

Longitudinal Study on Poultry Rearing in Manikganj:
A Preliminary Assessment for the First Quarter

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Summary

Vulnerable Group Development (VGD) program sponsored by a number of donors aimed at supplementing nutritional level and assisting the process of attaining self reliance by the rural destitute womenfolk. The womenfolk receive supply of wheat ration of 31.25 kg per month for 2 years period and the programme has long been implemented by the government. But lack of proper administration and supervision of the government turned the program purely a relief program. Bangladesh Rural Advancement Committee (BRAC) envisaged this monthly wheat ration as an input, which if associated with other services, could be transformed to an effective program for poverty alleviation and planned to impart the VGD wheat receivers training and production skills on poultry keeping so that some sort of income generating avenue become open for them.

Initially in 1985, Integrated Development Program (IDP), Manikganj started a pilot program in cooperation with the World Food Program (WFP) and its success led BRAC to launch an independent program in late 1987, known as "Income Generation for Vulnerable Group Development Program (IGVGDP)".

The present study is an evaluation of the program's prime objective of income achievement. The findings can be summarised as in the following:

The total income achievement in the program study population rearing HYV is negative while it is positive for those in the non-intervened group rearing traditional variety (control) under analysis based on estimated feed cost. When analysis is made on the basis of reported feed cost the situation is really grave.

The hatching rate and mortality rate of chicks both favour the control group compared to the program group. It means that, hatching rate is lower and mortality rate of chicks is higher for the program group.

The performance level of VGD wheat beneficiaries can no way be regarded as better than the non-beneficiaries.

✓ Abnormal loss to few program respondents could be attributed to the deaths of aged poultry birds known as pullets resulting in an absolute loss of original investment.

✓ Size of poultry farm seems to be somewhat positively associated with profit earned by the VGD wheat beneficiaries.

The present evaluation is a preliminary attempt to assess the existing situation of the program which requires proper attention and requisite improvements.

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Introduction:

Vulnerable Group Development (VGD) program sponsored by a number of donors for the rural destitute womenfolk has long been implemented by the government. Under this program each identified destitute woman is entitled to get a wheat ration of 31.25 kg. per month. This program aims not only at supplementing nutritional level among the recipients of wheat but also making them self-reliant through the provision of a package of development services having principal focus on ensuring economic self-reliance. The package includes wheat relief for two years coupled with functional literacy and numeracy, basic health and nutrition education. Although economic self-reliance was envisaged in the program, inadequate planning, lack of proper administration and supervision, made the program functionally ineffective and consequently, the whole approach practically remained relief approach and thereby making the destitute woman rather more dependent. Bangladesh Rural Advancement Committee (BRAC) envisaged this monthly wheat ration of 31.25 kg. per woman as an input, which, if associated with other services, could be transformed to an effective program for poverty alleviation among the destitute womenfolk.

In 1985, Integrated Development Program (IDP), Manikganj in cooperation with the World Food Program (WFP) started a program on experimental basis. Under this program BRAC imparted the VGD wheat receiver womenfolk training and production skills on poultry keeping,

This study was done by N.C. Mallick, Staff Economist, RED, BRAC. The author is grateful to Sanzidur Rahman, Zafar Ahmad and Nasreen Huq and to several field staff for assistance.

sericultures, horticulture and embroidery. This program opened a new era of employment for VGD beneficiaries and could provide assured income of Tk. 60-150 per month for each beneficiary (proposal for Vulnerable Group Development Credit Program (VGDCP), January, 1988) and the program continued for more than two years. The overwhelming success of the program led BRAC to launch an independent program, in late 1987, to replicate the Manikganj experience in a larger area, covering both VGD women and BRAC target members known as "Income Generation for Vulnerable Group Development Program (IGVGDP)".

