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Farm and Non-Farm Employment of Rural Landless Households: Evidence from survey data

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Abstract *Farm and non-farm employment pattern of the rural landless households varies according to time and profession. In the farm sector, the flexibility is more than in non-farm sector. Non-farm workers' work availability per month was always more than farm workers'. Besides, farm employment was very much fluctuating, compared to non-farm employment. High peak and slack time exist in farm work. From the study it was found that farm employment increased during transplanting and harvesting of Aman and Boro season. Non-farm employment also increased during or after harvesting of Aman and Boro season. During peak farm season, the intensity of work for the non-farm earning members always remains higher than in off or slack season. This implies that there is a relationship between farm and non-farm employment. Among the rural non-farm profession, service workers remain engaged in work for more time, but their monthly income is not high enough compared to other non-farm profession because of low wage rate. Transport workers' daily income was two and a half times more than service workers' because of skill jobs. On an avegage, farm and non-farm earning members' wage rate or return was Tk. 76 and Tk. 135 per day. Non-farm earning members wage rate was always higher than in farm workers. Again, the wage rate of the farm related non-farm households was less than inother non-farm households. Farm wage also varies with respect to peak and lean season. Non-farm wage followes the same pattern. Sales workers, service workers, production workers, transport workers and labourers' wage rate was Tk. 159, 71, 151, 171 and 19 per day, respectively. Rural non-farm employment*

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can play an important role in increasing wage or return and income opportunities and thus in reducing hardship during lean season and poverty for all time. Rural non-farm employment also can develop intersectoral linkages. Promoting rural non-farm employment is, therefore, a necessary option through providing skill training to the farm workers in different trades and increasing provisions for electricity and communication facilities.

1. Introduction

Rural areas across most of the developing world face a formidable employment challenge. Even with migration to cities, rural populations continue to grow, sometimes very rapidly, as in Bangladesh and South Asia. Each year's addition to the rural labor force needs to find work in agriculture or in the rural non-farm sector, or to migrate to urban areas. In Bangladesh, despite an increasing trend of migration of the rural poor to the urban areas for work, a majority of them still remain in rural areas for livelihood.

About 80 percent of the population of Bangladesh live in the rural areas and are directly or indirectly dependent on agriculture. Agriculture has proved to be the prime mover of growth in the national economy. The amount of cultivable land for crop production is also gradually decreasing due to housing, construction works and other infrastructure development. Besides, the inequality in landholding is striking. Recent estimates show that nearly a half of the country's rural population are effectively landless owning at most 0.02 hectare of agricultural land (World Bank, 2002).

Since the early 1970s attention has been paid to the significance of the non-farm sector in the rural Indian economy (Lanjouw and Sharif, 2002). During the 1990s, the non-farm activities, assumed an increasingly important role in rural economic growth of Bangladesh. According to LFS data, the employment in agricultural sub-sector declined from 63 percent in 1995/96 to 52 percent in 2005/06. On the other hand, non-agricultural employment rose from 37 percent to 48 percent during the same period (BBS, 1996, 2008). Major occupation- wise employment data also shows the same trend. This indicates increasing work opportunities in the rural non-farm sector as a result of growth and diversity of agricultural enterprises.

Rural households with no cultivable land have to mainly depend on their income from farm or non-farm employment. Farm employment may be agricultural wage labour or farming. On the other hand, non-farm employment may be of different types. The landless households have no or little scope of earning from farming. A

few households may be involved as share cropper but this source of income may not cover their year round food and non-food expenditure. Partly s/he has to depend on direct labour selling to either farm or non-farm sector. In a household there may be one or more earning members of whom one may be full time non-farm employee and others may be full time farm employee and vice versa.

