

**BRAC'S ACHIEVEMENTS IN GENERATING
EMPLOYMENT IN JHIKARGACHA RDP AREA:
A QUANTITATIVE STUDY**

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ABSTRACTS

By involving the rural poor in different BRAC financed activities, BRAC achieves its one of the main objectives - to generate new employment, mostly self-employment among the women folk. This study in Jhikargacha BRAC RDP area in Jessore district draws upon data collected from 350 programme participants, purposively selected to represent 6816 study population, who were directly or indirectly involved in major BRAC economic activities in sericulture, poultry, livestock, fisheries, agriculture, and health programme and created new paid and non-paid self-employment.¹

¹*Key words: BRAC, Employment, Self-employment*

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EXECUTIVE SUMMARY

Unemployment is one of the major problems in Bangladesh. The unemployed population increased overtime from 8 million in 1973/74 to 11.3 million person years in 1989/90. As poverty is inextricably linked to unemployment, reducing unemployment is almost synonymous with reducing poverty. By involving the poor in mobilizing the locally available rural resources with technological, financial and training support, BRAC helps to increase the total participation in income generating activities as well as reducing the rate of unemployment in Bangladesh.

The objectives of this study were to observe the existing employment opportunities created by BRAC, and to estimate the actual achievements in generating employment in a rural area under the Rural Development Programme (RDP) of BRAC.

Jhikargacha RDP area in Jessore district was selected as the study area. The study took a sample of 350 programme participants who were directly or indirectly involved in different BRAC programme activities including BRAC paid employees and non-paid employees or participants. Every ten participants of all major economic activities in BRAC sericulture, poultry, livestock, fisheries, agriculture, health and, NFPE programmes were interviewed. Data were collected through household questionnaire and an open-ended checklist. The findings of the interview then extrapolated to the whole study population of 6,816 programme participants.

Major findings

BRAC paid employees are those who have directly benefited from BRAC and have received salaries for their services. BRAC non-paid indirect employees are the programme participants who have benefited from BRAC support in getting employment but did not get any salary from BRAC directly.

At Jhikargacha, 50 persons were employed as full-time BRAC staff. Of them 22% were regular, 68% project, and 10% service staff. Sixty seven percent of all staffs were male workers. Besides, there were 107 mulberry tree care takers, 7 cycle men, 150 Foundation workers who were also paid by BRAC as full-time workers. All of the 90 NFPE teachers, 7 drivers, 10 linemen in Deep Tubewell (DTW) programme, 2 slab-ring makers were BRAC paid part-time employees. In 1994 BRAC hired 0,193 daily labourers for execution of different programme activities. All of the BRAC paid employees collectively created 594.13 person years employment. One person year employment has been considered 250 working person days in a year. One standard person day employment is equal to eight working hours in a day.

Through the target group participants, BRAC, with its technical and financial support in 1994 created 33.66 person years in sericulture, 604.9 person years in poultry and livestock, 11.39 person years in fisheries, 83.73 (37.5+46.23) person years in artificial baor fisheries, 112.62 person years employment in vegetable, maize, sapling and DTW programme.

Credit encouraged the shift from wage employment to self- employment among the rural poor (mostly women). Seventy three percent of all active BRAC members have taken the credit at least once in 1994 . Among the borrowers, only 9% were programme participants. Ninety two percent of the general loan was used for productive purposes. Only 8% of the loan was used in non-productive activities. Among general loan recipients, paddy husking (45%) was found to be the most dominating activity followed by small business (27%), cow and goat rearing (22.5% and 6.2% respectively). Other small scale activities were rural transport (3.2%), land lease (3.0%), and grocery shop (1.2%). In all of these sectors general loan created 31.8% new self- and 7.5% additional new self-employment . Thirty seven Shasthya shebikas also created 0.8% of total employment. In 1994 6,816 VO members were involved in different BRAC programmes, creating 2,391 person years employment. Of them 75.2% were BRAC non-paid employment.

The major findings of this retrospective study may help determine BRAC's nation-wide achievements in this area. To calculate total person years employment created by BRAC further study is required on all BRAC- financed economic activities (commercial and non-commercial), with larger sample size. Present study raised some tentative recommendations which may be useful for the programme to accelerate its output. Those are: a) to increase the rate of employment and income in sericulture BRAC may reduce its service charge from Tk. one to Tk. 0.70 per DFL, and also reduce the use of Indian DFL because of its low suitability; b) to explore the capacity of Foundation by establishing more sub-centers which will help to increase its productivity to fulfill more Aarong's demand. This may maximize the use of local human resources. c) BRAC can check the improper use of individual loan by following up closely to increase their productivity and reduce the overdue.

Introduction and Background

Unemployment is one of the major problems in Bangladesh. The unemployed population increased from 8 million person years in 1973/74 to 11.3 million person years in 1989-90². As poverty is inextricably linked to unemployment, reducing unemployment is almost synonymous with reduction of poverty. In fact, the increasing rate of unemployment is aggravating poverty and landlessness in the country.

With growing pressure of population, and little growth in cultivable land, the employment opportunity in the crop sector has been shrinking. The rural poor came forward to substitute their income and employment with non-farm activities like producing fruits and vegetables in kitchen gardens; rearing of poultry, goats and cattle; rickshaw pulling; fishing; earth cutting and manufacturing of basic household needs through cottage industries.

BRAC - a leading development organization, operates its multi-sectoral programmes objective to uplift the socio-economic condition of the rural poor. To empower the rural poor BRAC works with the male and female groups with particular emphasis on the women folk because of their most disadvantaged position in the society. Women account for 49.2% of the total population of Bangladesh, of whom 86% live in rural areas. BRAC's rural development programme (RDP) is a multi sectoral programme committed to alleviating poverty, creating employment, increasing rural income, and mobilizing the rural poor. By involving the rural poor in mobilizing the locally available resources with technological, financial and training support, BRAC helps to increase their total participation in income generating activities, to reduce unemployment.