Among the income generating avenues poultry keeping being the most familiar one from the time immemorial in the rural society; the program is supposed to earn the popularity among the people. The major hurdle discovered in the way of starting the poultry keeping program was the lack of initial capital. The poor womenfolk have no access to institutional credit facilities as they cannot provide required collateral. As a result the production skill given by BRAC remained underutilised. Realising the need for credit among the VGD beneficiaries, WFP gave credit among the VGD beneficiaries through BRAC from the beginning of 1989. Wheat ration, credit and necessary poultry inputs from the Department of Livestock (DOL) could enable BRAC to replicate its Manikganj experiences in many other places of the country. But evaluation of its income achievement of any sort has not been made so far. The program has taken a good coverage by now and hence matured enough to have an evaluation of its prime objective of income achievement. Towards this end it was felt that one time information on income generation out of this program may not reflect the true picture due to intricate and dynamic nature of the very poultry program. Long term data collection was considered

appropriate to obtain the average monthly income precisely. Wide coverage of such a research study would involve huge manpower and resources which could be very costly. So RED decided to give it a start taking Manikganj as the study area; for, RED has two permanent research field bases there and the program has originated therefrom. Study areas were Jagir and Betila where RED has research bases. To enable a comparison a non-intervened group of rearers was also interviewed in the same way. This follow-up schedule is supposed to continue over a period of one year, which started on January, 1989.

The major objectives of the study are:

- i) To have a quantitative measure of monthly average income accrued from rearing poultry.
- ii) To identify relationship between farm size and average monthly income generated from poultry rearing.
- iii) To compare the income generated from poultry rearing between the program group and the non-intervened group.
- iv) To compare the income receipts of VGD wheat recipients and non-recipients.

Chapter II

Methodology

- (a) Study area: Two unions Jagir and Batila of Manikganj Sadar Upazila
- (b) Eligible Respondent:
 - i) Program: The rearers having HYV chicks with at least one in production or was in production and are not involved in other components of the same program viz. poultry worker, chick rearer.
 - ii) Control: Who rears local variety chicks and having similar socio-economic status and is not a BRAC group member.
- (c) Sample Size:
 - i) Program: 34 rearers
 - ii) Control: 9 rearers
 -
 - Total : 43 rearers
- (d) Interviewers: To ensure greater degree of accuracy and precision and to avoid omission and lapses of successive information collection, permanent research female staff of RED based at the study area were considered best and were assigned the responsibility.
- (e) Method of data collection: Relevant informations were collected on a tabular format in each 3 weeks interval of time. Three weeks interval was considered appropriate to see every egg hatched that was laid for hatching for 2-3 weeks. And it is the standard interval period for hatching of hen's eggs. Otherwise duplication possibilities may complicate in finding out the hatching rate. The tabular format of data collection was

prepared in the head office taking necessary information related to the program by making many field trips by the researcher. The very format was finally tabled in a meeting and was modified incorporating the views of the other research personnel. The tabular format embodied the following informations on every observation date.

- i) Total poultry farm size and its distribution by size and sex (small size aged below two months, medium size aged between 2-5 months, large size aged above 5 months).
- ii) Relevant informations on hatching of eggs, e.g. number of hens engaged in hatching, number of eggs laid for hatching (both produced in the farm and purchased and received from outside source).
- iii) Number of poultry birds bought in both from BRAC source and other outside sources along with their size and cost.
- iv) Feed cost both from home and outside sources.
- v) Treatment cost, both for medicine and the poultry worker's remuneration.
- vi) Revenue generated from selling, home consumption and charity of poultry birds from the farm.
- vii) Revenue generated by selling, home consumptions and charity of farm produced eggs.
- viii) Miscellaneous revenue generated from shared rearing, hatching duck eggs etc.
- ix) Number of poultry birds lost by death and other reasons by size.
- x) Information on VGD wheat received and subscription paid thereby.

- ix) Initial stock value of different size on the 1st day of observation (one time only).
- (f) **Training of interviewers:** Necessary training was given to the interviewers together with two research team leaders on, how to fill in the table and making necessary cross-check to correct the reportings.
- (g) **Supervision:** The interviewers worked under the direct supervision of two team leaders based at the study area. The team leaders maintained coordination with the researcher on issues related to the study.

