

THIRD MISSION REPORT

Phase IV

SMALLHOLDER LIVESTOCK DEVELOPMENT PROJECT

BANGLADESH

Socio-Economic Impact Survey

January 1996

This report contains
restricted information
and is for official use only

Ref. No. 104 Bang.159



DARUDEC

LIST OF CONTENTS

Abbreviations

Introduction

Background

Present mission

Findings

 Summary of survey findings

 Comments on survey results

Annexes

Annex 1 Socio-Economic Impact of Smallholder Livestock Development Project

Annex 2 Programme for mission 3

ABBREVIATIONS

BLRI	Bangladesh Livestock Research Institute
BRAC	Bangladesh Rural Advancement Committee
CPF	Central Poultry Farm
DKK	Danske kroner
DLS	Department of Livestock Services
DOC	Day old chicks
GOB	Government of Bangladesh
GPF	Government Poultry Farm
HQ	Head quarters
IFAD	International Fund for Agricultural Development
SLDP	Smallholder Livestock Development Project
TK	Taka

INTRODUCTION

The Smallholder Livestock Development Project is a cooperation between the Department of Livestock Services, Ministry of Fisheries and Livestock, Government of Bangladesh and the non-governmental organisations Bangladesh Rural Advancement Committee (BRAC), Proshika and Swanirvar Bangladesh. The project is supported by an IFAD loan and a Danida grant of DKK 25.5 million. The project aims at the following number of beneficiaries:

Poultry Workers	16,000
Mini Hatcherers	40
Chicken Rearers	2,400
Model Rearers	1,600
Key Rearers	240,000
Feed Sellers	16,000

Background

A Mid-Term Review of the SLDP was carried out in November - December 1994. The Review Team recommended, among others, to supplement the current project monitoring, undertaken by DLS and BRAC, with a socio-economic impact survey taking WID/gender relations and qualitative aspects into account.

With restructuring of the TA team, two months were allocated to the Socio-Economist to facilitate the above mentioned impact survey. Referring to mission reports number one and two, this present report is the third mission of the Socio-Economist.

The first mission took place from 5 June to 1 July 1995 to prepare for the survey. Prior to the mission, a survey questionnaire had been drafted by the Socio-Economist. Preparations took place in cooperation with DLS, BRAC, a local Socio-Economist/Gender Specialist, a representative from BLRI, identified by DLS to undertake the survey, and other TA members present in Bangladesh during the mission. Preparations included development of the questionnaire and the framework for the survey namely, identification of survey locations, beneficiary coverage, number, gender and qualifications of Investigators, writing of training materials for training of Investigators, survey logistics, timing of and budget for survey, testing of revised questionnaire followed by adjustments as well as subsequent translation of the questionnaire into Bangla by the local Socio-Economist, drafting of Scope of Work for BLRI and Terms of Reference for local Socio-Economist.

Second mission took place from 18 September to 3 October 1995 to follow up on survey preparations and to assist in the commencement of the survey in collaboration with Principal Investigator, Liaison officer, DLS, local Socio-Economist/Gender Specialist and representatives of BRAC. Preparations included planning of training programme for Investigators, training of the Investigators and with participation of Co-Investigators, representatives of BRAC and the TA team, planning of field supervision by local Socio-Economist and Liaison Officer as well as tabulation of data and reporting of the survey. By the time of departure of the Socio-Economist, the Investigators were being posted at the survey locations for the

interview phase of the survey.

In the period in between second and third mission of the Socio-Economist, interviews at the survey locations have been completed during the month of October and tabulation of data has taken place at BLRI during November - December 1995. A first draft of the impact survey report was finalised in the first half of January 1996.

Present mission

The present mission, which is the third and final mission of the Socio-Economist for facilitation of a impact survey of SLDP, has taken place from 15 January to 1 February 1996.

The mission has concentrated on discussions of the draft report, drafted by the Principal Investigator, with concerned parties, changes, corrections and amendments of the report as well as facilitation and submission of the draft impact survey report to parties involved in the SLDP. The main body of the draft impact survey report is presented in annex 1.