Rural landless non-farm households who have no monthly basis employment in professional, managerial or technical job have to depend on employment on daily wage basis. These types of households have to meet their daily expenses from their daily income. Their daily income depends on daily employment availability either on farm or non-farm sector. Availability of farm wage employment does not remain the same in all the months as because of seasonal nature of the the farm production. On the other hand, non-farm employment availability also depends on seasonal factors. Rural landless household's employment availability also depends on the earning members of the households. Rural landless non-farm households are classified as pure landless non-farm households and mixed landless non-farm households on the basis of farm and non-farm earning members. If all the earning members of the households are non-farm employee then the households are termed as pure non-farm households. If any one of the earning members of the households is farm employee then the households are termed as mixed non-farm households. Landless non-farm households can also be classified as farm related and other non-farm households. Farm related non-farm households are those households that are engaged in farm related non-farm activities, like hen trade, rice processing and selling, blacksmith, hotel boy, rice haller owner, pita and bara maker and vegetable shopkeepers etc. Other non-farm households may have earning members not directly related to farm activities. Their profession includes carpenter, mason, tailor, home garments, rickshaw puller, van driver and grocery shopkeepers etc.

Employment availability of farm and non-farm workers and their wage rate vary over time. In rural areas farm workers' employment availability always depends on the production of farm products like crop, vegetable and other cereals. The farm workers are only skilled in farm activities and have no or limited skill in non-farm activites, and for this reason they have no or limited options to shift their profession during the lean season. Genderwise employment opportunity and wage rate also vary. Non-farm employment availability and wage rate also vary as per typology of non-farm employment and gender.

The livelihood of rural landless households depends on farm and non-farm wage, income or return. During lean season, having no or limited employment opportunity farm workers face employment and livelihood challenges. Having no

employment opportunity in rural areas many want to migrate from rural to peri-urban and urban areas for their employment and livelihood. But the scope is very limited because of their illiteracy and poor income to bear transportation cost. As a result they always remain in poverty trap. To overcome the challenges, it is necessary to examine the scope of employment opportunity for the poor landless households on the basis of valid empirical data. The relevant research question includes: (i) What is the pattern of rural farm and non-farm employment for the rural landless households? (ii) What is the employment and wage variation between farm and non-farm workers? (iii) What policy measures will be helpful to promote rural non-farm employment for the rural landless households?

This paper seeks to find answers to these questions. Its specific objectives are:

(1) To measure and analyze the farm and non-farm employment pattern of the landless poor households;
(2) To find out sectorwise and typologywise employment and wage variation; and
(3) To recommend policies and strategies to promote rural non-farm employment in Bangladesh.

2. Methodology

2.1 Study Area Selection

The present study is based on primary data pertaining the year 2007-08 collected from three villages of Pirganj upazila under Thakurgaon district of Rajshahi division. The study area was selected following a stepwise approach giving emphasis on poverty incidence, intensity of farm related non-farm enterprises and communication and market linkages between growth centres, rural town and rural bazaar.

1. Three villages namely Daulatpur, North-Noyapara and Jabarhat were selected considering the following criteria:
2. Village Daulatpur was selected because it is located near urban area or pourashava bazar;
3. Village Jabarhat was selected because it is located near a growth centre or rural town; and Village North Noyapara was selected because it is located near a rural bazar.

2.2 Household Selection

To determine the pattern of rural farm and non-farm employmenrnt, households having no cultivable land were considered. Out of 280 selected households, 154

were landless households. Among landless households, 77 were non-farm landless households. From 77 non-farm landless households, 40 non-farm landless households were selected for the study. Landless non-farm households again were classified as farm related non-farm households and other non-farm households. Out of 40 non-farm landless households, 11 were farm related and 29 were non-farm landless households (Appendix Table-1).

2.3 Earning Member Selection

After household selection, earning members of the households were selected. Some of the households had only one earning member whose earning source was only non-farm employment. Some household may have more than one earning members of whom one was engaged in non-farm employment and others were engaged in farm employment. *In the study, 40 landless households had 70 earning members*. On an average the earning member size was 1.8. Out of 70 earning members, 54(77%) were involved in non-farm employment and 16(23%) were engaged in farm employment. Among the three villages, non-farm earning members were highest 87% in Jabarhat village and farm earning members were highest 32% in North-Noyapara village. Besides, out of 70 earning members, 48(69%) were male and 22 (31%) female. Of the total female earning members 50 percent were engaged in farm employment and 50 percent were involved in non-farm employment. The farm-nonfarm employment ratio for male earning member was 90 percent and 10 percent, respectively (Appendix Table-2).