² Qazi Kholiquzzaman Ahmed, "An assessment of the Unemployment Situation in Bangladesh and Towards Formulation of a National Employment Plan for the country". In: Q. K. Ahmad. *Bangladesh: past two decades and the current decade*, 1994, p. 52.

Income and employment generation is one of the main components of RDP activities. The number of landless poor and unemployed among educated people are gradually increasing. But the job opportunity in the labour market still remains far behind the requirement. A limited number of new jobs are created every year by public and private sectors. BRAC has come forward to strike at the root of rural unemployment by providing financial, technical, and management support.

This study will show to what extent BRAC has been successful in generating employment in the rural sectors. The findings of this study will help the policy makers to review their policy on rural employment strategy and thereby reshuffle programmes and services for employment generation.

Study area

BRAC has established two area offices in Jhikargacha thana under Jessore district in 1982. One of these two RDP area offices was selected for the study. Through RDP it has organized 6,402 males and females in 140 Village Organizations (Vos) covering 54 villages in five unions of Jhikargacha thana. Detailed information about the study area is shown in the area profile (annexure -3). Among 140 Vos 21 were male and only 3 of them were active. About 70% of the total members were actively participating in different activities of BRAC programmes. The key programmes in the study area are: sericulture and plantation, agriculture, fish culture, poultry and livestock, health, and non formal primary education(NFPE).

OBJECTIVES

The objectives of the study were to observe the existing employment opportunities created by BRAC and estimate the actual achievements of BRAC in generating employment in a rural area covered by RDP activities. The study aimed to address the following issues:

- 1) showing the structure of BRAC's employment in the rural areas;
- 2) estimating the total employment created by BRAC;

- 3) quantifying the direct, indirect (hired) and self-employment as a result of BRAC's rural development activities; and
- 4) identifying how rural development programmes affect the rural poor in employment generation activities.

Research Questions

With a view to achieve the above objectives the following research questions need to be answered:

1. How many people are employed by BRAC in the study area?
 - How many are paid employees (BRAC staff, village workers, NFPE teachers, care takers and etc.)?
 - How many non-paid self-employed people are benefited by the BRAC programmes?
 - How many indirect employment (hired by individuals) created by BRAC with its multi-sectoral activities in the study area?
2. Did BRAC's programmes help the rural poor to find a job? If so:
 - a. Is it a permanent, temporary, or seasonal job?
 - b. Is it a full-time or part-time job?
3. How many person years employment did the programmes created (to determine the grand total person years employment)?

METHODOLOGY

One of the two RDP area offices in Jhikargacha thana was selected as the study area on the basis of length of its working experience, easy accessibility, existence of all programmes, and typical rural character. An individual household questionnaire and an open ended checklist (annexure-2) were used for collecting data. The household questionnaire was used for collecting information from the programme beneficiaries, while the checklist was used as a guide for conducting in-depth

discussion with the management personnel. The data was collected from a random sample of 350 workers who had all partially or fully engaged in BRAC supported economic activities at least one year prior to the interview. Ten employees from each of all Jhikargacha RDP controlled sector programmes were interviewed for the study. Then the findings of the interview extrapolated to the whole study population of 6,816 programme participants. Though it is not possible for the researcher to see all the activities of the sectoral programmes, some economic activities were purposely selected, which is shown in the annexure 3. Data were collected during January - February 1995.

Types of employment are broadly divided into two groups.

1. BRAC paid employment
2. BRAC non-paid employment

BRAC staff (regular, project, service and others), NFPE teachers, paralegal shebika, shasthya karmi, care takers, daily labourers and Foundation workers were included in the BRAC paid employment group. In all sectors the beneficiaries are considered as non-paid self-employed. The structure of BRAC's total employment is shown in figure 1. On the basis of this figure, equations 1-3 are formulated which has been used to calculate the grand total person years employment in the rural areas.

$$E^t = \sum_{i=1}^n E'_{P_i} + \sum_{j=1}^m E'_{N_j} \dots \dots \dots (1)$$

$$E'_{P_i} = \sum_{l=1}^n (R'_l + P'_l + S'_l + O'_l) + (T^t + P_s^t + S_k^t) \cdot k + CT^t + FW^t \dots \dots \dots (2)$$

$$E'_{N_j} = \sum_{l=1}^m (W'_l \cdot h_j \cdot f_j / 8.T) + \sum_{j=1}^m H'_j \dots \dots \dots (3)$$

Where

E - Grand total person years employment created by BRAC;

E_{pi} - Total paid person years employment in different areas;

E_{nj} - Total non-paid person years self-employment in j sectors, i=1,n; j=1,m;

R - Regular staff;

P - Project staff;

S - Service staff;

O - Others staff;

T - NFPE teachers;

PS - Paralegal Shebika;

SK - Shasthya Karmi;

K - Coefficient of working times in a day;

FW - Foundation workers;

CT - Care Takers;

H_j - Hired (by individuals) person years employment in j sectors;

W_j - Self employees in sectors j;

h_j - average working hours a in day in j sector;