Distribution of days spend on missions for the socio-economic impact survey is shown in the table below:

Mission	No of days spend
1 mission	25
2 mission	16
3 mission	19
Total no of days spend	60

FINDINGS

Summary of survey findings

1. *The project beneficiaries are all women who were among the poorest part of the primary target groups by the time of being affiliated to SLDP. 23.5% of the beneficiaries are head of households.*

Referring to the Project Document, all project beneficiaries were identified within category (a) of hard core poverty landless households (defined as having income sufficient to meet 80% of the per capita caloric requirements or having an annual income of less than Tk 3,750/US\$ 105, operating less than 0.5 acres of land and dependent on sale of manual labour as the main source of their income) and representing 22% of the population.

2. *The project has made positive impact on income generation for all groups of beneficiaries. SLDP related income constitutes on average 23% of total household income. This income from project activities has facilitated that 28% of the beneficiary households now are above the poverty line.*

99.9% of the surveyed beneficiaries report improved economic conditions. Average monthly net income¹ and average monthly cash income² from SLDP activities is distributed as follows:

	Average monthly net income		Average monthly cash income	
Mini Hatcherers	TK	1047	TK	1143
Chick Rearers	TK	761	TK	845
Feed Sellers	TK	757	TK	900
Model Rearers	TK	500	TK	571
Key Rearers	TK	394	TK	432
Poultry Workers	TK	265	TK	279

The income level of the different beneficiary types corresponds to the percentage of households below the poverty line, where the largest percentages of households below the poverty line is found among Key Rearers, Poultry Workers and Model Rearers. None of the interviewed beneficiaries have reported problems to repay loans

¹ When calculating beneficiaries expenses, family labour, which is the only labour involved in SLDP activities, has been priced equivalent to the sale of manual labour on a daily basis, which at the time of the field survey (Oct. 1995) was Tk. 12 - 15/day in the survey locations. Net income does therefore not include the price of labour.

² Cash income reflects the actual cash income, where cost of labour has not been deducted.

corresponding to the fact that no loans have been reported overdue or have been written off.

In addition, average compulsory group savings per beneficiary is TK 413 and average personal savings per beneficiary is TK 768. Although very marginal, all beneficiaries, except Mini Hatcherers, have increased their ownership of cultivable land. Further, beneficiaries' asset bases with regard to houses, radios, bicycles, sewing machines and rickshaws have increased. Only the number of weaving loams have decreased.

3. *The project has enabled increased intake of animal protein. The average increase in egg consumption per household has increased from 2 to 5 eggs per week, the average number of chicken consumed per household has increased from 2 to 5 per year, meals with fish consumed has on average increased from 10 to 12 per month, meals with meat has increased from 1 to 2 times per month, and litres of milk consumed increased from 0.8 to 2.5 per month.*

The findings on egg consumption correspond with data from BRAC's monitoring³ of egg consumption in SLDP locations other than those included in the impact survey.

The intake of vegetables has remained on average 12 times per week and the consumption of grain (rice) increased from an average of 12 kg to 14 kg per week. Corresponding to income level of the different types of beneficiaries, shortage of food during part of the year is most widespread among beneficiary types reporting the lowest income, although all beneficiary types report shortage of food at times⁴.

In relation to nutrition and the economic situation of the beneficiary households, it has been found that the single most widespread disease for beneficiary household members is typhoid fever (15%) followed by dysentery (5%).

4. *The project has enhanced the productivity of small stock by increasing the average number of chicken reared by 270%, of which 47% is improved type. The average number of goats reared has increased by 30%. The mortality rate of the chicken reared is remarkable low with a monthly average of 2%⁵. Highest mortality rate of 9% is found at the chicken rearing units.*

³ BRAC Monitoring Reports March/April to September/October 1994: Monthly Egg Consumption.

⁴ According to findings in a pilot survey, beneficiaries experience shortage of food at times due to natural calamities, where no food was available in the areas. Food shortage can not exclusively be ascribed to low income. Hanne Nielsen, Smallholder Livestock Development Project, Bangladesh, Mission Report I.

⁵ This finding correspond with findings in the breeding experiment. Hans Askov Jensen, 1996.

The number of sheep has remained marginal, whereas the number of ducks has decreased during the present project period.

In addition to small stock, the number of cattle reared by beneficiary households has increased from 239 to 571. Assuming that the surveyed beneficiaries represent a typical income and investment pattern, the number of cattle reared by beneficiary households participating in the project will, when the targeted number of beneficiaries have been reached, have increased to approximately 150,000.