Farm and non-farm earning members were also categorized according to types of employment. Earning members involved in farm employment was only agricultural labour but earning members involved in non-farm employment were sales workers, service workers, production workers, transport workers and labourers and helpers. Out of 54 non-farm household members 16(30%) were sales workers, 3(6%) were service workers, 18(33%) were production workers, 10(19%) were transport workers and 7(13%) were labourers and helpers (Appendix Table-3). Male female ratio for non-farm employment was 80 and 20 percent and the ratio for farm employment was 31: 69 percent.

Sales workers were involved in hen trade, rice processing and selling, rice hawler owner, middlemen of court and middlemen of rice and wheat business, ferry business (ice cream and zilapi), grocery shop, mobile grocery shop, hari, patil and deski trade, tea stall, vegetables shop, chira muri business, pita bara making and selling. Service workers were involved in hotel boy, maid servant, and poultry farm works. Production workers were involved in home garments, mixture machine operation, carpenter, tree cutting mistri, black smithy, jurir naru making,

mason, and tailoring. Transport workers were involved in van driving, votvoti and nasimon driving, trolly driving, power tiller and tractor driving.

Farm and non-farm earning members were again categorized according to wage and self employment. Farm earning members sell their labour for wage and are termed as agril wage labour. Non-farm earning members selling their labour for wage are termed as non-agril wage labour. Non-farm earning members who did not sell their labour for wage but earned money working in their own enterprises were termed as self-employed. About *66 percent earning members were engaged in self-employment and 34 percent were under wage employment* (Appendix Table-4).

2.4 Analytical Techniques

Measurement of Employment

Farm and non-farm earning members were found out on the basis of time spent on farming or non-farming. Monthly employment can be measured in the following ways:

Farm Employment

$$FE = \sum_{i=1}^{n} A_i$$

Where

A = Number of working days of an economically active person in farm activities in a month

i = No. of working member(s)

FE = Farm Employment per month

Non - Farm Employment

$$NFE = \sum_{i=1}^{n} B_i$$

Where

B = Number of working days of an economically active person in non-farm activities in a month

i = No. of working member(s)

NFE= Non-Farm Employment per month

3. Results and Discussions

3.1 Month wise Employment Patterns of Farm and Non-Farm Earning Members

Non-farm households were categorized as farm related and other non-farm households. Earning members were engaged in farm and non-farm works. Month wise farm and non-farm employment pattern is given in T**able 1.**

Farm and non-farm earning members got employment on average of 15 days and 26 days per month. Farm workers get employment on an average 21 days in the month of July. After this, farm employment rate per month begins to decline and reach at 6, 5 and 5 days per month, respectively, in the month of August, September and October.

During the month of July farm employment availability rate per month was high because of increased labour demand for Aman transplanting activity. Another reason was that Aman transplanting is the more time consuming activity than

Table 1: Month wise Employment Patterns of Farm and Non-farm Earning Members

Month	Month	Farm related HH		Other Non-farm HH		All HH	
English	Bengali	Farm work	NF work	Farm work	NF work	Farm work	NF work
July	Mid-Ashar to Mid Srabon	22	25	21	28	21	27
August	Mid Srabon to Mid Bhadra	6	22	6	28	6	26
September	Mid Bhadra to Mid Aswin	5	21	5	28	5	26
October	Mid Aswin to Mid Kartik	4	21	5	27	5	26
November	Mid Kartik to Mid Agrahayan	21	24	21	26	21	26
December	Mid Agrahayan to Mid Poush	21	24	22	28	22	26
January	Mid Poush to Mid Magh	10	26	15	28	14	27
February	Mid Magh to Mid Falgun	22	22	25	26	25	25
March	Mid Falgun to Mid Chaitra	19	22	18	28	18	26
April	Mid Chaitra to Mid Baishakh	12	21	12	26	12	25
May	Mid Baishakh to Mid Jaistha	20	22	23	27	22	26
June	Mid Jaistha to Mid Ashar	19	22	14	27	15	26
All average		15	23	16	27	15	26

Source : *Field Survey, July-June 2007-2008*

other farm activities and for this reason more employment is required. After transplanting, different intercultural operations like weeding and fertilizer and insecticide application are required which is less time consuming and for this reason farm employment rate decreased during the months of August, September and October. The farm labour demand again increased and reached 21 and 22 days per month on an average in the months of November and December. Aman harvesting starts in the month of November and ends in December. Aman harvesting is also a time consuming activity, and for this reason labour demand increased and employment availability reached the peak at 22 days in the month of December. In the month of January, labour demand again starts to decrease and stood at 14 days per month on an average. January month is the interim period of Aman harvesting and Boro transplanting.

