provides only 3 days of medicines at a time, in this regard we have to go there twice or thrice for the same reason. It wastes our working hours and takes our energy. Additionally, if the owner feels that I am sick enough and not able to work for a few days, then he will hire another helpless women as worker.”

Table 10: Health care behaviour of women workers before and after involving post-harvesting activities

Name	Age	Before Involving Post Harvesting Activities	After Involving Post Harvesting Activities
Mossammat Shilpi	40	No	Yes
Joynob	40	No	Yes
Mahela	40	Yes	Yes
Mossammat Nabia	33	No	Yes
Mossammat Razia Khatun	22	No	Yes
Jobeda Khatun	30	No	Yes
IsmatAra	30	Yes	Yes
Shahinur	28	No	Yes
Bulu	30	No	Yes
Amena	30	Yes	Yes

From the participant’s views, it is clear that women workers are suffering from various health problems due to the longer hours and the nature of work in *chatal* and at home. Long distance from their house to the health complex discourages them from regularly visiting the health complex.

It can be said that women’s involvement in post-harvest activities brings some positive changes as they are able to have their meals and access health care facilities in a comparatively better way than before they worked in the rice mills. However, though they are becoming aware of nutritious foods and health care facilities, they are not able to buy adequate foods and go to the health complex regularly. Furthermore, their involvement in post-harvest activities increases their double burden between households and rice mills, and there is a lack of basic facilities in rice mills. The working environment of rice mills and related problems is discussed in the next chapter.

Chapter 5: Working Environment of Rice Mills and Issues of Women Workers

A gender sensitive working environment is important for every worker to increase the level of production in different industries. In the rice mill, occupational health and safety issues include ventilation, lighting, density, access to a fire extinguishing device, fire exist, safe water, and sanitation. Additionally, it also deals with workers' health, hygiene, working hour, wages, and personal safety issues especially for women workers. Health and hygiene arrangements in the rice mill include safe drinking water, sanitation system, first aid and primarily health check-up issues. Personal safety includes a sexual harassment and assault free working area. In this regard, we analyse the safety and security of women workers of M/S Molla Traders Rice Mill and Suratunnessa Rice Mill, their hygiene arrangement, workload, wage discrimination, and bargaining power in this chapter. With significant support from Kabeer's (1994) Social Relation Approach to define institutions by their rules, activities, people, and power, this chapter discusses the conditions of rice mill working environments. We also highlight the gender division of labour, payment process/system, working hours, and workers' choices in voicing their opinions.

5.1 Safety and Security Issues of Women Workers

In the rice mills, men and women workers often have to work together. The study reveals that the women feel safe within and outside the rice mills. The mill owners and supervisors are highly cooperative towards all the workers. From participant interviews, it seems that selected two rice mills are sexual harassment free areas. Additionally, most of the women workers believe that due to their unity, men workers are aware of their justice and rights. However, before working in the selected rice mills, most of the participants had experiences with harassment. However, now they are happy and lucky to get the chance to work in harassment free rice mills. Regarding this, Nabia, aged 30, shared her opinion,

"Before working in this rice mill, I worked as a servant, where I was only servant of that house. Due to this, I have to work from early morning to night. Besides, I was harassed by men members often by their unwelcome behaviour and unwanted touch. Around three years, I have been working here, still I do not face any harassment from men workers or owners. Additionally, I think, we are safe from men, because we have a good relationship among women workers."

Like Nabia, Jobeda, aged 30, stated,

"I feel really secure to work in this Chatal, as it is free from sexual harassment and physical torture. The relationship between worker and owner are friendly and helpful. Till now, I did not hear any harassment related cases, because all of the workers are very closely known each other."

From the in-depth interviews of women workers, it is agreed that they feel safe in their working places. Due to their neighbourhood, mostly they have a good relations with each other. It helps them to move freely and engage income-earning activities. Another important thing is that, as they are living in a same community, they do not feel hesitate to work with men workers, supervisors and mill owners. Regarding this, Ayub Ali Molla, aged 57, owner of M/S Molla Traders Rice Mill said,

"Those who are working here, all of them are familiar with each other and some of them are relatives. Due to their good relation, they do not have to face any kind of sexual harassment."

