Activity Patterns and Wage Earning Profile of the Female Agricultural Laborers in Northern Bangladesh

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Abstract

This study investigates how the rural female takes part in nation building process by their selling labor to agriculture. To conduct this research, social survey method has been followed and data were collected from 385 female agricultural laborers from the study area, using multi stage sampling. Findings of the study showed that more than 90% of the respondents were engaged themselves in agriculture. The respondents from 31 to 40 years of age had a high rate of participation in agricultural activities and they earn the highest amount of wage. Participation of female from nuclear family was much more (76.9%) in agriculture than those coming from joint family and a large portion of them (29.1%) had no dwelling house of their own. In *Boro* and *Aman* season, almost half of the respondents (44.7% and 45.9%) earned less than Tk.5000, and it was 81.65% in winter season. This paper, based on empirical data findings, recommends some policies for better participation of the agricultural female laborers in the rural Bangladesh.

Introduction

Female workers have been playing an important role in agriculture since the invention of agriculture. Some historians believed that it was the woman who first domesticated crop plants and thereby initiated the art and science of farming (Satio and Weidman, 1990). While men went hunting in search of food, women gathered seeds from the native plants and began cultivating those of interest for food, fiber and fuel (Chizari, 1997). This is why, it is often said that agriculture is the invention of women. It was initiated by women and developed throughout the world with the hands of men. Since its inception, women participation in agriculture has been taking place in different ways and forms around the world and Bangladesh in particular. However, the participation of women in work place can be thought in three different forms as (a) Producing goods and services at home for sale or exchange elsewhere; (b) Producing goods or services for self consumption within the household; and (c) Working for wages outside the household (Meherunnesa, 2008). Traditional gender division of labor exists in all spheres of society especially in family where women work within or near the houses and men work outside the houses. This division of labor applies in large part to all rural families irrespective of social class. The external transactions are made by man while women contribute subsequently to value added through home based activities. It is well known that most of the rural women are

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economically active but the difficulty as in Bangladesh census has been in devising accurate definitions of economic activity. Most home yard activities are commonly excluded in employment surveys and much of the processing works of crop especially
rice are not counted to these surveys. According to United Nations System of National
Account (UNSNA) guidelines, women's labor is generally only counted in national accounts if it takes place in the paid workforce, be it in a factory, on a farm, or in an office. If a woman works, but is not paid, then her labor does not count for anything in terms of national measurements of wealth (Efroymson, 2007). Similarly in Bangladesh, wage earning by selling labor in agricultural activities by women is integrated with child care, kitchen activities, looking after of livestock etc. and their contribution is not acknowledged in country's profile. Consequently, they remain ignored in the nation building process of the country.

Literature Review: Habiba Zaman (1995:379) in her study revealed that female's participation in agriculture had a wide variations in rural Bangladesh. Their participations were seen in mainly four areas, namely, (1) postharvest tasks; (2) animal tending; (3) field agriculture; and (4) wage labor (Zaman, 1995). Field and postharvest agricultural activities include all aspects of agricultural operations-both paid and unpaid. In Bangladesh, the invisibility of female's productive work is a problem, and productive work often overlaps with so-called non-productive work. Over the decades, debate on the issue of the relationship between productive and non-productive labor, market production and subsistence production, wage and non-wage labor, work at home and outside the home had generated controversy in various disciplines (Ferber, 1982; Hossain et al., 2004; Hoque and Itohara, 2008). From managerial activities to selling of labor, female's activities were associated with number of roles. In a previous study it was estimated that female in rural Bangladesh typically work 16 hours a day; that most female had no leisure time; and that they bore most responsibility for household chores, including many tasks related to income generation. (Efroymson, 2007). Several studies indicated that the advancement of rural infrastructure (including markets, roads, and electricity), communication, and quality education were the most significant factors influencing female's mobility outside the home and participation in Rural Economic Activities (REAs) (Ahmed, Quisumbing and Hoddinott, 2007; Batliwala, 1994; Begum, 1988; Hossain et al., 1994; Hossain et al., 2004; Sen, 1985; Sen and Grown,1987). Many researchers reported that female were a disadvantaged group in the acquisition of knowledge about farm and non-farm production and services, for