Wheat broadcasting and vegetables cultivation activities are going on this time which is less time consuming and for this reason employment rate fell but remained in medium position. Boro transplanting starts in the month of February. As Boro transplanting is time consuming, the labour demand again increased in the month of February and employment availability stood at 25 days per month. Boro transplanting is a more laborious job than any other activities of crop production because other activities are interlinked with this activity. The interlinked activities include irrigation, manuring, fertilizing which are required just before transplantation. For this reason, Boro transplanting required more time and reached the peak period and employment availability rate stood highest at 25 days per month. After Boro transplantation, different intercultural operations of Boro rice are needed. The intercultural operations like fertilizer application, insecticide, pesticide and vitamin required less time and, for this reason, labour demand decreased and employment stands at 8 and 12 days per month in the month of March and April. Although another intercultural operation like irrigation needs more time, this activity is mainly done by the farmers themselves and, for this reason, opportunity of the landless wage labourer remained less. After April, Boro harvesting approached and labour demand started to increase in the month of May. Employment rate for Boro harvesting in the month of May stood at 22 days. Labour demand again decreased in the month of June and stood at 15 days. June month is the interim period of Boro harvesting and Aman transplanting. Boro rice processing activities are mainly done in this month and for this reason employment rate remained 15 days per month. On the other hand, month wise non-farm employment availability varies less than farm employment. The availability of non-farm employment varied from 25 to 27 days per month during the year. Non-farm earning members of the farm related households have less

opportunity of employment than other non-farm households. On an average, farm related non-farm workers got employment 23 days per month and other non-farm workers got 27 days per month.

3.2 Season wise Employment Patterns of Farm and Non-Farm Earning Members

There are six partly overlapping seasons delineated in the Bangla calendar and two major rice-based seasons are prominent. The employment of households earning members was designed to reflect the pattern of rice-based seasonality. The survey was carried out in two rounds corresponding to the Aman and Boro cropping season. The first round of survey was conducted during the months of December and January, 2007 during the post harvest of Aman rice. The second round of survey was conducted during the months of June, 2008 to cover the post harvest season of Boro rice.

The strong seasonality of crop production in Bangladesh is well known to affect the timing of employment and income flows. Both Aman and Boro rice are the largest crop in Bangladesh Agriculture and hence their production and harvesting have the largest impact on agricultural employment and income. As the use of high yielding varieties and irrigation technologies has spread, Boro crop production has increased more in recent years. Again, Aman and Boro seasons have been categorized as peak and lean seasons. Within and in between Aman and Boro production, the total period of the year has been divided into four peak seasons and four lean seasons. The month of July can be termed as *Peak-1*, due to Aman transplanting. The month of August, September and October can be termed as *Lean-1,* falling between the Aman transplanting and harvesting period. The month of November and December can be termed as *Peak-2* for Aman harvesting. The month of January can be termed as *Lean-2*, falling in the Aman post harvest period. The month of February can be termed as *peak-3*, due to Boro transplanting. The month of March and April can be termed as *Lean-3*, which falls between the Boro transplanting and harvesting period. The month of May can be termed as *Peak-4* which falls into Boro harvesting period. The month of June can be termed as *Lean-4*, when Boro harvesting is generally complete.

Earning members were engaged in farm and non-farm works. Season wise farm and non-farm employment pattern is given in Table-2. Farm earning members got employment on an average 15 days per month for the year round. Considering season wise pattern, farm earning members got employment on an average 21 days in peak-1 season, the month of July because of Aman transplanting. After this period, lean-1 season starts in the month of August and continue upto October.

After Aman transplantation, few intercultural operations of Aman rice are needed. But the activities are less time consuming and for this reason labour demand drastically falls and stands at 5 days per month. During lean-1 season farm earning members of the landless non-farm household family had to remain unemployed because they had no expertise in non-farm activities. During this period, they had to remain idle and, having no money in hand, they needed to borrow money from *Mohajon* or Banks or NGOs. Besides, they had to sell their labour in advance.