Method of data analysis:

Profit(p) accruing to each respondent was calculated as follows

$$P = CSR + ESR + MR + SA - FC - TC - FKRC - VIC$$

Where;

- CSR = Revenue generated from sale of chick (sell + home consumption + charity)
- ESR = Revenue generated from sale of egg (sell + home + consumption + charity + value of eggs found laid for hatching on closing observation date).
- MR = Miscellaneous revenue generated, e.g. from share rearing (both in and out) and hatching eggs other than poultry.
- SA = Stock appreciation. It needs to be mentioned here that valuation of initial stock was mostly done by the researcher himself by size. Valuation of closing stock after six successive observations was done in the head office. Here the average price of each chick (small size) aged below two months was given a flat rate of Tk. 12.00 each. For the

other two sizes (medium and large), the price of each was given the same average price valued at the time of valuing initial stock separately for each respondent both in the program group and in the control group.

FC = Feed cost. Profit was calculated based on two types of feed costs. One on the basis of reported feed cost and the other on the basis of estimated feed cost. (The rationale and the process will be discussed latter).

TC = Treatment cost (both cost of medicine and the poultry worker's remuneration)

VIC = Variable input (other than feed and treatment) cost. This includes the cost of poultry birds bought from outside sources and HYV eggs bought for hatching purpose.

EKRC= Rent on invested capital on poultry shed as reported by the respondents. This rent was estimated at 18.00 percent per year on the reported capital for the study period of 3.5 months. It needs to mention here that rent on initial stock valuation was ignored and was assumed to be absorbed in stock appreciation.

Feed cost estimation: Feed cost incurred from inside (home) and outside sources were recorded in each three weeks observation period. Total feed cost seems unexpectedly very high and does not reveal the expected positive relationship between farm size and feed cost. This suggests for some sort of standardisation of feed cost. For this purpose average poultry bird's composition of the farm was converted to equivalent pullet (large) size by considering 2 non-pullets (aged below 5 months) equivalent to one pullet. The program respondents

rear high yielding variety mostly under non-scavenging condition. So their poultry birds are fed with food procured both from home and outside sources. As per poultry training manual of BRAC a pullet's daily food requirement is 100-120 gms. balanced mess food. Balanced mess food is being sold in Manikganj at the rate of Tk. 6-7 kg. The respondents were found hardly to buy this mess food but buy mostly kura (rice husk blend). They sometimes feed wheat husk, dry fish, snail blend, whole rice and wheat to chicks, which are the ingredients of recommended mess food. It is difficult to estimate daily feed they actually offer to a pullet and as well as its cost. It was observed during the researcher's trips to the study area that they did not give their poultry birds required quantity of (100 - 120 gm.) mess food but it would not be irrational to assume that the total food given to a pullet per day will be of value equivalent to the cost of 100 gms. of kura. So to estimate the feed cost, the researcher assumed a feed cost equivalent to the cost of 100 gms. of kura per day per pullet and the prevailing market value of kura was found to be Tk. 2.00 per kg. Under these assumptions the estimated requirement was 10.5 kg. kura per pullet for 3.5 months which costs Tk. 21.00. This is basis of feed cost estimation giving a feed cost of Tk. 0.20 per pullet per day. The control group was devoid of HYV chicks and hence food requirement is also less. The basis of feed cost estimation in the control group was cost equivalent to cost of 80 gms. of kura per pullet per day. So feed cost per pullet in the control group was taken as Tk. 16.80 for the study period of 3.5 months. So profit both on the basis of reported feed cost and estimated feed cost was calculated separately and was also analysed separately both for program and control respondents.

Overall Mortality Rate (OMR): Mortality information on poultry birds was recorded by age. In this case the overall mortality rate was the ratio of total deaths and damages to all birds that were reared during the study period time of 3.5 months (e.g. number initial birds plus number hatched in the farm plus number bought from outside).

Pullet Mortality Rate (PMR): PMR is the ratio of pullets deaths to total pullets reared by each rearer during the study period.