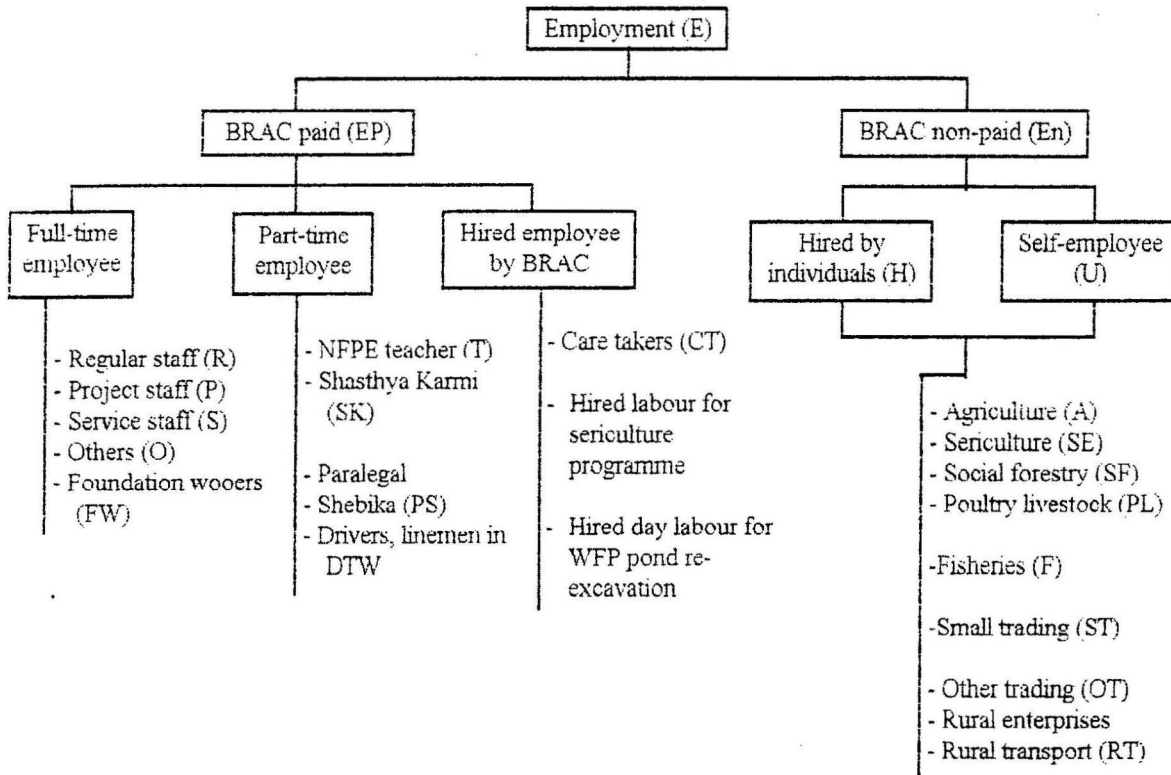
f_j - average working days in a years in j sector;

T - Total working days in a year as per BRAC's working rule;.

t - year.

Data Collection were supervised by the researcher with the help of BRAC programme staff. Data processing has been done manually.

Figure 1: The Structure of BRAC's Employment



Definition of Employment

To understand the problem of unemployment and to estimate the BRAC person years employment in Jhikargacha it is necessary to set the definition of employment and unemployment. According to the 1989 Labour Force Survey³ economically active persons (civilian labour force) are those aged 10 years and above who were either employed or unemployed during the reference period of one week of the survey. It also included self-employed and unpaid family helpers who spent at least 20 hours during the reference period for gainful economic activity⁴. It excluded disabled and retired persons, full-time housewives and students, income recipients, beggars and others who did not work for pay or profit for at least one hour during the survey period of one week.

³ B.B.S. 1989: Report on Labour Force Survey 1989, p. 6-8.

⁴ BBS 1994: Bangladesh Population Census 1991. Vol. 1. Analytical report.

Unemployed persons were those aged 10 years and above who were unfortunately out of gainful work during the reference period but were looking actively for job in the past two months, willing to work but not looking temporarily because of illness or believing no work is available.

Employed persons were those aged 10 years and above who 1) worked at least one hour for pay or profit or at least 15 hours without pay in a family farm or enterprise; 2) were not working but had a job or business from which they were temporarily absent. It included all kinds of wage employment and productive homestead work but excluded all non-productive household tasks like washing, cleaning, looking after general family welfare. Productive homestead work include post harvesting processing of food grains, kitchen-gardening, poultry and cattle raising, horticulture nursing and etc. according to International Labour Organization (ILO) definition of employed population.

Self-employed persons were those who operated in an enterprise or business on his own or operated it jointly with others.

Un-paid family workers were those who worked in a family operated farm or business without pay.

For this study work included all types of activities directly or indirectly connected with income earning or expenditure saving. The reference period of this survey had been taken into consideration six months and above to capture all types of BRAC's employment (mostly women) in the rural areas. In addition in this study 250 working days in a year has been considered as one full-time person year employment. One standard person day employment is equal to eight full-time working hours in a day.

Limitation of the study

The information for this study were collected for one year only due to the absence of detail information from the period of Jhikargacha area office's formation. So it is practically impossible to focus the trends of BRAC's employment and to do comparative analysis during the period of BRAC's programme intervention in Jhikargacha RCP area.

BRAC PAID EMPLOYMENT

BRAC paid employed persons are those who have directly benefited from BRAC, and received salaries for their services. It includes BRAC full-time staff (regular, project, service and others), NFPE teachers, care takers, night guards, daily workers and Foundation workers who are paid either in cash or kind. Regular staff consist of one area manager, several programme organizers, and one accountant. Project staff are those who are engaged in a specific project or programme until its completion. Basically project staff are locally appointed. All programme assistants are considered as project staff. In every area office one cook and one night guard (if the RDP area is transferred to RCP) are employed as service staff. All these staff are full-time employees.

Table 1 shows that in Jhikargacha there were 50 full time BRAC staff: of them 22% were regular, 68% project, and 10% service staff. Around 67% of all staff were male workers.

BRAC paid full-time employees also include 107 mulberry tree care takers and seven cycle men (five in coastal affortation, two in road-side plantation programme). All the 90 NFPE teachers, 7 drivers, 10 line-men in DTW, 2 slab-ring makers were considered as BRAC part-time paid lesson preparation and home task correction, etc.), while a driver or a line-man has to spend employees. Every NFPE teacher has to spend 4 hours in day (3 hours teaching, 1 hour in 18 hours a day. Altogether they created 62 person years employment in 1994 (Table 2).

Table-1. BRAC paid full-time employees in Jhikargacha as on 31 December 1994.