5. *Beneficiaries have gained more influence on decision making regarding schooling of children.*

Beneficiaries were already before affiliation to the project the prime decision makers regarding schooling of children, but have during the course of the project gained more influence on decision making about schooling.

6. *The percentage of school age boys going to school has decreased from an average of 58% to an average of 56%, whereas the percentage of school age girls going to school has increased from 42% to 44%.*

This indicates that with higher income and influence of women beneficiaries, priority is given to schooling of children in general and girls in particular.

7. *Beneficiaries have gained more influence in deciding the use of income.*

With increase in income, beneficiary participation in the household's use of income has increased from 21% to 38%. On average, less than 2% of male household members participate in deciding use of SLDP income. With SLDP income, joint decision making has increased from 54% to 60% of the households.

Expenditure on food has on average increased from Tk. 11,307/year to Tk. 14,919/-year (32%), whereas the percentage spend on food has decreased from an average of 79% to an average of 67% of total household income. The amount of money spend on all other measured items (clothing, animals, schooling, medicare, marriage gift/dowry, housing and savings) has also increased.

8. *No change can be registered in beneficiaries status in the village societies.*

Still, no beneficiaries participate in village organisations (other than SLDP Village Organisations), social clubs, etc.

9. *No clear trend can be observed concerning beneficiaries preference of female or male field workers.*

When interviewed by female Interviewers, beneficiaries tend to express preference for female field workers. When interviewed by male Interviewers, beneficiaries tend to

express that contact with male field workers is acceptable and regarded as strictly for poultry and business advise.

10. *Village Organisations are mainly regarded by beneficiaries as a forum for loan transactions, savings and poultry business.*

Few beneficiaries refer to supporting activities of the Village Organisations, like issue based meetings and awareness education.

11. *All interviewed beneficiaries are interested in continued membership of BRAC.*

Particularly Model Rearers, Key Rearers and Mini Hatcherers state that the reason for continued membership is that poultry rearing is profitable. As a suggestion to changes in future similar projects in other parts of Bangladesh, the majority of Key and Model Rearers suggest larger loans.

12. *According to beneficiaries, the major problems experienced in the SLDP is that loan amounts are regarded as too small and that fowl cholera vaccine is not supplied in time.*

36% of the beneficiaries desire larger loans and 15% of the beneficiaries state the supply of fowl cholera vaccine not to be in time as their biggest problem. Only few beneficiaries mention problems with poultry diseases and supply of eggs and chicken or with feed.

COMMENTS ON SURVEY RESULTS

Contribution of SLDP related income to the total household income has within the project time span of 1½ years elevated a total of 280 households, equal to 28% of the surveyed beneficiary households, above the poverty line. If this tendency continues and is valid for the project beneficiaries as a whole, it means that at least 72,800 beneficiary households by mid-1996 will be above the poverty line.

When comparing the findings that the contribution of SLDP related income to total household income is 23% with Todd's findings⁶ that Grameen Bank women borrowers after a decade of membership on average contribute 54% of the total household income, the SLDP related income can be expected to increase.

As it can be observed from our survey findings, beneficiaries have already after a membership

⁶ Todd, Helen: Women at the Centre, Grameen Bank Women Ten Years On, a Cashpor Pre-Publication, Malaysia. Study on Grameen Bank impact over a decade on 40 women borrowers. The study is not dated, but the empirical survey is conducted in the beginning of the 1990s

period of maximum 1½ years invested savings from SLDP activities in both land, although marginal, and other productive assets that will yield further income later. Therefore, the share of SLDP related income of total household income is expected to increase over time.

According to Todd's study on investment patterns of poor rural women in Bangladesh⁷, for most loaners the progression has been from paddy husking and poultry, sharecropping and cows, to leasehold - while some portion of the loan continued to be put into building up the homestead assets in poultry and livestock as well as stocking paddy, both for consumption and resale. It is interesting to note that poultry and livestock are among the most attractive assets to invest in during early loan cycles, despite the fact that most of the Grameen Bank loans were issued for paddy husking only. Further, the study has found that the first loan cycles gave the women basic food security. This latter finding corresponds to findings in the present impact survey, where food consumption increased considerably.