Additionally, it helps them to move and do their work easily. However, I can assure you that I am aware of women workers rights.”

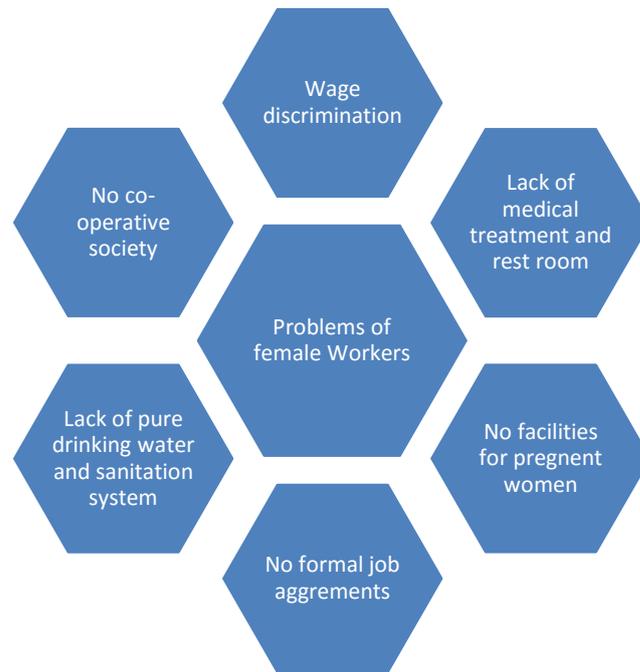


Figure 2: Problems of Women Rice Mill Workers

Most of the women participants are satisfied regarding their safety issues in the selected rice mills, but a good number of them feel insecure about their job and wages because they do not have any agreements, fixed salary structure, and a co-operative society. In this aspect, Amena, aged 30, stated her opinion,

“My husband is unable to work, so I have to maintain my family alone. Sometime, I really feel insecure regarding my job. Do not know, when they fired me by saying I am not capable to work like other women workers. If they really fired me, what will I do?”

5.2 Hygiene Arrangement at Rice Mills: Water and Sanitation

Access to pure drinking water and proper sanitation system are crucial determinants for every worker’s good health at work. To evaluate the working environment, this study focused on access to pure drinking water and the sanitation system for women workers. Women workers from M/S Molla Traders Rice Mill have to share a washroom with men workers and the condition of that toilet is very unhealthy. On the other hand, women workers from Suratunnessa Rice Mill, have different experiences, as they have a separate washroom and its condition is quite good. In both rice mills, women workers have to drink unsafe water. It contains huge amount of iron and arsenic, which is highly unhygienic to drink. Due to unsafe drinking water, most of the women workers are facing water borne diseases like diarrhoea and typhoid. Giving importance on safe drinking water and sanitation system, Mahela, aged 40 from M/S Molla Traders Rice Mill, said,

“In our Chatal, mostly we have to drink arsenic and iron contains water, which is unhealthy for us. There are no facilities for pure drinking water. In addition, there is no separate toilet for us. Both men and women workers have to use this unhygienic toilet and it creates some problems for women workers, as they do not have any other options. Another thing is that

there is no lock system in our toilet, so sometime it creates some unwanted problems for women workers."

Conversely, women workers from Suratunnessa Rice Mill shared a positive experience in this aspect. They have separate washroom for men and women workers, which is comparatively hygienic and safe. Related to this issue, Md. Abdur Razzak, supervisor, shared his opinion,

"All the workers including supervisors have access to arsenic and iron free water here. Additionally, we have separate toilet for both women and men. Inside the toilet, we have enough lighting facilities and a lock system. You will not find this arrangement any other rice mills."

However, Jobeda aged 30, from the same rice mill, shared a contradictory experience. According to her, the sanitation arrangement is not safe for women workers as the men and women's toilets are located side by side. Women workers have to face difficulties when both men and women need to go to the toilet at the same time. She said,

"Though our owner is highly conscious, during our work time, we have to drink the nearest tub wells water, which is free from arsenic but not from iron."