Programme	Regular staff			Project staff			Service staff			Total staff		
	M	F	T	M	F	T	M	F	T	M	F	T
Credit	3	-	3	11	-	11	1	-	1	15	-	15
Accounts	-	1	1	-	-	-	-	-	-	-	1	1
Sericulture	1	-	1	-	-	3	-	-	-	4	-	4
<u>Agriculture</u>												
Irrigation	1	-	1	2	-	2	-	-	-	3	-	3
Vegetable	-	-	-	1	-	1	-	-	-	1	-	1
Fish culture	-	-	-	3	-	3	-	-	-	3	-	3
SLDP	-	1	1	-	4	4	-	-	-	-	5	5
Health	-	1	1	-	2	2	-	-	-	-	3	3
Foundation	-	-	-	-	3	3	-	-	-	-	3	3
Others	-	-	-	-	-	-	3	-	3	3	-	3
NFPE	1	2	3	5	-	5	1	-	1	7	2	9
Total	6	5	11	25	9	34	5	-	5	36	14	50
			22%			68%			10%			100%
Care takers:												
- Sericulture (paid in wheat)										-	107	107
- coastal affortation pogramme (cyclamen)										5	-	5
- road-side plantation (cycleman)										2	-	2
Grand total										13	121	164

BRAC paid employment also includes all types of hired labour paid by BRAC on a daily basis. In Table 3, accommodates all types of work done in 1994. In the sericulture programme BRAC hired 1,290 daily labourers for road-side plantation and 3,000 contractual labourers for making silk worm rearing tray. For re-excavation of 4 derelict ponds BRAC also hired 15,898 daily labourers sponsored by World Food Programme (WFP). All the daily labourers hired by BRAC jointly created 82.47 person years employment (Table 3).

Table 2. BRAC paid part-time employment in Jhikargacha as on 31 December 1994.

Types of worker	Workers			Working day (hours)	Working period (month)	Total person years employment
	M	F	T			
NFPE teachers	4	86	90	4	12	45
Drivers and Lineman in DTW	17	-	17	18	5	16
Slab-ring maker	1	1	2	4	12	1
Total	22	87	109			62

Table 3. BRAC paid employment in 1994 (day labour participation)

	Person days	Person years
Hired labour for sericulture road-side plantation:		
- Bamboo stick making (per 500 need 3 labour)	180	0.72
- Bamboo stick carrying from the village side to the road-side- via BRAC RDP (150+150)	300	1.2
- Sapling carrying from the sapling plot to the planting point	90	0.36
- Pruning the sericulture tree (3 times a year)	720	2.88
- Silk worm rearing tray making (Sept.-dec. 1994)	30,00 ¹	12
- DTW canal repairing, weeding and reconstruction	437	1.7
Pond re-excavation:		
Raghunathnagar	1,152	4.61
Srirampur	911	3.6
Beniali	6,768	27.1
Zafargapar	7,067	28.3
Total	20,625	82.47

1 From September 1994 25 workers worked as full time employee. During Sept-Dec 1994 they created 3,000 person days or 12 person years employment.

Ayesha Abed Foundation is one of the BRAC programmes which aims to generate employment opportunities for rural women. Jhikargacha sub-centers of the Foundation started in 1990. Currently it has 8 sub-centers in different villages. In the mid-February 1995, 201 women, mostly traditional kantiha makers, were directly involved in this programme. BRAC has been providing the running capital, facilitating input, supplies and giving marketing facilities through Aarong.

Table 4 shows the employment structure of the Foundation according to its sub-centers. Up to December 1994, 150 women were working as a full-time workers in 8 sub-centers. All of them were paid on a monthly basis according to their complete work. During 1990-1995 employment has increased more than 6 times. Before joining BRAC, 46 women (30%) used to work irregularly as and when they got orders. The remaining 70% were full-time housewives who have now got a job in BRAC whereby they can support their family. Only 21 women went out from the sub-centers mainly because of their family problems. During interview many housewives expressed their wishes to get a job in the Foundation.

Table 4. Year-wise distribution of Foundation's full-time workers

Sub-centers	Year						Previously paid employment (sewing)	Dropout	
	1990	1991	1992	1993	1994	1995		quantity	cause
Krishnanagar	20	20	20	22	31	36	-	6	family problem
Barbakpur	13	10	14	16	23	28	-	6	< 5 family problem 1 blindness
Mobarakpur	-	-	-	20	24	28	22	2	< 1 migration 1 marriage
Srirampur	-	-	-	22	17	23	-	2	< 1 family problem 1 marriage
Hariadewara	-	-	-	12	10	13	-	2	2 marriage
Battala	-	-	-	13	18	30	12	1	family problem
Panchanagar	-	-	-	10	17	23	12	-	-
Hajerali	-	-	-	10	10	21	-	2	family problem
Total	33	30	34	125	150	202	46	21	

BRAC NON-PAID SELF-EMPLOYMENT

Sericulture and Plantation

Sericulture and plantation programme started in Jhikargacha in September 1990 to increase silk production by involving the rural poor (mostly women). This programme holds a great potential for employment and income generation and can be carried out at home combined with other activities. Homestead and road-side plantation nurseries were developed to supply mulberry saplings. Landless women were selected to look after the trees along the road-side. In 1994, 107 landless women worked as mulberry tree care takers. From dawn to dusk, 12 hours a day and 365 days a year they must be present in their working territory. It means that they work much more than a full-time worker. If we count 8 hours as a standard full-time person day employment (the person year employment = 250 working days) then every care taker creates 2.19 person year employment.

Before joining BRAC, 90% of the care takers worked mostly as paid maid servant on irregular basis. After participation in this programme their social status and income have changed. After one year of contractual service most of them did not return to their previous job because the experience of a care taker has created a sense of independence, which they lacked in their previous occupation.

Silk worm rearing is a labour intensive programme. In the first phase of rearing every chawki rearer worked for 10 days, of which three days in hatching and seven days in nursing. They fed four times a day. For every feeding they spent one hour (feed preparation, cleaning tray, etc.). They collected mulberry leaves from the roadside for two hours a day. Thus, a silk worm rearer spent 6 hours for feeding and 2 hours for collecting leaves. From hatching to harvesting (18-22 days), a progressive rearer needs an average 6 hours a day for rearing. A random interview with 10 workers in each of these 3 activities gave an opportunity to conclude that one chawki and one progressive rearer received an average 6 crops when a silk worm rearer - 5 in the year of 1994.