Mortality rate of chick's aged below two months: This was the ratio of total chicks below two months died to all chicks below two months reared by each respondent during the study period.

Hatching rate of chick's eggs: Hatching information on number of hens engaged on hatching and number of eggs laid for hatching, number of eggs hatched alive were recorded. The overall hatching rate for a rearer was the ratio of total eggs hatched alive to total number of eggs laid for hatching ignoring the eggs which are yet to hatch out.

Limitations of the Study: In calculating the rearers' profit, cost components like opportunity cost of self-employed labour and opportunity cost of land used for poultry shed was considered zero. The fixed cost component of constructing poultry shed was neglected.

The findings of this study reflects the existing situation specific to the Manikganj area, more specifically to the sample area only. Thus, one has to be careful in generalising the findings of the study for other IGVD areas.

Chapter - III

Analysis of findings

3.1. Average monthly income earned under reported feed cost:

The following table (table 1) shows the monthly income distribution against pullet equivalent farm size. As per table, 25 (73.53%) respondents incurred monthly loss to the tune of Tk. 250.00 per month [about 44.0 percent in the range of Tk. 50-250 and 29.35 percent in the range of Tk. 1-50]. The rest 9 (26.5%) respondents earned some income [5 (14.70%) earned in the range of Tk. 1-50, 3 (8.82%) in the range of Tk. (51-100) and the rest one Tk. 2311]. In the contrary, in the control group, 7 (77.78%) respondents earned income in the range of Tk. (1-50) and rest 2 (22.22%) incurred loss to the tune of Tk. 24.00 per month. Of the 25 respondents who incurred loss, 20 had farm size of 15 pullets equivalent or less. On the other hand, of the rest 9 respondents who earned profit 6 had farm size of more than 15 pullets equivalent. This somehow establishes the positive relationship between farm size and monthly income earning.

TABLE-1

DISTRIBUTION OF RESPONDENTS BY PULLET EQUIVALENT FARM
SIZE AND MONTHLY INCOME UNDER REPORTED FEED
COST BOTH FOR PROGRAM AND CONTROL

	FARM SIZE	Loss in Taka					Profit in Taka			Total
		250 200	199 150	149 100	99 50	49 0	1 50	51 100	101 above	
P R O G R A M	3.5		1	3	2	5	3			14
	10		(2.94)	(8.82)	(5.88)	(14.71)	(8.82)	-	-	(41.18)
	>10	1	2	3	1	2				9
	15	(2.94)	(5.88)	(8.82)	(2.94)	(5.88)	-	-	-	(26.47)
	>15	1	1	-	-	3	2	2	1	10
	20	(2.94)	(2.94)			(8.82)	(5.88)	(5.88)	(2.94)	(29.41)
	>20							1 (2.94)		1 (2.94)
=====										
TO- TAL		2 (5.88)	4 (11.76)	6 (19.65)	3 (8.82)	10 (29.41)	5 (14.70)	3 (8.82)	1 (2.94)	34 (100.00)
=====										
C O N T R O L	>3.5					2	7	-	-	9
	9	-	-	-	-	(22.22)	(77.78)			(100.00)

3.2. Average monthly income earned under estimated feed cost:

Table 2 shows distribution of the respondents by average monthly income earned and by farm size under the estimated feed cost. As per table, 19 (58.88%) respondents incurred loss upto the tune of Tk. 175.00 per month [(32.35% in the range Tk. (50-200) 23.53% in the range of Tk. (0-49)]. Under this scheme of profit calculation, 15 (44.12%) respondents earned some income per month [8 (23.57%) respondents in the range of Tk. 1-50; 6 (17.65%) respondents in the range of Tk. (51-100) and the other one (2.94%) respondent Tk. 326.00 monthly].

Of the 15 respondents who earned some monthly profit, 8 had farm size of 10 pullets equivalent or less, of them 7 earned profit in the lowest range of Tk. 1-50. Some 6 respondents among the profit earner group had farm size of 15 pullets equivalent or more. Of them, 5 respondents earned Tk. 51.00 and above. This establishes somewhat positive relationship between monthly income and farm size.