The second most common problem experienced by beneficiaries is irregular supply of fowl cholera vaccines. Fowl cholera vaccines are produced both in Dhaka and in Comilla. According to the Avian Pathologist member of the TA Team, the vaccine is not produced taking seasonality into account. Fowl cholera mainly strikes when the weather changes from dry to rainy and from rainy to dry seasons. With improved planning of production, timely supply of the vaccine is not a problem. The Avian Pathologist has during previous missions discussed rectification of supply of cholera vaccines with the relevant authorities in the Department of Livestock Services.

The survey has highlighted that the average number of chicks reared per batch by Chick Rearers is 272, not 250 as prescribed in the concept developed by DLS and BRAC. Follow up on reasons for the deviation should take place in order to be able to adjust the number of DOCs per batch supplied to Chick Rearers.

Todd⁸ finds in her survey on Grameen Bank impact on its members that the members participate in group meetings to keep open a regular line of reasonable priced credit and to keep their eligibility for loans. This corresponds with our survey findings that indicate a prime interest in Village Organisations centred on loan transactions, savings and poultry business - not the supporting activities like issue based meetings and awareness raising discussions. Without access to loans facilitated via SLDP, the most obvious alternative source of loans would be private money lenders offering expensive loans. Todd argues further that without credit from the Grameen Bank, members would drop out.

Average size of SLDP beneficiary households is 4.45, indicating widespread use of contraceptives. A study⁹ in credit programmes, women's empowerment and contraceptive

⁷ Todd. Ibid.

⁸ Todd. Ibid.

⁹ Schuler, Sidney Ruth and Syed M. Hashemi (1994): "Credit Programs, Women's Empowerment and Contraceptive Use in Rural Bangladesh", Studies

use links use of contraceptives strongly with empowerment and finds little difference between Grameen Bank and BRAC members in use of contraceptives.

Schuler and Hashemi¹⁰ have, further, found a "trickle-out" effect from the presence of the Grameen Bank in villages compared with villages without its presence. Also non-Grameen Bank members are more mobile, use of contraceptives is higher, more active income earners and slightly more involved in major family decisions than are inhabitants in villages with no Grameen Bank Presence.

Marriage gifts/dowry is considered a serious economic problem by many families with daughter(s). BRAC members, and Grameen Bank members as well, are not to practise marriage gifts/dowry. Nevertheless, use of marriage gifts/dowry has increased with income from SLDP activities for most types of beneficiaries. Findings in a survey¹¹ on Grameen Bank support this tendency. The survey found the practise of dowry almost universal in the surveyed villages with payment increasing, despite a consensus among Grameen Bank members that dowry is a curse.

in *Family Planning*, Volume 25, No 2, March-April

¹⁰ Schuler and Hashemi. Ibid.

¹¹ Todd. Op. cit.

Socio-Economic Impact of
Smallholder Livestock Development Project
Bangladesh

By

Jahangir Alam
Bangladesh Livestock Research Institute

January 1996

CONTENTS

Introduction

- Background
- Importance of the livestock sub-sector
- Significance of poultry
- Target beneficiaries
- Type of beneficiaries
- Socio-economic survey

Methodology

- Selection of study area
- Sampling procedure
- Preparation of questionnaire
- Collection and reliability of data
- Data analysis and reporting

Results and discussion

- Characteristics of beneficiary farms
- Poultry and breed
- Credit
- Income generation
- Savings
- Economic condition
- Consumption
- Investment
- Utilization of income
- Poverty
- Decision making
- Membership of BRAC

Summary and conclusion

References

Acknowledgement

Tables

Appendices

Appendix A: Tables

Appendix B: Study Team

Appendix C: Abbreviations

INTRODUCTION

Background

The Smallholder Livestock Development Project (SLDP) was started in July 1993 by the Department of Livestock Services (DLS) in collaboration with three national NGOs namely the Bangladesh Rural Advancement Committee (BRAC), Proshika and Swanirvar Bangladesh. The project now covers a total of 80 thanas in 16 districts.

The project was originally designed to cover a range of economic activities in the context of small scale livestock development. So far, the project has concentrated mainly on activities related to poultry development. The project is supported by an IFAD loan of SDR 7,650,000 and a Danida grant of DKK 25.5 million and is assisted by a technical assistance (TA) team.