Table 5 shows the self-employment in sericulture programme. Up to December 1994, 12 chawki rearers, 98 silk worm rearers and 19 progressive rearers jointly created 33.66 person years employment. Before being involved in this programme 50% of all rearers actively sold their labour irregularly. In the interval of two crops, more than 50% of the silk worm rearers worked outside their home on payment. All the chawki and progressive rearers worked as full time housewives before participating in this programme.

Table 5. Structure of self-employment in sericulture programme in December 1994.

Particulars	Workers	Working days in cycle	Working cycle in a year	Daily person hours employment	Yearly person hours employment	Person years employment	Total person hours employment	Total person years employment
Chawki rearer	12	10	6	6	360	0.18	4,320	2.16
Silk worm rearer	98	12	5	8	480	0.24	47,040	23.52
Progressive rearer	19	18-22	6	7	840	0.42	15,960	7.98
Total	129						67,320	33.66

Poultry and livestock programme

Among the income generating activities, poultry and cattle rearing are most familiar in rural society. BRAC's skill-training, financial support and supply of HYV chicks make this programme more popular among the landless rural poor women. In 1994, the programme included 22 chick rearers, 1,804 key rearers, 50 poultry workers, 1 feed seller, 2 hatcherers, 10 paravets, 499 cow rearers, 93 goat rearers, and 2 workers in artificial insemination (AI) point. In 1994 on an average, one chick rearer produced 3.5 units. It means she had been engaged in her work for 210 days. The unit holder spent 2.5 hours a day to take care of one day old HYV chicks. A key rearer spent 30 minutes, a model rearer 1 hour, hatcherer 3 hours a day, while a feed seller spent 8 hours a week. All of the 10 paravets worked for 6 hours a day. An average of 250 days a year they spent. One

cow rearer comparatively spent 1 hour more than the goat rearer (4 and 3 hours respectively). Every worker in AI point spent 8 hours a day in their services.

A total of 2,493 rural men and women (only 10 of them were men) actively participated in this programme. Collectively they created 599.1 person years employment (Table 6).

Table 6. Structure of self-employment in poultry and livestock programme in December 1994.

Participants	No of worker			Working time in a day (hours)	Average working period in a year			Employment total		
	M	F	T		Cycle	Days in a cycle	Total days	Person hours	Person days	Person years
Chick rearer	-	22	22	2.5	3.5	60	210	11,550	1,444	6.0
Key rearer (RDP+SLDP)	-	1804	1804	0.5	-	-	365	329,230	41,154	164.6
Model poultry rearer	-	10	10	1.0	-	-	365	3,650	456	1.8
Mini hatcherer (active)	-	2	2	3	-	1	300	1,800	225	0.9
Feed seller	1	-	1	8	52	-	52	416	52	0.21
Poultry worker (egg collector)	-	50	50	1	-	-	250	12,500	1,562	6.25
Livestock										
Paravet	7	3	10	6	-	250	250	15,000	1,875	7.5
Cow rearer	-	499	499	4	-	365	365	728,541	91,068	364.25
Goat rearer	-	93	93	3	-	365	365	01,835	12,729	0.91
AI point	2	-	2	8	-	-	300	4,800	600	2.4
Total	10	2,483	2,493					1,209,321	151,165	599.1

Vegetable, maize, sapling cultivation, horticulture nursery and deep tubewell (DTW) programme

Data on rural labour force participation in all of these programmes are presented in table 7. It includes all activities from ploughing to post-harvesting operations. In the last three years BRAC has trained 268 vegetable growers in identifying the best possible combination of crops and has provided technical support. By December 1994, 207 growers were already involved in vegetable cultivation. A total of 72 acres of land were under cultivation which brings the average 0.34 acres

cultivated land per grower. Around 60% of the growers cultivated vegetables in their own land. The remaining 40% of land had been taken on lease by the grower. Every grower spent 2 hours a day for commercial vegetable cultivation. These 207 growers created 37.5 person years new employment in 1994.

Maize cultivation as vegetable is a comparatively new BRAC programme. In 1994/95 in two seasons (March-May; Nov/Dec-Jan/Feb), 13.5 acres of land were under maize cultivation by 7 group members. Previously wheat, mustard, pulses were grown in these land. Because of profitability and BRAC's guarantee to sell the crop, farmers produced this comparatively new crop which created 1.9 new person years employment.

Sapling nurseries are carried out by 10 group farmers in 10 acres of land. This programme started in Jhikargacha in September 1990. These landless group members were given a loan of Tk. 100,000 to cover the various costs including the lease value. In September-October, mulberry cuttings supplied by BRAC were planted in these leased land. After one year of intensive nursing, BRAC will buy these saplings to plant along road-side and homesteads. These saplings, because of its guaranteed customers, ensure the farmers in selling crops thereby generating new employment and additional income. Previously, vegetables were cultivated in all of these sapling nurseries. In one acre of land, 75 (165-90) new person days of employment were created, together it made 3 new person years employment.

In horticulture nursery a total of 8 members were engaged to grow seedlings which also created 0.9 person years new employment (Table 7).

Table 7. BRAC direct and indirect new employment in vegetable, maize, sapling cultivation and DTW programme (Up to December 1994)

Programme	Active Farmers	under Land Cultivation (acre)	Harvesting Period Days	Labour for per acre new crop m/d	Previous crop			Total new employment	
					Crop	Harvesting period (days)	Labour for acre crop m/d	p/d	p/y
2	3	4	5	6	7	8	9	10	11
Vegetable	207	72	300	215	a	250	90	9,375	37.5
Maize (1994-95)	10	13.5	90	50	b	90	15	472.5	1.86
Sapling	10	10	365	165	a	365	90	750	3.0
DTW	360	136	90	75	a,c,d	90	15	8,840	35.36
Horticulture Nursery	8	3	365	95 ¹	a	-	-	8,500	34.00
Total	595	334.5						28,162.5	112.62

1 85 days include all labour spending for one crop from ploughing to harvesting and post harvesting operations.

a-vegetables, b-wheat, c-mustard, d-pulses.