TABLE-2

DISTRIBUTION OF RESPONDENTS BY PULLET EQUIVALENT
FARM SIZE AND MONTHLY INCOME UNDER ESTIMATED
FEED COST BOTH FOR PROGRAM & CONTROL

	FARM SIZE	Loss in Taka				Profit in Taka			Total
		175 150	149 100	99 50	49 0	1 50	51 100	101 ABOVE	
P R O G R A M	3.5	1	1	3	1	7	1		14
	10	(2.94)	(2.94)	(8.82)	(2.94)	(20.59)	(2.94)		(41.18)
	>10	1	-	3	4	-	1	-	9
	15	(2.94)		(8.82)	(11.76)		(2.94)	-	(26.47)
	>15	1	-	1	3	1	3	1	10
	20	(2.94)		(2.94)	(8.82)	(2.94)	(8.82)	(2.94)	(29.41)
	>20	-	-	-	-		1 (2.94)		1 (2.94)
	TO- TAL	3 (8.82)	1 (2.94)	7 (20.59)	8 (23.53)	8 (23.95)	6 (17.65)	1 (2.94)	34 (100.00)
C O N T R O L	>3.5				2	7	-	-	9
	9				(22.22)	(77.78)			(100.00)

3.3 a) Statistical characteristics of earned monthly income in
program stratum:

i) Under reported feed cost:

Range of monthly income variation: - Tk. 240.00 to Tk. 214.00

Total amount of monthly loss incurred for all the 34 respondents = Tk. 1,902.00

Mean income ($\bar{x}$) = - Tk. 55.94

Median income (M) = - Tk. 35.5

1st quartile (Q_1) income = - Tk. 138.00

3rd quartile (Q_3) income = Tk. 5.00

Standard deviation of income (s) = Tk. 70.6

ii) **Under estimated feed cost:**

Range of monthly income variation: Tk. 173.00 to Tk.326.00

Total amount of monthly loss generated for all the 34 respondents = Tk. 507.00

Mean income ($\bar{X}$) = - Tk. 14.90

Median income (M) = - Tk. 24.50

1st quartile (Q_1) income = - Tk. 62.00

3rd quartile (Q_3) income = Tk. 28.00

Standard deviation of income (s) = Tk. 61.4

When income calculation method (i) and (ii) are compared it is evident that reduction in total loss per month (for the whole programme study population) Tk. (1,902.00 - 507.00) = Tk. 1,395.00) is nothing but the reduction in estimated feed cost compared to reported feed cost which has been reflected in profitability. The total volume of loss under both the calculation methods indicate the severity of the problem and steps should immediately be taken to identify the reasons and their remedies.

3.3 b) Control Stratum:

i) Under reported feed cost:

Mean monthly income ($\bar{x}$)	= Tk. 15.90
Median income (M)	= Tk. 19.00
1st quartile (Q_1)	= -Tk. 1.00
3rd quartile (Q_3)	= Tk. 38.00
Standard deviation (s)	= Tk. 25.50

ii) Under estimated feed cost:

Mean monthly income ($\bar{x}$)	= Tk. 22.30
Median income (M)	= Tk. 25.00
1st quartile (Q_1)	= Tk. 1.50
3rd quartile (Q_3)	= Tk. 44.50
Standard deviation (s)	= Tk. 23.80

When statistical characteristics of monthly income for both program and control groups are compared it is evident that control group is far better of than the program group.