5.3 Rest Room: A Right That Will Never be Fulfilled

The environment surrounding the mills remains warm during the day. As most of the rice mills are situated beside the paddy field, the mill premises do not have sufficient trees for shade because the paddy field must dry quickly to make rice. Additionally, there are no temporary sheds for women workers, who sun-dry parboiled paddy. Most of the women workers feel helpless, as they do not have any place to rest during daily high temperatures. Due to this, they face different types of physical problems like headaches, vomiting, and stroke. In this regard, Shilpi, aged 40 from M/S Molla Traders Rice Mill, said,

"There is no separate rest room for us. We have a common windowless rest room in this Chatal. It makes it difficult for us to take rest with men during the sweltering sun."

Participants from Suratunnessa Rice Mill said there is no rest room for them. Usually they have to rest under the trees of the nearest houses. Interestingly, Md. Abdur Razzak, Supervisor from the same rice mill, said,

"They love to sit under the nearest houses' trees, as they can gossip with other village women. If you request them to sit inside the machine room, they will not agree with your proposal. Even if you arrange a separate rest room for them, they will not use it regularly."

It seems that the owners and supervisors are not aware of this need. They are not even able to think about its importance for better production and other quality services from workers. Though authorities are not friendly in this regard, most of the women think that, one day definitely, owners will realize the need to make a rest room for large number of women workers in rice mills. On the other hand, most of the owners think that, if they arrange for a rest room for women worker, then it will be a way of wasting their time by taking frequent rest during work time. In this perspective, Hazi Md. Abdul Mannan, owner of Suratunnessa Rice Mill, said:

"Women workers do not need rest room. If I establish a separate rest room for them, they will take chance to avoid their work by taking rest. Additionally, if they take rest regularly, it will be

loss for my rice, because every ten to fifteen minutes after, they have to stir rice. So I am not interested to make a rest room for women workers as it will destroy my business.”

5.4 Gender Division of Labour and Wage Discrimination

In Narina, the gender division of labour in rice mills is highly visible as most of the women workers do manual activities, while men workers do technical activities. Due to this division of labour between men and women workers, women workers have to accept the continuous process of wage discrimination. Though all the rice mills in Narina are semi-automatic husking mills, women are not allowed to do technical activities (Table 11). However, as most of the women workers came from poor families, they have to perform low wage jobs in different rice mills in Narina. The field study reflects that women workers have to work longer hours than men due to their daily responsibilities. They have to spend a long time completing their daily responsibilities, sometimes lasting from early in the morning to late at night. Their work is not highly valued since they are regarded as physically weak by the owners. Regarding this, most of the owners believe that, due to their physical weakness, they have to work more hours than men do. In this aspect, Amena, aged 30, shared her opinion,

“My Bariwala (husband) is not able to work. That is why I have to work outside the home to maintain my family. Before working in this rice mill, I used to work as house cleaner. I have been working here for two years. Though our rice mill is a semi-auto mill, normally women have to do manual work. On the contrary, men workers can easily do technical work. They can do their work very easily and quickly, even when they carry paddy or rice sacks, it does not take a long time. On the other hand, firstly, I have to thresh the paddy by hand, secondly I have to dry it under the sunlight, thirdly I have to soak the paddy, fourthly boil the paddy and finally, we have to dry the paddy again. In this process, men workers only help us to fire the boiler machine. Another thing is that we cannot be the helpers as men workers can do with the owner by operating different machines. Though men workers do not have any formal training, only they will be allowed to do machinery activities. In addition, most of the time, we have to hear that, we are unable to work like men workers, as we are not enough physically strong.”

Due to the discriminatory socio-economic structure of villages, most of the women workers started to believe that men workers are skilled and knowledgeable in operating the machine, but if we count and measure the labour between men and women workers, it would be almost the same and to some extent women workers are working longer hours during paddy season. In this regard, most of the women workers are unhappy with the wage discrimination between men and women workers. Amena also said,

“For our longer hour work, we normally get 15 BDT, on the other hand for carrying every single sack men workers get 10-12 BDT. Our salary is based on mound and men workers’ salary is based on sacks. We have to work day long to prepare a mound⁴ paddy, whereas a men labour can carry a good number of sacks a day. Additionally, some of them are also allowed to do machinery work. It helps them to earn a good amount more than us.”