Irrigation

The irrigation programme started in Jhikargacha in 1989. Seven DTW schemes cover 239 acres (56% of its target) of cultivated land. Table 8 gives more detail about the basic indicators of Jhikargacha DTW programme. This programme has some favorable impact on employment which are discussed below:

- a) Salaried employment was created for 7 drivers and 10 line-men;
- b) Farmers are producing HYV crops, requiring at least two times more than traditional variety;
- c) Nearly 50% of the farmers of the study area are now cultivating 3 crops in high land and 2 in low land (one more crop than before);

- d) Every year work is being done for excavation, re-excavation, reconstruction, and weeding the primary, secondary, tertiary and field canals. A total of 437 daily labourers were hired for these purposes during 1994/95 irrigation season;
- e) Self-employment has tended to increase, allowing for a quantitative change in the employment pattern, away from wage/day labour of self employment;
- f) Through crop intensity, HYV crop production and crop replacement the DTW programme also created 66.64 (32.64+34) person years new employment (Table 7);
- g) Forty DTW share holders were also benefited by increasing their family income.

Table 8. Jhikargacha BRAC DTW programme at a glance as on December 1994

Name of schemes	Operating period (year)	No of part-time paid employees		Land (acre)		No of farmers	Labour cost of canal repairing, weeding, and reconstruction		
		Drivers	Linemen	Target	Achievement		Total (Tk.)	Per head Tk.	Total Labour
Mathuapara 1	1989	1	1	60	30	75	2,500	35	71
Mathuapara 2	1990	1	2	65	44	105	1,900	35	54
Yusufpur	1988	1	1	65	35	98	1,890	35	54
Mohinikathi	1989	1	1	55	17	85	1,980	35	56
Zafarnagar	1989	1	3	65	55	130	3,175	35	90
Mathbari 1	1990	1	1	65	35	70	2,625	35	75
Mathbari 2	1992	1	1	55	23	80	1,300	35	37
Total		7	10	430	239	643	15,370		437 (1.7)

Fish culture

BRAC started fish culture in Jhikargacha in 1988 with re-excavation of derelict ponds sponsored by WFP. By December 1994, it had already re-excavated 24 ponds. In 1994 only 4 ponds were re-excavated. For re-excavation 15,898 daily labourers were hired (Table 3). In the same year 49 ponds (24 of them were WFP supported) on 36.15 acres of land were under carp fish culture. A total of 116 farmers (most of them were women) were partially engaged in different activities of fish culture which generated additional income and new employment. One farmer spent on an

average, one hour in every pond with the exception of nursery ponds where they spent 2 hours daily for feeding, fertilizing, pond preparation and other intermediate operations (Table 9).

The process of hatching was seasonal work. In the hatching period of 3 months, a farmer was employed for nursing, feeding and looking after the adult fishes for 18 hours. Two more persons were employed for two months to assist the farmer in this process. This, in turn created further 11.39 person years employment (Table 9).

Table 9. Structure of self-employment in fish culture (December 1994)

	Water body acre	No. of Ponds	No. of Farmers	Harvesting period (months)	Labour per ponds (weekly)	Yearly (hours)	Total Employment		
							p/h	p/d	p/y
WFP Ponds	23.62	24	80	12	7	365	8,760	468	2.34
Carp Poly culture	8	20	25	12	7	365	7,300	390	1.56
Fish Nursery	4.19	4	10	12	14	730	2,900	100	0.4
Fish Hatchery	0.34	1	1	3	126	1,620	1,620	450	1.8
Fish Hatchery (additional employment.)	-	1	2	2	252	1,080	2,160	270	1.1
Total	36.15	49	116				22,760	3,265	11.39

Jhikargacha fish culture undertook a new programme in 1993 called Artificial Baor Culture. The total water bodies under 4 artificial baor fisheries in Kapotakshya river now stands at 143.52 acres. A total of 101 farmers have taken loan of Tk. 757,000 for the 6-month project. For preparing new bamboo partition and repairing the old one 1,028 daily labourers were hired. Eight persons were posted as full-time workers for guarding the baor (Table 10). All of these 101 farmers were busy in different activities like monitoring, fishing, and marketing the products. Six farmers routinely guarded every baor every night during the harvesting period. This baor culture in 1994/95 is supposed to create 46.23 person years new self-employment (Table 11).

Table 10. BRAC indirect employment paid by individuals (day labour) in artificial baor culture.

Name of schemes (Baor)	Water body (acre)	No. of farmers (Loanee)	Average loan size	Total loan (amount)	Labour cost of repairing & making bamboo partitions in Kapotaksha river	One person day's labour cost	Total employment	
							person days	person years
Hariadewara	32.26	37	6000	207000	19333	35	552	2.21
Babupara	31.26	23	8000	192000	6500	35	185	0.74
Krishnanagar	32.0	20	8000	160000	4900	35	140	0.56
Jamalpur	48.00	21	8000	198000	5300	35	151	0.60
Gangarampur-Sutipur								
Guard in baor							5,040	20.2
Guard in 3 WFP ponds (Nilkanthanagar Babupara, Zafarnagar)							3,285	13.2
Total	143.52			757,000			9,353	37.5

Table 11. Distribution of self-employment in Artificial Baor culture

Working activities	No. of workers	Working time		Total self-employment		
		Days	hours in a day	p/h	p/d	p/y
Making bamboo partition	101	30	10	30,300	3,787.5	15.15
Fishing and marketing	101	45	8	36,360	4,545	18.18
Night guard	24	180	6	25,920	3,240	12.9
Total				92,580	11,572.5	46.23

Credit

Credit played an important role in generating income and employment among the rural landless. It has encouraged the shift from wage employment to self-employment. The study shows that the borrowers were more interested to take general loan . Among 3,277 borrowers only 9% took

programme loan. About 73% of all active members have taken credit at least once in 1994. The average loan amount varied from Tk. 2,000-10,000 depending on the activities and the length of VO membership. There are more than 300 different activities for which loan are disbursed.