which gender development and the role of female's work continue to be important research areas in Bangladesh (Abdullah and Zeidenstein, 1982; Ahsan et al., 1986; Amin and Pebley, 1994; Arens and Beurden, 1977; Begum, 1983; Chowdhury, 1986; Farouk, 1985; Feldman and McCarthy, 1988; Hashemi et al., 1996; Jahan, 1990; Jordans and Zwarteveen, 1997; Khuda, 1980; McCarthy, 1981; Rahman, 1986; Safi lios-Rothschild and Mahmud, 1989; Westergaard, 1983). According to Monitoring of Employment Survey (MES) 2009, it was observed that 20.20% of labor force was daily laborers and 21.18% was unpaid family workers, which was 18.14% and 21.73% respectively in FY 2005-06 (GOB, 2013). These data proved that a big portion of the households of the country depended upon agriculture and they also depended on hired laborers for doing their agricultural activities.

From the above literatures, it is clear that female's participation in agriculture is increasingly becoming visible in Bangladesh. But as far as I went through the relevant literatures, there found no specific study on how the female in the rural area took part in the field agriculture of Bangladesh. For addressing this issue, this study has been taken under consideration. The aim of this paper is to focus on investigating the types of work and wage earning profiles of female laborers in agriculture in northern Bangladesh. There are some specific objectives of this paper stated in the following:

1) To describe the socio-demographic characteristics of the female agricultural laborers of Bangladesh;
2) To investigate the types of activities and their wage earning profile in different seasons; and
3) To estimate seasonal income variations of the female laborers in the study area.

Research Methods

Study design: It is a cross sectional study. In this study, the author considered Dinajpur district, the granary of Bangladesh, as study area. A pre-tested interview schedule was used to collect information from the study subject (female agricultural laborers).

Sampling procedure: Multistage sampling procedure was used to select the study area. In the first stage, four *upazilas* were randomly selected out of thirteen *upazilas* of Dinajpur district. In the second stage, four unions, each from every *upazila* were selected out of the unions of the selected four *upazilas*. In the third stage, twelve villages were randomly selected (every three villages from each union) from the selected four unions.

Sample size: As there were no specific records of the number of female laborers of Bangladesh, supposing it as a large and unknown population, sample size was determined by the following formula of Cochran (1963).

$$n = \frac{Z^2 pq}{e^2}$$

where, n= sample size

Z= confidence level at (1-α),

P=estimated population proportion (0.5, this maximizes the sample size),

q= (1-*p*),

e= error limit α,

$$Therefore, \quad n = \frac{(1.96)^2 (0.5)(0.5)}{(0.05)^2} = 384 + 1 = 385.$$

According to this formula, size of sample of this study was determined as total 385.

Sample units: Female agricultural laborers were the sample units of the study. Based on the number of the respondents of the study villages, they were drawn in the sample proportionately. Not more than one adult female (aged 16 and above) laborer was chosen into sample from each family.

Data collection period: The data were collected during the period of June 01, 2013 - August 31, 2013 as it was the end of the main season of Bangladesh agriculture. The author actively participated in the data collection during this period. He also guided and supported other data collectors at the time of data collection.

Reliability and validity of data: In order to test the internal consistency of the collected data, the Cronbach's Alpha test was considered to test the reliability. The value of the test was 0.92 which indicated a high level of internal consistency.

Study variable: Socio-demographic variables like age, sex, income, family type, family head, amount of land, membership with NGOs, participation in training etc. are the study variables. Besides, for analyzing wage variations, different type of agriculture works along with the three seasons are taken into consideration.

Data analysis: This study simply focuses on unearthing the wage earning nature of the female agricultural laborers of Bangladesh. Descriptive statistics such as frequency distributions, means and standard deviations were used in the study to show the wage earning profile of the respondents. For the analysis of data, statistical software SPSS 20 version was used.

Ethical consideration: In respect to ethical consideration, oral permission from the respective participants and their families was received.