The amount women workers are earning from rice mills is not satisfactory to ensure their family’s needs properly. Sometimes they even face difficulties in getting daily food. Regarding this aspect, a

⁴ 1 Mund= 40 Kilograms

few women workers emphasize training programs for them to learn machinery activities to reduce wage discrimination. Though men workers do not have any formal training, women workers need training to engage in machinery activities to earn like men. Regarding this perspective Mahela, aged 40, said,

“In our rice mill, we have a semi boiler machine. We can use only this machine with the help of supervisor or other men workers. Men workers mostly use semi-auto or auto machine for rice processing besides carrying paddy or rice sacks. Maximum work of men workers can be done by machine, but we do not have that many opportunities to do our work by machines. If we have proper training to operate machines, we can request our owner to do machinery works. Besides, it will also be helpful for us to raise our income more to run our families in a good way. With this discriminatory income, sometime we failed to eat twice a day.”

Table 11: Gender division of labour at rice mills

Types of work	Men Worker	Women Worker	Manual vs Auto
Carrying the sacks of rice	✓	✓	
Threshing the paddy		✓	Manual
Drying the paddy before boiling		✓	Manual
Soaking the paddy		✓	Manual
Helping in boiling		✓	Manual
Firing the boiler machine	✓		Auto
Boiler operating		✓	Auto
Piling the rice		✓	Manual
Final drying/drying after boiling		✓	Manual
Cleaning the threshing floor		✓	Manual
Packing		✓	Manual
Carrying paddy to the rice mill	✓		Manual
Loading/unloading	✓		
Milling paddy with the huller	✓		Auto
Cleaning	✓		Auto
Monetary Value	10-12 BDT, per sack	15 BDT, per mund	

From the study, it is clear that the extremely labour-intensive tasks in the rice mill are performed by women workers. There is less involvement of the women workers with technology, except operating the boiler machine. Mostly, they do work that is more industrious and requires physical strength. In addition, for threshing (manual), drying paddy (manual), soaking (manual), parboiling (auto), drying parboiled paddy (manual) and packing paddy into sacks (manual), women workers get 15 BDT for per mund. On the other hand, for carrying of paddy (manual), loading / unloading (manual) or milling paddy with the huller men workers get 10 to 12 BDT. Men can easily carry a good number of paddy sacks per day, allowing them to earn thrice than women. Moreover, for auto separation of rice bran, men workers are paid extra. Men workers in the rice mill receive their payment everyday

conversely to women workers, who receive it two days later. Politics remain not only in the process of distribution of workloads, but also in the payment system between men and women workers due to women workers lack of physical strength. Additionally, with the help of the owner of the rice mill, men workers have the chance to receive informal training to operate machines but women workers do not have this opportunity.

5.5 Longer Work Time: Workplace rights and double burden perspectives

Women workers have no specific work time, most of the day they have to work at least 9 to 10 hours, from 8 am to 6 pm. During paddy season (like April-May), they have to work up to 18 to 20 hours. They even have to work at midnight for paddy boiling. Unfortunately, they do not get extra money for their overtime; they do not get any bonus or increments. They do not get any single advantage for working overtime. From the FGD, one of the participants, Bulbuli, aged 35, said,

“Mostly we are involved in drying the paddy and on an average we have to spend almost 8-10 hours daily and during paddy season it increases to 18 to 20 hours. During paddy season, we have to work around 6.00 hours for drying paddy followed by final drying of paddy (around 4.00 hours), drying the paddy before boiling (around 1.00 hours), piling the paddy (around 1.00 hours), cleaning the threshing floor (around 1.00 hours), packing the rice (1.00 hours) per day. We have to do longer hour work during the season, but our owner has no interest in paying our extra work. In addition, we do not have any co-operative society to get help to reduce our wage discrimination and get bonus for extra work.”

Due to longer work hours at rice mills, most of the time women workers have to manage activities both inside and outside the household. After joining in post-harvest activities in rice mills, they are not free from their household activities. Family members also question their household responsibilities. A good number of participants come from women-headed households and some of them have to take care of their children and disabled family members. Irrespective of their family background, all of them have to carry a double burden and health problems like back pain and joint pain. Regarding this double burden, Joynab aged 40 stated,

“Before working in this mill, my responsibility was to take care of my family members and household. After joining here, I am facing a double burden to manage my household and the mill’s responsibilities daily. As I have to spend my whole day at mill, I do not have enough time to cook for my family regularly. Though I am earning, I failed to cook for them, which affects not only my health but also my family member’s health. It makes me sad and guilty.”