This clearly suggests for an immediate action in the right earnest of the program:

TABLE-3

DISTRIBUTION OF RESPONDENTS WHO REPORTED HATCHING EGGS BY PERCENTAGE HATCHING RATE (HR) BOTH FOR PROGRAM AND CONTROL

Hatching Rate (HR)	0 - 19	20 - 39	40 - 59	60 - 79	80 - 100	Total
Program	1 (3.44)	1 (3.44)	5 (17.24)	7 (24.14)	14 (48.28)	29 (100.00)
Control	--	--	1 (12.5)	2 (25.0)	5 (62.5)	8 (100.00)

3.4 Hatching rate:

It is evident from the table, that hatching rate of eggs favours the control group respondents. Of the respondents who were involved in hatching eggs, about 72.0 percent (21 out of 29) respondents in the program group reported hatching rate 60.0 percent and above while in the control as high as 87.5 percent (7 out of 8) respondents reported the same range of high hatching rate.

TABLE-4

DISTRIBUTION OF RESPONDENTS BY PERCENTAGE MORTALITY
RATE (MR) OF CHICKS AGED BELOW TWO MONTHS
BOTH FOR PROGRAM AND CONTROL

Hatching Rate (HR)	0 - 19	20 - 39	40 - 59	60 - 79	Total
Program	10 (33.33)	11 (36.67)	7 (23.33)	2 (6.67)	30 (100.00)
Control	6 (66.67)	2 (22.22)	1 (11.11)	-- --	9 (100.00)

3.5 Chick mortality rate:

It is discerned from the table that mortality rate of chicks aged below two months or less was lower in the control group than in the program group. As per table 4, only 33.33 percent (10 out of 30) respondents who reared chicks below two months during the study period) in the program group reported lowest mortality rate (0-19.0 percent) while in the control as high as about 67.0 percent (6 respondents out of 9) reported mortality rate in the same lowest range (0-19.0 percent). On the other hand about 30.0 percent (9 respondents) in the program group reported mortality rate 40.0 percent and above against only about 11.0 percent in the control group.

TABLE-5

DISTRIBUTION OF PROGRAM RESPONDENTS BY MONTHLY AVERAGE
INCOME AND OVERALL MORTALITY RATES (OMR) OF
POULTRY BIRDS UNDER ESTIMATED FEED COST

OMR	LOSS IN TAKA				PROFIT IN TAKA			TOTAL
	175	149	99	49	1	51	100+	
	150	100	50	0	50	100		
0 - 10				1 (2.94)	1 (2.94)	3 (8.82)		5
> 10 - 20			1 (2.94)	4 (11.76)		2 (5.88)		7
> 20 - 30	2 (5.88)		4 (11.76)	2 (5.88)	2 (5.88)	1 (2.94)		11
> 30 - 40				1 (2.94)	2 (5.88)			3
> 40 - 50		1 (2.94)	1 (2.94)		1 (2.94)		1 (2.94)	4
> 50 - 60	1 (2.94)				2 (5.88)			3
> 60 +			1 (2.94)					1
Total	3	1	7	8	8	6	1	34

3.6 Income vs. Overall Mortality Rate:

As per table 5, 23 (67.65%) respondents reported overall mortality rate 30.0 percent or less. Of them 9 respondents earned some profit. The remaining 11 (32.35%) respondents reported overall mortality rate above 30.0 percent and 6 of them earned profit upto Tk. 100.00 per month. The rest 11 respondents who reported OMR higher than 30.0 percent, 5 incurred loss and their loss was comparatively higher than those reported lower OMR. However, evidence does not dictate strong negative relationship between OMR and accrued monthly

profit. This could be that in many cases higher mortality may be associated with high mortality of chicks hatched by the rearers. In such a situation loss due to high mortality is only reflected in the loss in revenue from sale of eggs but not in stock depreciation which is a major determinant of higher loss. So even if the overall mortality is lower, loss is likely to be higher owing to the death of pullets.