Result and Discussion

The major findings of the study are stated below:

Table 1 Distribution of Socio-demographic Characteristics of Female Agricultural Laborers in the Study Area

Characteristics	Level	Female Labor in agriculture	
		Frequency	Percentage (%)
Current age of respondent	≤20 years	9	2.30
	21-30 years	103	26.80
	31-40 years	139	36.10
	41-50 years	105	27.30
	≥50 years	29	7.50
Educational status of respondent	No literacy	102	26.50
	Can sign only	194	50.40
	Primary and above	89	23.10
Physical condition	Physically fit	360	93.50
	Physically sick	25	6.50
Marital status of respondent	Unmarried	10	2.60
	Married	320	83.10
	Widow	35	9.10
	Separated	20	5.20
Type of family	Nuclear	296	76.90
	Joint	89	23.10
Family head	Husband	292	75.90
	Female headed	58	15.10
	Son	23	6.00
	Others	12	3.00
Own dwelling house	Yes	273	70.90
	No	112	29.10
Amount of land (decimal)	≤10	157	40.80
	11-20	55	14.30
	>20	36	9.40
Membership of NGO's	Yes	219	56.90
	No	166	43.10
Participation in training	Yes	82	37.44
	No	137	62.56

Source: Field Survey, 2013

The Table-1 shows that age of the female laborers ranged from 16 to 80 years. Within different age group, majority (36.10%) of female laborers were of the age

group of 31-40 years. As these types of works were labor intensive, physically strong female were employed in the works. In respect to educational qualification**,** it was observed that a countable part of total respondents (26.50%) was illiterate, 50.40% respondents could sign only their names and 23.10% respondents had primary school education. Halim (1982) conducted a study on contribution of schooling in agricultural production and found that farmers having up to secondary level education contributed positively to farm production. Majority of the female (93.50%) were physically fit and about 6.50% of them were sick. From the study population it was seen that 2.60% female laborer was unmarried where as 63.10% was married. Female laborers as widowed and separated were 9.10% and 5.20% respectively.

Table 2 Female Agriculture Laborers According to Their Participation in Works in Boro and *Aman* Seasons

Types of work	**Number workers in IRRI/*Boro* season (n=378)**	**Number of workers in *Aman* season (n= 377)**
Preparing seed bed	47(12.43*)	47(12.47)
Uprooting seeds	107(28.31)	153(40.58)
Watering to plants	13(3.44)	10(2.65)
Seed plantation	212(56.08)	231(61.27)
Weed cleaning	253(66.93)	244(64.72)
Reaping paddy	249(65.87)	260(68.97)
Threasing paddy	233(61.64)	239(63.40)
Sorting rice	91(24.07)	85(22.55)
Boiling rice	213(56.34)	198(52.52)
Dusting off rice	191(50.51)	173(45.89)
Hay making	179(47.35)	114(30.24)

Source: Field Survey, 2013

(*figures shown in the parenthesis are percentage)

On the basis of production and labor use, three working seasons commonly found in the study area. These are Boro/IRRI season, *Aman* season and winter season. Among the total 385 respondents, 378 and 377 respondents participated in IRRI season and *Aman* seasonal works (Table 2). Of them, for uprooting seeds, 28.3% and 40.58% respondents worked in both of the seasons. For seed plantation, 56.08% of them participated in IRRI season which was 61.27% in *Aman* season respectively. In both of the seasons for weed cleaning, the rates of participation were 66.93% and 64.72%. Similarly, near about same rate of participation was for reaping of paddy which were 65.87% and 68.97% respectively. All of these works were treated as field agricultural works that were performed by both of female and male.

On the other hand, for homestead agricultural works like threshing, sorting, parboiling, winnowing etc. were worth mentioned. In the study area, it was seen that 61.64% and 63.40% respondents had worked of paddy threshing (*dhan pitano/marai*) in Boro and *Aman* seasons. For sorting of rice (*dhan jachai*) the rates of participation were 24.07% and 22.55% in both of the seasons. Likewise, for parboiling of rice (*dhan siddho*), 56.34% and 52.52% respondents worked in both of Boro and *Aman* seasons. In respect to winnowing rice, the participation of them was 50.5% and 45.89% and for drying of straw it was 47. 35% in Boro/IRRI and 30.24% in *Aman* season respectively. But in the study of Habiba Zaman (1985) it was revealed that many village females worked in the fields with males as agricultural wage laborers. Female not only participated in rice crop production and processing; they were also involved in the production and processing of other major crops such as sugarcane, jute, wheat, and other winter crops.