Though women are working longer hours at rice mills, they are not receiving the optimum benefits. Additionally, they are not receiving overtime payment. As workers, women are not able to exercise their rights to enjoy their work like men workers do in rice mills.

5.6 Bargaining Power of Women Workers: Inside and outside of the mills and households

Due to lack of bargaining power, most of the women workers cannot negotiate with mill supervisors and owners. For example, they hardly bargain with the owners to get paid overtime for extra work. In addition, they lack the official agreement to exercise rights that other industry workers have. As a result, men workers are paid every evening and women workers have to wait at least for 24 hours. Most of the owners hired women as temporary workers and men as permanent workers. Additionally, women workers are not protected by owners or any co-operative society to work on behalf of their rights and benefits. Nabia, aged 30, shared her experiences,

“Our rice mill owner does not give us a chance to increase our income, as he mostly treated us as cheap labour. Though we are working most of the rice processing work daily, men workers are getting priority due to their bargaining capacity. We do not even get our payment regularly, sometimes we have to wait for 2 or 3 days to get previous salary. On the other hand, men workers need not to wait, as they are getting their salaries daily.”

Additionally, nobody listens if a woman worker raises a problem. Everybody takes it very lightly as women workers are seen as not having enough capacity to identify and solve problems that might help more workers. Shilpi, aged 40, said,

“Personally I informed my mill owner thrice about our sanitation problem, but he is not ready to hear it from me. As he thinks, it cannot be a part of health related problem. I think if we can arrange a separate hygiene sanitation system for women, it may help to increase their working capacity.”

This discriminatory situation continues to occur between men and women workers, probably because they do not have a committee or trade union to guide them. Women workers’ daily hard work at rice mills becomes invisible, as they are subjugated by the unfair employment terms and conditions. Though working opportunities in rice mills may give them a chance to earn, they do not have any power to make their own decisions as men do within and outside the household. In this perspective, Dulu, aged 30, stated,

“Though I am earning money for my family, I do not have any control over my money and am not able to take any decision like my working area.”

However, the study explores that women workers do not have any right to share their views in the households and mills. They are largely dominated by men in the household and bound to accept their decisions. In a few cases, women workers have been able to enjoy their freedom. Jobeda, aged 30, said,

“I earn 300 BDT from 2 days labour and my husband earns 50 to 100 taka daily. We have two children and want to continue their schooling for their better future. My husband helps me to fulfil my dream and I have full control over our money to manage our household expenses and decisions.”

From the above-mentioned discussion, it is clear that though women are working harder and longer hours than men, they will not be equal to men in rice mills. However, with lots of working environment’s limitations and a limited salary, they are working hard to bring positive changes for their and family members’ well-being.

Chapter 6: Needs of Women Workers and Incorporation of AEP

The discussion in chapter 4 and 5 reveals that women workers have to work in inconvenient working conditions. Due to the biased cultural, economic, and social practices, most of the women workers are treated unjustly in rice mills and other related organizations. In addition, women’s perceived physical weakness makes them more vulnerable to move and work independently. In this aspect, most of the women workers are facing health problems, which do not help them achieve equality with men. If the AEP, under the Ministry of Agriculture along with the Ministry of Food and the Ministry of Industry, were to recognize women’s post-harvest work, that would greatly benefit them as workers. AEP will also be responsible to work for them in a joint collaboration. At present, the AEP is not involved with the services of post-harvest work in rice mills, though they are interested in

working jointly with the Ministry of Food and the Ministry of Industry. Regarding this issue, Hazi. Md. Abdul Mannan, owner, Surutunnessa Rice Mill, said,

“Agricultural Extension Services do not provide any services for post-harvest women workers, but I think they consider women’s issue as part of their activities.”