TABLE-6

DISTRIBUTION OF THE PROGRAM RESPONDENTS BY CHICKS MORTALITY RATE AGED BELOW TWO MONTHS (CMRABTM) AND MONTHLY AVERAGE INCOME UNDER ESTIMATED REED COST

CMRABTM Per 100	LOSS IN TAKA				PROFIT IN TAKA			TOTAL
	175	149	99	49	1	51	100+	
	150	100	50	0	50	100		
Rearing no chicks	2	1						3
0 - 10			1	1	1	1		4
> 10 - 20				3		4	1	8
> 20 - 30			4	2	1			7
> 30 - 40					2	1		3
> 40 - 50				1				1
> 50 - 60	1		2	1	2			6
60 +					2			2
Total	3	1	7	8	8	6	1	34

3.7 Income vs. Chick Mortality Rate:

The table 6 shows that 31 respondents were found rearing chicks aged below two months (either reported in the initial stock or begot by hatching or purchase) and the rest 3 respondents had no chicks throughout the period of observations (remained off from hatching eggs). Of the 31 above mentioned respondents, 22 reported chick mortality rate 40.0 percent or below. Out of total 15 respondents who reported profit, 11 reported this lower range of chick mortality (below 40.0 percent). The rest 9 respondents who reported chick mortality higher than 40.0 percent, 4 respondents made profit in the lowest range of Tk. 1-50. However, this data also do not reflect the strong negative relationship between chick mortality rate and accrued average monthly income. It is worth noting here that percentage does not reflect the actual number of deaths and whatever may be the number of chicks death, in most cases this number is for the chicks that died shortly after hatching in rearers farm. So in most case chick mortality is more or less the loss of revenue from sale of eggs. It is interesting to observe here that 4 respondents who reported abnormal monthly loss above Tk. 100.00, 3 of them had no chicks and their loss is attributed to or can be characterised by high overall mortality rate (caused by deaths of pullets and medium size poultry birds). Overall mortality rate and monthly loss of these 3 respondents were found as: (28.6, 173.00); (58.8, 152.00) and (50.0, 110.00). The other respondents who reported monthly loss Tk. 151.00 reported 29.8 percent overall mortality rate and also as high as 53.00 percent chick mortality rate.

TABLE-7

DISTRIBUTION OF THE PROGRAM RESPONDENTS BY PULLETS
MORTALITY RATE (PMR) AND AVERAGE MONTHLY
INCOME PER PULLET EQUIVALENT
UNDER ESTIMATED FEED COST

PMR	LOSS PER PULLET IN TAKA				PROFIT PER PULLET IN TAKA				TOTAL
	1 3	4 6	7 9	10 +	1 3	4 6	7 9	10 +	
0	3	5	1		6	3	2		20
0 - 10	1	1			1	1			4
10 - 20	2	1	1		1			1	6
20 +				4					4
Total	6	7	2	4	8	4	2	1	34

3.8 Income per pullet vs. pullet mortality:

From Table 7 it is apparent that higher the Pullet Mortality Rate, (PMR) lower the monthly average income. As per Table 7, 20 respondents reported no pullet death and 11 of them earned monthly profit in the range of Tk. 1-9 per pullet equivalent poultry. Some 10 respondents reported PMR in the range 1-20 percent and of them 4 earned profit upto the tune of Tk. 17.00 per pullet equivalent. The rest four respondents reporting PMR above 20.0 percent were also all who reported abnormally high loss of Tk. 10.00 or more per pullet equivalent bird. So heavy loss which is beyond the feed cost Tk. 6.00 per pullet is associated with deaths of pullet.

TABLE-8

DISTRIBUTION OF PROGRAM RESPONDENTS BY MONTHLY AVERAGE
INCOME UNDER ESTIMATED FEED COST AND
WHEAT RECEIVING STATUS

	MONTHLY LOSS IN TAKA				PROFIT IN TAKA			TOTAL
	175	149	99	49	1	51	100+	
	150	100	50	0	50	100		
Received VGD wheat		1	2	3	1	2	1	10
Received no wheat	3		5	5	8	3		24

3.9 VGD wheat recipient vs non-recipients:

Out of 34 total respondents, 10 respondents who received wheat twice, 30.0 kg in each time, were regarded as VGD wheat beneficiaries. Of the 10 respondents receiving VGD wheat, 6 (60.0 percent) respondents incurred loss to the tune of Tk. 150.00 per month and the remaining 4 respondents earned some profit (one could earn even to the tune of Tk. 326.00 per month).