Table 3 Female Agricultural Laborers according to their Participation in Works in Winter Season

Types of work	**Number of workers in Winter season (n=378)**
Master related tasks	92(24.40*)
Potato relater tasks	304(80.64)
Parable/bitter gourd related tasks	180(47.75)
Green chilies related tasks	147(38.99)
Sweet potato related tasks	31(8.22)
Ginger/garlic/onion	110(29.18)
Corn related tasks	189(50.13)

Source: Field Survey, 2013

(*figures shown in the parenthesis are percentage)

In winter season, among the total 385 respondents, 378 respondents participated in the works. It was seen in the study area that about 80.64% respondents had taken part in potato collecting works. Similarly a high participation (47.75%) was seen in parable/bitter gourd collecting works. Likewise a remarkable participation (38.99%) was seen in Green chilies plucking works. It was found in the study area that 50.13% participated in Corn harvesting. Among the participation of female laborers in the study area, potato collecting works; parable/bitter gourd plucking work and corn harvesting work were found very high in percentage.

Table 4 Distribution of Female Agricultural Laborers on the Basis of Work, Working Hour and Employment in and out of Season in the Study Area

Characteristics	Level	Frequency	Percentage (%)
Base of work in season	Daily wage basis	307	79.70
	Contract basis	3	0.80
	Both	75	19.50
Base of work in the slack season	Daily wage basis	372	96.60
	Contract basis	11	2.90
	Both	2	0.50
Working hour on daily wage basis	≤8 hours	190	49.30
	>8 hours	184	47.80
	No answer	11	2.90
Working hour on contact basis	≤8 hours	40	10.40
	>8 hours	83	21.50
	No answer	262	68.10
Getting work in days in a month in the slack season	<10 days	184	49.90
	10-20 days	173	46.90
	>20 days	12	3.10

Source: Field Survey, 2013

Among the total respondents, 79.70% workers worked daily wage basis and 19.50% worked both of daily and contract bases, whereas participation in contract basis was almost nil (0.80%) in peak season. About half of the respondents (49.30%) worked not more than 08 hours per day on daily wage basis whereas it was only 10.40% on contract basis. It indicated that female had to invest more time in contract basis work. On the other hand a large number of respondents (68.10%) had given no answer as they had not been participated in work on contract basis. In dull or slack season, female do not get work in every day. They were to depend on the savings of the peak season. If we look at the slacking period of the respondents, we see that about half of the respondents (46.90%) did not get work for 10-20 days in month. In the study 'Jhagrapur' by Arens & Beurden (1977), it was mentioned that women who were depended heavily on selling their labor suffered from un-and underemployment.

Table 5 Distribution of Female Agriculture Laborers According to their Duration in Months of Seasonal Working in the Study Area

Range of seasonal working duration(days)	Percentage of female labor participation in different seasons with durations		
	IRRI/Boro	***Aman***	**Winter**
<30 (less than one month)	98(25.90*)	105(27.90)	163(42.30)
30-60 (one to two months)	98(25.90)	128(34.0)	156(40.50)
61-90(two to three months)	122(32.30)	72(19.10)	12(3.10)
>90 (above three months)	60(15.90)	72(19.10)	0(0.0)
Total	378(100.0)	377(100.0)	331(100.0)

Source: Field Survey, 2013

(*figures shown in the parenthesis are percentage)

If we look at the duration of work in the three seasons, we see that a significant number of respondents got work less than 30 days in every season which was 25.90% in Boro/IRRI, 27.90% in *Aman* and 4.0% in winter season. Likewise near about same number of respondents got work for 60 day in each season. These figures were 25.90% in Boro season, 34.0% in *Aman* season and 16.90% for winter season respectively. But a remarkable change had been seen in the last group of the table 5. In this group, 15.90% and 19.10% respondents got work more than 90 days in Boro and *Aman* seasons which was 69.80% in winter season. Data showed that there was a wide scope of getting more work in winter season.

Wage of the respondent classified into four classes namely very low income group (less than Tk. 5,000), low income group (Tk.5,000-10,000), medium income group (Tk.10, 001-15000), high income group (more than Tk. 15,000). The distribution of the female laborers based on their wage scores presented in Table 6.