However, I must note that women workers’ health and nutritional behaviour have hardly been part of AEP in Bangladesh. This must be incorporated in AEP in order to ensure food security and nutritional status for women workers and recognize their contribution to the rural as well as national economy. This would also strengthen the linkage between the four important sectors concerned with the improvement of nutritional and health status of women workers, namely agriculture, industry, food, and health. In this regards, this chapter attempts to make some suggestions in order to get a better understanding and incorporate the needs of women workers in AEP.

6.1 Needs of Women Workers

Women workers have to do most of the post-harvest activities as part of their livelihood strategies. Though they are earning wages, lack of access to gender sensitive knowledge and information make them hesitant to practice their agency. In this aspect, ensuring knowledge and information facilities must urgently be incorporated in national and local organizations for post-harvest workers. Additionally, training to operate different machines is needed to reduce the gender gap in rice mill work. Though men do not have any formal training, due to their gender identity and previous experiences with rice mill owners, they can easily operate machines. Conversely, women must go through a training and pass a test. Besides, this training program will also help men workers to learn about gender equality and co-workers rights at mills. Male colleagues will also accept women’s capabilities and qualifications more readily. In this Regard, Shilpi from SGD, said,

“In our rice mill, there is a huller machine, which is primarily operated by men workers. On the other hand, activities like winnowing, pounding and parboiling are women’s responsibilities. We do not have any access to operate machines except boiler with the help of men workers. To reduce this discrimination in mills, we need technological training, though men do not need to operate huller machines. I am confident, if we have the training, will be able to challenge the conventional practices to operate machines.”

Realizing the importance of training and knowledge, Md.Abdul Razzak, Supervisor, Suratunnessa Rice Mill shared,

“Due to lack of technological knowledge and training, female workers have to face numerous trouble, most of the time they cannot understand what is perfect timing for boiling, how much time is needed to dry paddy, how the colour of rice will be perfectly alright instead of reddish colour, how to keep the standard size of rice. To solve these problems training arrangements as well as appropriate women friendly technologies have to initiate for the workers.”

This quote suggests access to proper training and knowledge will be helpful for women workers to be identified as skilled and active workers. If every women worker is able to get these facilities, they will be future leader to give a sustainable positive change in the rural economy. Besides, adequate knowledge and information can also lead them to meet their health care and nutritional demands. After getting health and nutrition related training, they will be more conscious to improve food habits and take care of their health. In this regard, Bulbuli stated,

“Though we are eating mostly rice and wild nutrient-rich food, we do not have any ideas regarding proper diet for ourselves as well as for our children and other family members. Nutrition related knowledge will be helpful for us to know, when to eat and how much do we need to eat? Additionally, it will also be helpful for us to keep our body fit to work properly.”

This study identifies three particular needs to improve women workers nutritional and health behaviour given in the following figure:

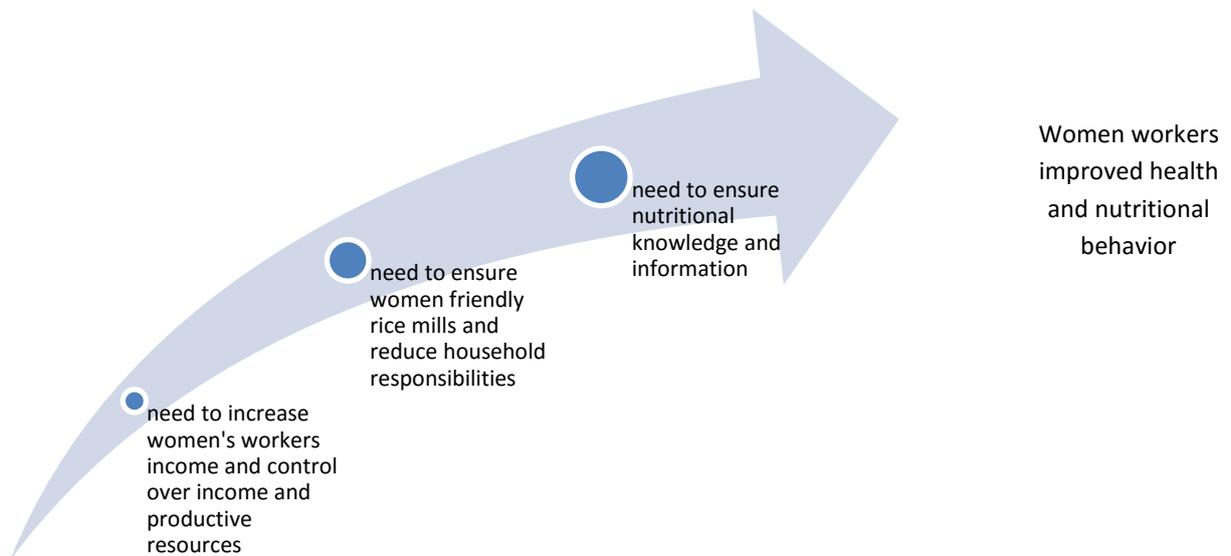


Figure 3: Needs for improving health and nutritional behaviour

6.2 Incorporation of Agricultural Extension Program

AEP’s vision of safe, good agricultural practices to ensure food security and commercial agriculture has great potential to work on behalf of rice mill women workers. It could ensure a safe working environment as part of the targeted productivity and commercial agriculture, as well as enhance health and nutritional behaviour as part of food security. However, the AEP is not currently involved with post-harvest work in rice mills though they are interested in working with the Ministry of Food and the Ministry of Industry. Currently, Upazila Food Controller’s Office is responsible for allocating adequate rice sacks from different rice mills and the Ministry of Industry evaluates the place for rice mills, to determine whether it would be harmful for others. The Department of Agricultural Extension only offers pre-harvest activities related services to farmers. However, most of the farmers, particularly women, do not have access to extension services and services under this program are not available for rice mills workers generally. In this aspect, Md. Manju Alam Sarkar, Upazila Agricultural Officer, Shajadpur, aged 45, shared,

“Agricultural Extension Program offer services to farmers in the area of pre-harvest activities of agriculture, does not work on rice mills. I hope it will be good if AEP take initiatives to work on rice mills. AEP’s provision of information, training and advice in agricultural production can be the a way to tackle the problems of rice mills women workers, as these services will provide a means for women to learn new or improved production techniques, receive training and information, and organize themselves and improve their access to inputs and markets.”

Regarding this aspect Mr. Nazmul Karim, Upazila Food Controller, Shahjadpur also shared similar opinions, saying,

“It is true that we do not have any project on rice mills workers, as we only do the work which is ordered by the upper level of the Ministry. If we have an opportunity to work jointly with the AEP and the Ministry of Food, it will be a great job. As a result, women workers will be benefited to earn sufficient income to improve their health and nutritional behaviour.”

As we know, nutrition is one of the major parts of ensuring food security mostly achieved through safe and better agricultural production. In this regard, nutrition and health issues have hardly been a part of AEP in Bangladesh. It needs to be incorporated in AEP in order to ensure food security and nutritional status of women workers with the help of the Ministry of the Food, the Ministry of Industry, the Ministry of Labour and Employment, the Ministry of Women and Child Affairs and The Ministry of Health. We therefore have some suggestions for the AEP to ensure health and nutritional needs from the perspectives of women in a collaborative way:



AEP's Vision in Bangladesh

The vision of the department of Agricultural Extension is to provide eco-friendly, safe, climate resilient, sustainable productive good agricultural practices and sustaining natural resources to ensure food security as well as commercial agriculture with a view to accelerating socio-economic development of the country

Source: Upazila Agricultural Office, Shahjadpur (2016)

Table 12: Proposed Process of Joint Collaboration: AEP and others

Name of the collaborative organization	Activities	Intermediary impact	End impact
Ministry of Labour and Employment	<ol style="list-style-type: none"> 1. Recognition and ensure rights of women as 'worker' 	<ol style="list-style-type: none"> 1. Gender discriminatory attitude will be removed 2. Women will get their benefits like men 	<p><i>Women workers improved health and nutritional behaviour</i></p>
Agricultural Extension Program, the Ministry of Agriculture	<ol style="list-style-type: none"> 1. Consider post-harvest work as part of AEP 2. Provide agricultural knowledge and information 3. Promote dissemination of technologies 4. Monitor other collaborative ministries' activities 	<ol style="list-style-type: none"> 1. Rice mills women workers will get more attention 2. Women will be able to take decision 3. Skilled women workers with improved income 	
Upazila Food Controller's Office, The Ministry of Food	<ol style="list-style-type: none"> 1. Training on improving rice processing capacity 2. Provide information on food management and security 	<ol style="list-style-type: none"> 1. Rice processing system will improve to increase income 2. Women workers will be aware of food management and security 	
Upazila Health Complex, The Ministry of Health	<ol style="list-style-type: none"> 1. Free treatment for poor workers 2. Free medicines for poor workers 3. Provide information about nutrition and health 	<ol style="list-style-type: none"> 1. Women workers will be able to lead a healthy lives 2. Will be aware of diseases 3. Will be able to work and earn more 	