During Aman harvesting, they sold their labour but did not get any money because they needed to repay their advance. They also had to repay their credit installment during the period of Aman harvesting. Another striking message here is that the main festival like Durga puja and Eid-ul-Fitr is held during lean-1 season i.e within August to October. The poor landless needed cloth and they had to buy it on credit. They had also to repay it from the earning of selling wage labour during Aman harvesting. Actually the poor landless did not get any benefit from selling labour during the harvesting time of Aman. The non-farm wage labour or employment during this period was 26 days per month, which was equal to average non-farm employment availability. This indicates that although farm labour demand decreases in the lean-1 season on an average, non-farm employment demand remains high. After this, Aman harvesting approaches and employment demand starts to increase. The reasons behind is Aman harvesting is more time consuming and requires employment 22 days per month in peak-2, the month of November and December. After Aman harvesting employment demand starts to decline. The reasons behind is that this is the time between Aman harvesting and Boro transplanting and requires intercultural operations which is less time consuming and requires employment for 14 days per month in lean-2, the month of January. Peak-3 season starts in February and it is the time of Boro transplanting. During this time employment demand again starts to increase and reach at 23 days per month. Farm employment availability was highest during this peak-3 because of interlinked activities like irrigation and fertilizer application. After Boro transplanting, different intercultural operations like weeding, fertilizer, insecticide application are available and require less time to complete the activities. For this reason, labour demand again decreaes in lean season-3 and stands on an average at 15 days in the month of March and April. The month of May is peak-4 season. The month is the Boro harvesting time and the poor farmers are engaged in Boro harvesting. They get employment on an average 22 days per month. After harvesting, employment demand again decreases in lean-4, the month of June, and stands at 15 days.

3.3 Relation between Farm and Non-Farm Employment

There is a relation between farm and non-farm employment. From Table-2 it is found that farm employment rises during transplanting and harvesting of Aman and Boro. Non-farm employment and income also rises just before, during or just after harvesting of Aman and Boro. The researchers interviewed 32 non-farm earning members questioning in which time their employment and income actually increase. They replied that their employment actually increases during or after harvesting of Aman and Boro rice. Besides, their employment also increases during and after other crop harvesting.

Table 2: Season wise Employment Patterns of Farm and Non-Farm Earning Members

(Days per season)

	Month	Month	Farm related NFHH		Other NF HH		All HH	
Season	**English**	**Bengali**	**Farm work**	**NF work**	**Farm work**	**NF work**	**Farm work**	**NF work**
Peak-1(Aman transplanting)	July	Mid-Ashar to Mid Srabon	22	25	21	28	21	27
Lean-1	August	Mid Srabon to Mid Bhadra	5	22	5	28	5	26
	September	Mid Bhadra to Mid Aswin						
	October	Mid Aswin to Mid Kartik						
Peak-2	November	Mid Kartik to Mid Agrahayan	21	24	22	27	22	26
Aman harvesting	December	Mid Agrahayan to Mid Poush						
Lean-2	January	Mid Poush to Mid Magh	10	26	15	28	14	27
Peak-3(Boro transplanting)	February	Mid Magh to Mid Falgun	22	22	24	26	23	25
Lean-3	March	Mid Falgun to Mid Chaitra	15	22	15	27	15	25
	April	Mid Chaitra to Mid Baishakh						
Peak-4(Boro harvesting)	May	Mid Baishakh to Mid Jaista	20	22	23	27	22	26
Lean-4	June	Mid Jaista to Mid Ashar	19	22	14	27	15	26
	All av.		15	23	15	27	15	26

3.4 Month and Typology wise *Non-Farm Employment Wor*kers Employment Patterns

Non-farm employment workers were (1) Professional, technical workers (2) Administrative and managerial workers, (3) Clerical workers (4) Peon related workers (5) Sales workers (6) Service workers (7) Production workers (8) Transport workers and (9) Laborers and helpers.

Month/season wise non-farm employment pattern is given in Table-3. The non-farm employment workers get employment opportunity on an average 26 days per month. They get employment year round. Sales workers, service workers, production workers, transport workers and labourers get employment 25, 30, 26, 28 and 24 days per month, respectively.