Table 6 Distribution of Female Agriculture Laborers According to Wage in Season of the Study Area

Ranges of Wage in Season	Percentage of Female Labor Participation in Different Seasons with Wage		
	IRRI/Boro	***Aman***	**Winter**
Very low income (<5000)	169 (44.70*)	173 (45.90)	317(83.86)
Low income(5000-10000)	90 (23.80)	79 (21.0)	61(16.14)
Medium income (10001-15000)	100 (26.50)	121 (32.0)	0(0.0)
High income (15000+)	19 (5.00)	4 (1.10)	0(0.0)
Total	378(100.0)	377(100.0)	378(100.0)

Source: Field Survey, 2013

(*figures shown in the parenthesis are percentage)

Table 6 shows that a large number of the female laborers had very low income in the study area. This indicated that female laborers' contribution to their families was not satisfactory though they were giving their labor with combating their male counterparts. It was also seen in the table that among the very low income group, there were a wide variation in seasons. In Boro and *Aman* seasons, this variation was nearly zero but in winter season, it was about double in percentage (83.86%). It was because of the nature of work in winter season. In winter season they had to do many time consuming simple works with having a small amount of wage. The number of female laborers in very low income group was near about 83.86% in the winter but in other two seasons these rates of participation were 44.70% and 45.90% respectively. In low income group, the rate of their participation was on the wane (16.14%) in winter season which were 23.80% and 21.0% in IRRI and *Aman* seasons. It revealed that with the increase of wages, participation of female laborers were on the wane. Furthermore, it was interesting to note that participation of female laborers in medium and high income was nil in winter season. It was 26.0% and 32.0% in medium wage group and 5.0% and 1.0% in high income group respectively.

Table 7 Seasonal Income Deviation of the Agriculture Female Laborers in the Study Area

	IRRI/Boro season	***Aman* season**	**Winter season**
Seasonal average income	7215.26	7065.44	2574.13
Daily average income	134.06	136.78	96.41
Daily average income deviation	57.65	44.58	55.14

Source: Field Survey, 2013

It was seen in the study area that average seasonal income in Boro and *Aman* season were Tk. 7215 and Tk. 7065 respectively which was only Tk. 2574 only in winter season and similarly daily average income in Boro and *Aman* season were Tk. 134.06 and Tk. 136.78 respectively which was only Tk. 96.41 in winter season. Daily average income in every season had varied greatly as the nature of work in all seasons are not same. But in case of average income deviation, the difference had been seen in *Aman* season. Income deviation in Boro and winter seasons was almost same (Tk. 57.65 and Tk. 55.14) and in *Aman* season it was Tk. 44.58 which indicated that there was less wage difference in *Aman* season.

Table 8 Distribution of Female Agriculture Labor According to Mode of Wage Payment in the Study Area

Characteristics	Level	Frequency	Percentage(%)
How wage is paid	Every-day after work	227	59.00
	Every bazaar day	122	31.70
	Every week	27	7.00
	After season	9	2.30
Problem of getting wage	Yes	126	32.70
	No	259	67.30
Type of problems in getting wage	Ask time and again	70	55.56
	Do not pay all the due at a time	32	25.40
	Pay less than due	1	0.79
	Pay goods instead of money	6	4.76
	Pay money instead of goods	1	0.79
	All	16	12.70
	Total	126	100.0

Source: Field Survey, 2013

Of the study population it was observed that 59.0% female got their wage every day after work, 31.70% female got it every Bazar day. In an answer to the question of whether they faced any difficulty in getting their wage, 32.70% respondents opined that they had faced different kind of problems in getting their wage in the study area. Among the problems, more than half of the respondents (55.56%) had reported that they had to ask the employers time and again for getting the due wages.

Conclusion and Recommendations

Female are good partners for the socio-economic development of the country. Study showed that a large number of rural female of the age group of 31-40 got involvement in agriculture. Of them a small number had training with the connection to NGOs. In *Boro* and *Aman* seasons, about half of the respondents belong to low income group and it was about 83.86% in winter season. It is clearly indicated that female laborers in agriculture were getting very low wage with the investment of high potentials. Their training for agricultural works is also remained neglected in the study area. They are undoubtedly a striking force for rural agriculture economy. So their potentialities should be tapped into national income and recognition for their identity should also be given in the national census of the country. A law regarding the welfare of the female agriculture laborers of the Bangladesh should be enacted by the government so that welfare for them can be ensured.