On the contrary, out of 24 non-VGD respondents, 11 (45.8 percent) could earn monthly profit upto Tk. 100.00. The remaining 13 (54.2 percent) respondents incurred loss upto the tune of Tk. 175.00.

At the start of the programme it was envisaged that wheat ration will work as a major incentive and input in making poultry program a grand success and thereby would lead to permanent economic stability for its beneficiaries. When income achievement of VGD wheat recipients are compared with non-recipients, it is evident that income achievement of wheat recipients can not be regarded as better than non-recipients. If the income achievement information is to be taken

as fact than it is obvious that VGD wheat benefit without poultry program can be regarded as better for it would not at least tax its beneficiaries which has been reflected in negative profit.

3.10 Credit Position

From the credit reporting of respondents in the program stratum it appeared that 4 (11.76%) respondents had no credit either institutional or non-institutional. Some 4 (11.76%) respondents had no access to institutional credit but to non-institutional credit in the range Tk. (50-2,500). The remaining 26 (76.5%) respondents reported institutional credit (2 respondents reported credit Tk. 500.00 or less, 6 respondents Tk. 1,000.00; 8 respondents Tk. 2,000.00; 2 respondents Tk. 2,500.00 and Tk. 3,200.00, respectively 6 respondents in the range Tk. (4,000 - 5,000) and the rest two are Tk. 6,500 and Tk. 8,000 respectively). Of these 26 respondents who reported institutional credit, 11 (32.35%) respondents also reported non-institutional credit in the range of Tk. (200.00 - 8000.00). In contrast 4 (44.4%) respondents in the control reported non-institutional credit not exceeding Tk. 1,000 each and one of these four loanee also reported institutional credit of Tk. 2,800.00.

From this it is evident that the program respondents had reasonably good excess to institutional credit facilities. However, in addition to their institutional credit, 15 (44.00%) respondents also had to resort to non-institutional credit at a very exorbitant interest rate. This suggests that either institutional credit sources are not adequate or the local lenders are active in the study area.

Perceived causes:

- i) The grave situation in income achievement could be characterised as lack of motivation of the rearers to feed their high yielding poultry variety with balanced food. As a result high yielding variety could only somehow manage their survival. It was observed with utter dismay that majority of the high yielding varieties in the program study population did not lay their first egg until the age of about one year. The feed cost is high but revenue from sale of eggs was found to be very low. The program respondents are largely rearing high yielding variety chicks whereas the control group is devoid of high yielding varieties. This could summarise the difference in income achievements between the control and the program group respondents.
- ii) Higher hatching rate and lower chick mortality rate was found among the control groups as compared to the program respondents. This may be due to the fact that the program group is hatching some high yielding varieties and cross breed eggs for which hatching rate may be lower and mortality rate higher.
- iii) The reason for indifference regarding poultry keeping practice between VGD wheat beneficiaries and non-beneficiaries could be that the VGD beneficiaries are not properly motivated and are not being warned or facilitated to make the program remunerative and for target achievement.
- iv) Most respondents reported 2-3 days poultry keeping training. For our illeterate rural women this seems quite inadequate in handling such a complicated undertaking.

Recommendation:

- i) Rearers should be motivated and persuaded to feed their high yielding variety with balanced mess food. They should simultaneously be warned about the grave consequences of not giving balanced feed.
- ii) Intensive training by expert personnel should be arranged for the rearers so that they can efficiently handle this complicated and sensitive undertaking.
- iii) Part of the VGD wheat ration should be given in poultry balanced feed so that they have to feed it.
- iv) BRAC should undertake an experimental study to come-up with high yielding variety which will suit our rearers most. This study should encompass also a wide range to come-up with the best yielding cross breed variety.
- v) Steps should be taken to reduce mortality rate (specially of chicks) and to increase hatching rate of eggs through appropriate training.
- vi) Heavy loss is mainly characterised by deaths of aged birds. So necessary precautions should be taken to hedge the pullet deaths.