3.5 Wage Rate Pattern of Farm and Non-farm Earning Members

Month wise farm and non-farm wage rate pattern is given in **Table -4.** On an avegage**,** farm earning members' wage rate was 76 per day. But wge rate pattern was flexible. For example, farm earning members' wage rate was 78 Tk. per day

Table 3: Typology wise Non-Farm Workers Employment Patterns

English month	Bengali month	Sales workers	Service worker	Production worker	Transport workers	Labourer and Helpers	NF-Total
July	Mid-Ashar to Mid Srabon	26	30	27	29	25	27
August	Mid Srabon to Mid Bhadra	26	31	26	29	23	26
September	Mid Bhadra to Mid Aswin	25	30	26	28	23	26
October	Mid Aswin to Mid Kartik	25	30	25	28	23	26
November	Mid Kartik to Mid Agrahayan	26	30	25	28	22	26
December	Mid Agrahayan to Mid Poush	27	31	26	30	24	27
January	Mid Poush to Mid Magh	27	27	27	28	25	27
February	Mid Magh to Mid Falgun	24	29	24	26	23	25
March	Mid Falgun to Mid Chaitra	22	30	24	29	24	26
April	Mid Chaitra to Mid Baishakh	24	29	24	26	24	25
May	Mid Baishakh to Mid Jaista	26	30	27	26	25	26
June	Mid Jaishta to Mid Ashar	25	29	27	27	23	26
All average		25	30	26	28	24	26

in the month of July and then fell to 77, 65 and 65 Tk. per day, respectively, in the month of August, September and October and again reached 82 Tk. per day in the months November and December. Then again wage rate falls and stands at 68

Tk. per day in the month of January and again increases in the month of February and stands at 78 Tk. per day. Wage rate decreases and stands at 75 in the month of March and April and again increases in the month of May and stands at 88 Tk. per day and again decreases in the month of June and stands at 86 Tk. per day. Wage rate was high in different peaks and less in the lean periods.

Month wise per day wage rate of non-farm workers varies less than that of farm workers. The wage rate of non-farm workers ranges from Tk. 116 to 163 per day during the year. Non-farm earning members of the farm related households' wage rate is less than other non-farm households.

3.6 Month wise Wage Rate Variation of Non-Farm Employment Workers

Month wise wage rate pattern and variation of non-farm employment workers is given in Table-3.5 The non-farm employment workers' wage rate on an average was Tk. 135 per day. They get employment year round. Non-farm earning members' wage rate increased during peak seasons and decreased in the lean periods. Their wage rate increased mainly just after harvesting of Aman and Boro

Table 4: Month wise Wage Rate Patterns for Farm and Non-Farm Employment Workers

Month	Month	Farm related HH		Other Non-farm HH		All HH	
English	Bengali	Farm work	NF work	Farm work	NF work	Farm work	NF work
July	Mid-Ashar to Mid Srabon	83	103	77	154	78	139
August	Mid Srabon to Mid Bhadra	80	92	76	132	77	120
September	Mid Bhadra to Mid Aswin	47	90	69	128	65	116
October	Mid Aswin to Mid Kartik	47	88	69	131	65	118
November	Mid Kartik to Mid Agrahayan	87	114	80	149	82	139
December	Mid Agrahayan to Mid Poush	87	135	81	170	82	159
January	Mid Poush to Mid Magh	47	122	72	143	68	136
February	Mid Magh to Mid Falgun	60	112	82	129	78	124
March	Mid Falgun to Mid Chaitra	53	107	80	129	75	122
April	Mid Chaitra to Mid Baishakh	85	111	73	147	75	136
May	Mid Baishakh to Mid Jaista	92	121	87	162	88	150
June	Mid Jaistha to Mid Ashar	94	117	84	182	86	163
All average		72	109	78	146	76	135

Source : *Field Survey, July-June 2007-2008*

paddy i.e in the month of December and June. Sales workers, service workers, production workers, transport workers and labourers' wage rate was Tk. 159, 71, 151, 171 and 19 per day, respectively.