References

Abdullah, and T. Ahmed

1983 *Report on Homestead Agricultural Production in Rural Bangladesh.* Dhaka: The Ford Foundation.

Abdullah, T. Ahmed and S. Zeidenstein

1982 *Village Women of Bangladesh: Prospects for Change: A Study Prepared for the International Labour Office within the framework of the World Employment Programme*. Oxford: Pergamon Press.

Ahmed, A. U., A. R. Quisumbing and J.F. Hoddinott

2007 *Relative Efficacy of Food and Cash Transfers in Improving Food Security and Livelihoods of the Ultrapoor in Bangladesh.*, Washington DC: International Food Policy Research Institute (IFRI). Retrieved 19 July 2009, from http://documents.wfp.org/stellent/groups/public/documents/liaison_offices/wfp144615.pdf

Ahsan, R. M., S.R. Hussain and B. J. Wallace

1986 *Role of Women in Agriculture*. University of Dhaka, Dhaka: The Centre for Urban Studies.

Amin, S. and A.R. Pebley

1994 Gender Inequality within Households: The Impact of a Women's Development Programme in 36 Bangladeshi Villages. *Bangladesh Development Studies* 22 (2&3): 121–54.

Arens, J. and J. V. Beurden

1977 *Jhagrapur: Poor Peasants in a Village in Bangladesh.* Birmingham: Third World Publication.

Bangladesh Bureau of Statistics

2009 *Census of Agriculture*, 2008 (National Report, Volume 1). Dhaka: Bangladesh, Bangladesh Bureau of Statistics.

Bangladesh Bureau of Statistics

2012 *Bangladesh Population and Housing Census, 2011* (National Report, Volume 4). Dhaka: Bangladesh, Bangladesh Bureau of Statistics.

Batliwala, S.

1994 The Meaning of Women's Empowerment: New Concepts from Action. In Gita Sen, Adrienne Germain, and Lincoln.C. Chen (Eds),

Population Policies Reconsidered: Health, Empowerment and Rights (pp. 127–38). Cambridge, MA: Harvard University.

Begum, S.
1983 Women and Rural Development in Bangladesh. Master's Thesis, (mimeographed), Cornell University.

Begum, N. N.
1988 *Pay or Purdah: Women and Income Earning in Bangladesh*. Dhaka: Sohug Printers.

Government of Bangladesh
2013 *Bangladesh Economic Survey-2013*. Economic Advisory Division. Dhaka: Bangladesh, Ministry of Finance.

Chizari, M.
1997 Participation of Rural Women in Rice Production Activities and Extension Education Programs in the Gilan Province, Iran. *Journal of International Agricultural Extension Education. 4* (3), *19-26.*

Chowdhury, N.
1986 Revaluation of Women's Work in Bangladesh. *The Bangladesh Journal of Agricultural Economics* 9 (1): 8–15.

Chowdhury, M. F.
2007 "Contribution of Female in Homestead Agricultural Production in Rajshahi District of Bangladesh", Unpublished PhD Dissertation. Rajshahi: Department of Agronomy and Agricultural Extension, University of Rajshahi, Bangladesh.

Cochran, W. G.
1977 *Sampling techniques* (3rd ed.). New York: John Wiley & Sons.

Efroymson, D., B. Biswas and S. Ruma
2007 *The Economic Contribution of Women in Bangladesh through their Unpaid Labor.* (Jones, Lori , Gerald, Sian Fitz, & Tungohan, Ethel (Eds). Dhaka, Bangladesh: HealthBridge.

Farouk, A.
1985 *The Hardworking Poor*. Bureau of Economic Research, Dhaka: University of Dhaka.

Ferber, M. A.
1982 Women and Work: Issues of the 1980s. *Journal of Women in Culture and Society* 8 (2): 273–95.

Feldman, S. and F. E. McCarthy
1988 Processes of Impoverishment in Bangladesh: Conceptualizing Poverty and Resources. *The Journal of Social Studies* 39 (January): 1–21.

Hashemi, S. M., S. R. Schuler, and A. P. Riley
1996 Rural Credit Programmes and Women's Empowerment in Bangladesh. *World Development* 24 (4): 635–53.