Among general loan, paddy husking (45%) was found to be the most dominating activity, followed by small business(27%),and cow and goat rearing (22.5% and 6.2%, respectively). Rural transport (3.2%), land lease (3.0%) and grocery shop (1.2%) were other small scale activities. Most of the general loan borrowers were women.

Table 12 provides detailed information loan disbursement in different activities and their use. Around 92% of the general loan were used for productive purposes. The remaining 8% of the loan were diverted to non-productive activities like social ceremony, repairing of house, and family consumption..

In paddy husking, 50 percent of the borrowers used their money in paddy husking. Of the rest 50%, 10% used loan for storing, 20% for small business, 10% for cow rearing, and 10% for non-productive activities. 90 percent cow rearing loans were used for purchasing cows. Loans which were issued for the purpose of opening grocery shops, restaurants ,purchasing rural transport equipment , developing handloom industries, toy making and land leasing were used for those purposes for which the loans were issued.

New self-employment generated in different sectors is shown in Table 13. Paddy husking is a seasonal business. About 50% of the borrowers in the dry season (6 months) were actively involved in their business. Two third of these active workers in paddy husking were also working before the loan was issued. For one worker in paddy husking this loan created 0.18 person years new employment. Loan issued for grocery shop, restaurant, rural transport, and tailoring created a new job for the borrowers. In handloom and toy industries the loan increased capital to buy raw materials and reduce dependency on the local merchant. Eight of the 41 handloom loan borrowers

expanded their activities and built 14 new handloom, where 14 daily labourers were hired for working from dawn to dusk. Additional new employment were also created in paddy husking, grocery shop, and restaurant (Table 14). The family members helped in milling, marketing and managing the business.

Table 12. Major activities for which general loan was taken in 1994 and its share in total loan

Name of activities	No. of borrowers	% of total borrowers	% of loan	Purpose of use		Storing		Small business		Rural transport		Cow rearing		Non-productive activities		No. of loan receiver	
						%	T	%	T	%	T	%	T	%	T		
				%	T	%	T	%	T	%	T	%	T	%	T		
Paddy husking	1582	48	45.0	50	792	10	158	20	316	-	-	10	158	10	158	100	1582
Grocery shop	17	01	1.2	100	17	-	-	-	-	-	-	-	-	-	-	100	17
Rural transport	45	1	3.2	100	45	-	-	-	-	-	-	-	-	7	100	45	
Cow rearing	338	10	22.5	90	304	-	-	8	27	-	-	-	-	2	-	100	338
Goat rearing	196	6	6.2	95	186	5	10	-	-	-	-	-	-	-	-	100	196
Bamboo made handicrafts	14	03	0.7	100	14	-	-	-	-	-	-	-	-	-	-	100	14
Fish business	6	-	0.2	100	6	-	-	-	-	-	-	-	-	-	-	-	6
Restaurant	2	-	0.05	100	2	-	-	-	-	-	-	-	-	-	-	-	-
Land lease	36	1	3.0	100	36	-	-	-	-	-	-	-	-	-	-	-	-
Handloom	41	1	2.0	100	41	-	-	-	-	-	-	-	-	-	-	-	-
Toy making	22	1	1.0	95	21	-	-	-	-	5	1	-	-	-	-	100	22
Tailoring	10	-	0.5	100	10	-	-	-	-	-	-	-	-	-	-	100	10
Others	684	35	14.5	100	-	15	103	68	465	2	14	5	34	10	68	100	1175
Total (general loan)	2993	100	100	-	1474	990	271	27	808	05	15	-	192	8	233	-	2993
		91%	79%														
Programme Loan	284	100	21%	-	-	-	-	-	-	-	-	-	-	-	8	-	284
		9%															
Total	3277	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	3277

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Table 13. Distribution of new self-employment created after receiving RDP credit in 1994

Activities	No. of workers			Working period in a year (days)		spending hours in a day		New employment (total)			New employe nt for each worker
	B	A	%	B	A	B	A	p/h	p/d	p/y	p/y
Paddy husking	530	792	37.8	90	120	4	5	284,400	35,550	142.2	0.18
Grocery shop	-	17	0.8	-	350	-	12	71,400	8,925	35.7	2.1
Rural transport	-	69	3.0	-	190	-	8	104,880	13,110	52.5	0.8
Restaurant	-	5	0.2	180	350	-	8	14,000	1,750	7	1.4
Bamboo made handicrafts	14	14	0.6	365	240	4	5	1,680	210	0.84	0.1
Fish business	6	6	0.2	na	365	6	8	8,760	1,095	4.38	0.7
Land lease	41	39	1.9	365	na	na	na	na	na	na	-
Handloom	22	41	2.0	300	365	12	12	-	-	-	-
Toy making	-	22	1.1	-	365	6	6	8,580	10,725	43	0.2
Tailoring	-	10	0.5	-	300	-	5	15,000	1,875	7.5	0.75
Storing	-	271	13.0	96	20	-	8	43,360	5,420	21.7	0.1
Small business	-	808	38.6	-	240	6	7	892,032	111,504	446	0.6
Total	2094							152,1312	190,164	760.7	

Table 14. Distribution of additional new employment after RDP credit programme

Activities	No. of Worker	Working hours in a day	Working period in a year (days)	Employment			
				p/h	p/d	p/y	worker-employment ratio
Paddy husking	792	3	120	285120	35640	142.6	0.2
Grocery shop	17	2	104	6936	867	3.5	0.2
Restaurant	5	4	350	7000	876	3.5	0.7
Handloom	14	12	365	61320	7665	30.66	2.2
Total	828			360376	45038	180.3	0.21

In 1994, 38.6% of general loan borrowers used their loan for small business. Before taking a loan, an average worker of a member household was employed for about 8 days a month in small business for which the loan was taken. At the time of the survey, such employment was estimated to be 20 days. The loan generated new self-employment due to re-allocation of labour from relatively less productive activities, e.g. domestic labour for female workers. The borrowers spent 7 hours instead of 6 hours a day for BRAC financed activity. In small business, every loan created 0.55 new person years employment.