Ministry of Industry	<ol style="list-style-type: none"> Promoting women friendly rice mills (rest room and separate sanitation system) Evaluating mills location and trade union 	<ol style="list-style-type: none"> Women workers will be able to work properly Neighbourhood will never be disturbed Women workers will be healthy and active 	
Upazila Women's Officer's Office, Ministry of Women and Children	<ol style="list-style-type: none"> Information about women's right Information about women's health and nutrition 	<ol style="list-style-type: none"> Will empower women workers Will increase women's decision making power 	

Chapter 7: Recommendations and Conclusion

7.1 Recommendations

To ensure women's health and nutritional security, increased bargaining power and productivity, we suggest incorporating post-harvest work as part of AEP working jointly with other related organizations as discussed in the previous chapter. Additionally, following are some suggestions under two major actions:

Table 13: Suggestions under two major actions

Action areas	Suggestions
Gender responsive and nutrition sensitive service delivery mechanism to provide	Need to influence policy to recognize women in post-harvest work as 'worker'
	Need to ensure gender sensitive training for GO/NGOs employers as well rice mill workers
	Need to appoint women extension officer and field worker
	Need to ensure women friendly working environment including rest room, sanitation system and first aid etc.
	Need to reduce gender stereotyped responsibilities in rice mills
	Need to provide appropriate information on nutrition and health care
	Need to provide information about women's right

Action areas	Suggestions
Dissemination of technologies and training to enhance women’s productivity and improve nutritional knowledge	Need to ensure and distribute women friendly technology
	Need to arrange training and access to technologies and inputs
	Need to provide training on nutritional and health care knowledge

7.2 Concluding Remarks

In Narina Union, a good number of women are doing post-harvest activities in different rice mills as part of their subsistence economy. Though they are working longer hours than men are, they must perform responsibilities that align with their gender identity. Due to discriminatory working responsibilities, women workers voices are not heard. In addition, from the field to rice mills, only men are getting work priority and recognized as farmers and workers, though women contribute equally in every step. In addition, it is a popular notion that most of the rural women are doing farming activities as part of their household responsibilities.

Moreover, due to low income and lack of control over income, women feel helpless to make their own decisions. Although they are working in the rice mills and earning money, their health and nutritional needs remain neglected. Additionally, gender insensitive working environments make their lives more difficult due to lack of different facilities like drinking water, sanitation system, rest room and first aid, they are facing different types of health-related problems like back pain, joint pain, headache, chest pain, lack of rest, vomiting, and fever. These problems force them to visit the Upazila Health Complex to treat diseases so they can go back to work and avoid getting fired.

This study suggest that due to women’s working opportunities in rice mills, their income and working status have changed, but their overall situation including health and nutritional behaviour remain fragile. Additionally, longer hours at the rice mill along with household responsibilities and unsatisfactory working condition make them more vulnerable to various health and nutrition problems. In addition, a safe and secure working environment is a matter of concern for all workers, especially women. Overtime work without payment, longer hours but lower salary than men, gender divisions of labour, and lack of knowledge and training are their daily reality. In this regard, women workers need gender sensitive knowledge and nutritional information, women friendly working environments, and power over income to ensure their nutritional and health security. Though AEP in Bangladesh does not currently consider post-harvest work training along with pre-agricultural activities, this study reveals potential for AEP to work on post-harvest issue with other related organizations/departments under different ministries. Further studies can be done in this sector to incorporate post-harvest work in AEP to bring positive changes for rural women post-harvest workers in Bangladesh.

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Images from the Field - Rice Mills Workers:

Photos were taken by the research assistant from the study area.