Hoque, M. and Y. Itohara
2008 Participation and Decision Making Role of Rural Women in Economic Activities: A Comparative Study for Members and Non-Members of the Micro-Credit Organizations in Bangladesh. *Journal of Social Sciences* 4 (3): 229–36. Retrieved 24 July 2009, from http://www.scipub. org/fulltext/jss/jss43229-236.pdf

Hossain, M., M. L. Bose and A. Ahmad
2004 "Nature and Impact of Women's Participation in Economic Activities in Rural Bangladesh: Insights from Household Surveys". Working paper No. 20, Department of Economics, Sweden: Lund University. Retrieved 16 July 2009, from http://www.nek.lu.se/publications/workpap/ Papers/WP04_20.pdf

Hossain, M., M. Rahman and A. Bayes
1994 "Rural Non-farm Economy in Bangladesh: A Dynamic Sector or a Sponge of Adsorbing Surplus Labor?" SAAT (South Asia Multidisciplinary Advisory Team) Working Paper, International Labour Offi ce, New Delhi, India.

Jahan, I.
1990 "Country paper-Bangladesh. In Gender Issues in Agriculture: Papers and Proceedings of the Regional Conference on Gender Issues in Agriculture". Manila, 5–6 December, Asian Development Bank (ADB) and United Nations Development Fund for Women (UNIFEM).

Jordans, E. and M. Zwarteveen

1997 A Well of One's Own: Gender Analysis of an Irrigation Program in Bangladesh, Colombo: International Irrigation Management Institute (IIMI).

Khuda, B. E.

1980 "Time Allocation among People in Rural Bangladesh", DERAP (Development Research and Action Programme) Publication No. 101. Bergen: Chr. Michelsen Institute.

Manik, L. B., A. Ahmed and M. Hossain

2009 "The Role of Gender in Economic Activities with Special Reference to Female's Participation and Empowerment in Rural Bangladesh". *Gender, Technology and Development 13* (1). Retrieved from http://sgo.sagepub.com/content/spsgo/3/3/2158244013502984.full.pdf date 04/01/2013.

McCarthy, F. E.

1981 *Contribution of Women to the Production and Processing of Crops in Bangladesh*., Ministry of Agriculture. GB.

Mold, D.

2008 The Changing Role of Female in Minnesota Agriculture. *Rural Minnesota Journal, 3*(1), 57-79. Retrieved from http://www.ruralmn.org/wp-content/uploads/2011/03/The-Changing-Role-of-Female -in.pdf date 12/03/2011

Meherunnesa

2008 Women Contribution in Rural Development. In Abul Barakat (ed.) *Bangladesh Journal of Political Economy 24* (1), 579-589. Dhaka: Bangladesh, Bangladesh Economic Association.

Rahman, R. I.

1986 *The Wage Employment Market for Rural Women in Bangladesh. Research Monograph* No. 6., Dhaka: Bangladesh Institute of Development Studies (BIDS).

Safi lios-R. C. and S. Mahmud

1989 *Female's Roles in Agriculture: Present Trends and Potential for Growth*. Dhaka: United Nations Development Program (UNDP) and United Nations Development Fund for Female (UNIFEM).

Satio, K. A. and Weidman.

1990 *Agricultural extension for female farmer in Africa*. World Bank Discussion Paper No. 103, Washinton D C. World Bank.

Sen, A. K.

1985 Well-being, Agency and Freedom, *The Journal of Philosophy* 132 (4): 169–221.

–1990a Gender and Cooperative Conflicts. In Tinker, Irene, (Ed.), Persistent Inequalities: Women and World Development (pp. 123–49). New York: Oxford University Press.

Sen, G. and C. Grown.

1987 *Development, Crises, and Alternative Visions: Third World Women's Perspectives*. New York: Monthly Review Press. United Nations. (1995) Fourth World Conference on Women, 25 October, Beijing, China, New York: United Nations.

Zaman, H.

1995 Patterns of Activity & Use of Time in Rural Bangladesh: Class, Gender and Seasonal Variations. *The Journal of Developing Areas*, *29*(3), 371-388. Retrieve from http://www.jstr.org/stable/4192465, Accessed 29.12.2012 11:07

Westergaard, K.

1983 *Pauperization and Rural Women in Bangladesh: A Case Study*. Bangladesh Academy for Rural Development (BARD), Comilla.