4. Conclusion

Earning members of rural landless households were engaged in farm and non-farm works. Non-farm workers' work availability per month was always more than farm workers'. Farm earning members got employment on an average for 15 days per month whereas non-farm earning members got on an average 26 days per month. Besides, farm employment was very much fluctuating, compared to non-farm employment. High peak and slack time exist in farm work. There are 4 peak and 4 slack seasons. Among the slacks, slack-1, the month of August to October is the most vulnerable time for the landless farm earning members. Becasuse, during this period they get minimum employment on an average 5 days per

Table 5: Wage Rate Patterns and Variations of Non-Farm Employment Workers

English month	Bengali month	Sales workers	Service worker	Production worker	Transport workers	Labourer and Helpers	NF-Total
July	Mid-Ashar to Mid Srabon	152	67	152	203	16	139
August	Mid Srabon to Mid Bhadra	139	67	133	154	21	120
eptember	Mid Bhadra to Mid Aswin	140	67	130	136	21	116
October	Mid Aswin to Mid Kartik	143	67	134	136	16	118
November	Mid Kartik to Mid Agrahayan	167	67	152	179	16	139
December	Mid Agrahayan to Mid Poush	182	90	172	219	19	159
January	Mid Poush to Mid Magh	164	70	156	160	18	136
February	Mid Magh to Mid Falgun	147	70	137	154	20	124
March	Mid Falgun to Mid Chaitra	138	70	138	155	21	122
April	Mid Chaitra to Mid Baishakh	158	70	151	176	22	136
May	Mid Baishakh to Mid Jaista	173	73	174	183	19	150
June	Mid Jaista to Mid Ashar	201	73	177	201	20	163
All		159	71	151	171	19	135

month. During lean-1, although farm labour demand decreases, non-farm employment demand remains high. The implication of this is that if the farm labour would be able to shift their expertise from farm to non-farm activities they would be able to have more employment and get relief from miseries.

During the peak periods farm employment demand reached near about non-farm employment demand. The non-farm activities required more skill. The farm earning members would get employment during the lean season if they would

become skilled on different non-farm activities. Earning members of the farm-related households have less opportunity than other non-farm households. On an average farm-related non-farm workers got employment 23 days per month and other non-farm workers got 27 days per month. From the study it was found that farm employment increased during transplanting and harvesting of Aman and Boro season. Non-farm employment also increased during or after harvesting of Aman and Boro season. During peak farm season, the intensity of work for the non-farm earning members always remains higher than in off or slack season. This implies that there is a relationship between farm and non-farm employment. The non-farm employment workers get employment opportunity on an average 26 days per month. They get employment year round. Sales workers, service workers, production workers, transport workers and labourers get employment 25, 30, 26, 28 and 24 days per month, respectively. Service workers' employment per month was highest compared to others.

On an avegage**,** farm earning members' wage rate was 76 per day. But wge rate pattern was flexible. The wage rate of non-farm workers ranges from Tk. 116 to 163 per day during the year. The wage rate of the farm-related households was less than other non-farm households. Farm wage varies between peak and lean seasons. Non-farm wage follows the same pattern.

Non-farm earning members' wage rate increased during peak seasons and decreased in the lean periods but mainly wage rate increased just after harvesting of Aman and Boro paddy i.e in the month of December and June. Sales workers, service workers, production workers, transport workers and labourers' wage rate was Tk. 159, 71, 151, 171 and 19 per day, respectively. Rural non-farm employment participation can play a more important role in increasing wage or return and income opportunities. Increasing income can play important role in reducing hardship during lean season and poverty for all time. Rural non-farm employments can also develop intersectoral linkages. Promoting rural non-farm employment is therefore an necessary option through providing skill training to the farm workers in different trades.

5. Recommendations

1. Landless poor farm earning members are not skilled in rural non-farm activities. To address unemployment problem during the slack season, it is necessary to provide skill training in rural non-farm enterprises so that they may engage themselves in non-farm activities at this time. To do this on a sustained basis it is needed to set up informal skill development and vocational training centres in the vicinity of the rural towns, hat and bazaar.

2. The present trend of government investment in power sector, especially electricity and gas, as well as in roads and digital communication facilities needs to be sustained with adequate budgetary provision.

3. For farm related non- farm worker, provision of non-farm enterprise training needs to be synchronized with seasonality of farm operations together with easy and adequate provision of working capital and marketing of non-farm products and services.