In all the sectors, general loan created 31.8% new self- and 7.5% additional new self-employment. In 1994, 6,816 VO members altogether created 2,394 person years new employment. About 93.8% of the total employees created 75.2% of total employment in Jhikargacha BRAC RCP area (Table 15).

Table 15. BRAC total person years employment in Jhikargacha in 1994

Indicators	No. of participants		Employment (Total)		worker/employment ratio
	number	%	p/d	p/y	
BRAC paid employment	423	6.2	148,5740	594.1	24.8
- full-time employee (excluding care takers)					
- Foundation workers	50	0.7	12,500	50	2.1
- Part-time employee	150	2.2	37,500	150	6.3
- Care takers	109	1.6	15,500	62	2.6
- Daily labour	114	1.7	62,415	249.66	10.4
	-	-	20,625	82.47	3.5
BRAC non-paid employment	6,393	93.8	449,447	1,797	75.2
- Sericulture					
- Poultry & livestock	129	1.9	8,415	33.66	1.4
Baor	2,493	36.6	151,165	604.9	25.3
- Day labour					
- Self-employment	101	1.5	9,353	37.5	1.6
- Fishery	116	1.7	11,572	46.23	1.9
- Vegetables, maize, sapling and DTW, nursery	595	8.7	3,265	11.39	0.5
- Credit	2094	30.7	28,164	112.62	4.7
- Credit additional	828	12.2	190,164	760.8	31.8
- Health	37	0.5	45,038	180.3	7.5
			2,313	9.25	0.4
Grand Total	6818	100,0	597,987	2,391	100.0

CONCLUSION

BRAC's financial, technical and management support to the landless poor has helped generate adequate employment for both men and women. Special attention has been paid to create employment opportunities for BRAC- paid women, mainly 107 care takers, 150 Foundation workers, 90 NFPE teachers. In 1994, BRAC created 2,391 person years employment with special emphasis on women. Thus the achievements show that income and employment generating activities of BRAC are definitely a big step forward to minimize unemployment in rural Bangladesh.

Although this is a quantitative study, some qualitative traits have been observed. Women's participation in income generating activities has affected their behavioral pattern. All family members and neighbors begin to respect them. They gain self-confidence by virtue of their earnings. This, in turn give positive effects in their decision making process.

RECOMMENDATIONS

This is a retrospective study. Major findings of the study may be helpful to determine BRAC's nationwide achievements in this area. In case of calculating total person years employment created by BRAC support further study with larger sample size is required to cover all of its economic activities (commercial and non-commercial). BRAC's employment generating activities and its achievements might be more fruitful if the following tentative recommendations are taken into consideration:

- 1) To increase employment in sericulture BRAC may reduce its service charge from Tk. 1.00 to Tk. 0.70 per DFL, and also reduce Indian DFL use because of its low suitability;
- 2) At present only 42% of Aarong's demand is fulfilled by the products of Ayesha Abed Foundation. The Foundation could extend its capacity by establishing more sub-centers in rural areas. Thus, BRAC can maximize the use of local human resources;
- 3) BRAC should closely follow-up the loan disbursed to the individual programmes to check improper use. This may help increase their productivity and also reduce the overdue. In addition it will also help achieve better result in terms of generating new employment and income.
- 4) An efficient marketing system for goods produced by the programme beneficiaries can be developed through BRAC support to appropriate rural surplus efficiently.

Annexure 1.

JHIKARGACHA AREA PROFILE (CUMULATIVE UP TO DECEMBER 1994)

1. Date of formation - mid 1982
2. Area covered - 5 union in thana
3. Villages covered - 54
5. Literacy rate - 27.9% (in the whole thana)
6. Village organizations - 140
 - Female - 119
 - Male - 21 (active 3)
7. VO members - 6,402
8. Active VO members - 4,500 (70%)
9. Total savings - Tk. 2,237,611 (Tk 350 per head)
10. Cumulative disbursement (1981-95) - Tk. 50,400,000
11. No. of cumulative loans in 1994 - 3,277
12. Total outstanding as on 31st December 1994 - Tk. 7,005,993.
13. No of NFPE on-going schools - 100
14. No of school teachers - 90
15. No of school students - 3212
16. No of shasthya shebikas - 37

Annexure 2.

Checklist

Observation related

1. Attended the programme meetings for understanding the present situation in employment generation.
2. Met the RDP borrowers and visited several BRAC programme areas.
3. Emphasized the perception of VO members on the programme for understanding the actual condition in these area.

Information related

1. How many hours do they work daily?
2. How many days do they work monthly?
3. How many months do they work yearly?
4. Is there any relationship between the size of loan and the working hours?
5. Do they take any help from their relatives (husbands, wives, children), if they do so, how many hours do they help daily?
6. What is the ratio between the women/men participation in the economic activities ?

Annexure 3.

Sector	Numbers of employee	Direct employment (self employment)		Indirect employment (hired)	
		hours	man/years	hours	man/years
1. Sericulture Chawki rearers Rearers Progressive rearers Sapling farmers					
2. Social Forestry Nursery worker Plantation Coastal Afforestation worker Agro-forestry worker					
3. Agriculture Irrigation Vegetable cultivation Maize cultivation					
4. Poultry & Livestock Poultry worker Chick rearer Feed seller Key rearer Egg collector					
5. Livestock Paravet Cow rearer Goat rearer					
6. Fisheries Farmers involvement Fisheries Carp rearer Thai rearer Carp Nurseries Carp Hatcheries					
7. Trading					