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Appendices

Appendix Table 1: Village wise Landless Non-Farm Households Selection

Classification of Households	Landless NFHH	Sample HHs
Daulatpur Village		
Farm Related NFHH having no cultivable land	8	4
Other NFHH having no cultivable land	22	11
Total of Daulatpur	30	15
Jabarhat Village		
Farm Related NFHH having no Cultivable land	10	5
Other NFHH having no Cultivable land	21	11
Total of Jabarhat	31	16
North Noyapara Village		
Farm Related NFHH having no Cultivable land	3	2
Other NFHH having no Cultivable land	13	7
Total Households of N. Noyapara	16	9
All Villages		
Farm Related NFHH having no Cultivable land	21	11
Other NFHH having no Cultivable land	56	29
Total Households	**77**	**40**

Source: *Field Survey, July-June 2007-2008*

Appendix Table 2: Earning Members According to Farm and Non-Farm Employment Share

	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
(a) Farm Employment (FE)	2	5	7	2	4	6	1	2	3	5	11	16
FE as percent of all	11	50	25	17	57	32	6	40	13	10	50	23
(b) Non-Farm Employment(NFE)	16	5	21	10	3	13	17	3	20	43	11	54
NFE as percent of all	89	50	75	83	43	68	94	60	87	90	50	77
Total (a+b)	18	10	28	12	7	19	18	5	23	48	22	70
No. of HHs			15			9			16			40
Earning members per HH			1.87			2.11			1.44			1.8

Source: *Field Survey, July-June 2007-2008*

Appendix Table 3: Distribution of Farm and Non-Farm Earning Members According to Types of Employment

Employment Type	*Daulatpur*			North Noyapara			Jabarhat			All		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
All earning members												
Agril Labour	2	5	7	2	4	6	1	2	3	5	11	16
(a) Farm Workers(FW)	**2**	**5**	**7**	**2**	**4**	**6**	**1**	**2**	**3**	**5**	**11**	**16**
FW male and female %	**29**	**71**	**100**	**33**	**67**	**100**	**33**	**67**	**100**	**31**	**69**	**100**
Sales workers (SW)	4	1	5	3	1	4	6	1	7	13	3	16
SW as percent of NFW	25	20	24	30	33	31	35	33	35	30	27	30
Service workers (SEW)	0	0	0	1	0	1	1	1	2	2	1	3
SEW as percent of NFW	0	0	0	10	0	8	6	33	10	5	9	6
Production workers (PW)	7	1	8	4	0	4	6	0	6	17	1	18
PW as percent of NFW	44	20	38	40	0	31	35	0	30	40	9	33
Transport workers (TW)	4	0	4	2	0	2	4	0	4	10	0	10
TW as percent of NFW	25	0	19	20	0	15	24	0	20	23	0	19
Labourers/Helpers (L/H)	1	3	4	0	2	2	0	1	1	1	6	7
L/H as percent of NFW	6	60	19	0	67	15	0	33	5	2	55	13
(b) Non-Farm Workers (NFW)	**16**	**5**	**21**	**10**	**3**	**13**	**17**	**3**	**20**	**43**	**11**	**54**
NFW male and female %	**76**	**24**	**100**	**77**	**23**	**100**	**85**	**15**	**100**	**80**	**20**	**100**
Total (a+b)	**18**	**10**	**28**	**12**	**7**	**19**	**18**	**5**	**23**	**48**	**22**	**70**
Total male and female %	**64**	**36**	**100**	**63**	**37**	**100**	**78**	**22**	**100**	**69**	**31**	**100**

Source: *Field Survey, July-June 2007-2008*

Appendix Table 4: Household Earning Members according to Self and Wage Employment

Village	Agril wage employment	Non-farm wage employment	Self employment	Total
Daulatpur	6	4	18	28
	(21)	(14)	(64)	(100)
North Noyapara	6	2	11	19
	(32)	(11)	(58)	(100)
Jabarhat	3	3	17	23
	(13)	(13)	(74)	(100)
Total	15	9	46	70
	(21)	(13)	(66)	(100)

Source: *Field Survey, July-June 2007-2008, Figure in the parenthesis indicates percentage*