The project is based on a structured concept developed by DLS and BRAC. The approach followed by the project is given below:

- (1) A technical package comprising interrelated activities involving beneficiaries as Poultry Workers, Chick Rearers, Key Rearers, Model Rearers, Feed Sellers and Mini Hatchers. Monitoring and support is provided by the DLS in co-operation with BRAC, Proshika and Swanirvar Bangladesh
- (2) A socio-economic support is given by NGOs which includes selection of target beneficiaries, establishment of village organisations (VOs), conducting awareness education, issue based meetings, saving schemes, technical training for poultry rearing and credit programmes.

The development objectives of the project are increased per capita income and increased animal protein consumption among rural poor in Bangladesh.

Importance of the livestock sub-sector

Livestock, next to crops, is the most important sub-sector of agriculture in Bangladesh. The contribution of the livestock sub-sector to the nations agricultural gross domestic product is about 11 per cent. This sub-sector accounts for more than 18 per cent of the agricultural export earnings and employs about 20 per cent of the total labour force. This sub-sector supplies animal protein through milk, meat and eggs for human consumption, draft power for ploughing and dung for utilization as manure. The annual growth rate of the livestock sub-sector in 1994 - 95 was 9.5 per cent which was one of the highest in the economy.

Livestock rearing can be regarded as the most important activity of the small/poor farmers for creation of employment and generation of income.

Significance of poultry

Poultry rearing is an integral part of agri-business of the farming community. The villagers, who cannot afford to rear cattle or goats, can easily maintain a small number of poultry. About 89 per cent of rural livestock households rear poultry and the average number per household is 6.8. It is an important source of cash income for the poor rural families, particularly for women.

The number of chicken in the country is estimated to be about 90 million, which grew at an annual rate of 6.49 per cent over 1990 - 94. The share of poultry in the animal protein of human diet increased from 14 per cent in 1977 to 23 per cent in 1987 and is further estimated to 30 per cent in 1995.

Poultry production in Bangladesh is dominated by local chicken. Most birds are kept in small flocks under a scavenging system with feed generally available from household waste, homestead pickings, and crop residues. Productivity of the local hens is low and losses due to disease and predators are high.

The number of commercial poultry enterprises is 47,168. There are around 20 private hatcheries in the country, 12 of them have been operating for the last 3 - 4 years. In addition GOB runs 6 hatcheries in different parts of the country.

The ownership of backyard poultry is almost entirely in the hands of women. A review of the pilot scheme, forming the basis of the project, indicated that women coming forward for poultry development were among the most destitute of the country. A survey showed that 66% of them reporting annual income of Tk. 1,040 (US\$ 29) or less. In addition, their health was poor and they had poor balanced diets and had energy and protein deficiencies, which are commensurate with chronic poverty.

Target beneficiaries

The project document defines the primary target beneficiaries of poultry development as follows:

- (a) The hard core poor landless farmers (defined as having income sufficient to meet 80% of the per capita caloric requirement or having an annual income of less than Tk. 3,750 (US\$ 105) operating less than 0.5 acres of land and dependent on sale of manual labour as the main source of income are representing 22% of the population.
- (b) The absolutely poor marginal farmers (defined as having sufficient income to meet 90% of food requirements or Tk. 4,750 (US\$ 133) with 0.5 to 1.5 acres of land are representing 51% of the population.

Types of beneficiaries

Each of the project beneficiaries belongs to one of the following categories:

Poultry Worker	Poultry Workers are vaccinators, one in each village, who are given some vaccine free of charge by the DLS and buy other medicines. Poultry Workers vaccinate and are paid in cash or kind by villagers for the vaccination and supply of medicines.
Key Rearer	Buys 13 HYV chickens from the Chick Rearers and raise them for egg and meat production together with chickens of the local breed (desi).
Chick Rearer	Buys some 250 HYV DOCs from government hatcheries or from Mini Hatcherers and raise the chicks in confinement. These chicks are sold at the age of 8 weeks (the duration to raise a batch) to Key Rearers.
Model Rearer	Model Rearers produce fertilized eggs of improved breeds for sale to Mini Hatcherers. They keep about 25 hens in confinement.
Mini Hatcherer	Buys fertilized eggs from the Model Rearers and produce DOCs for sale to Chick Rearers.
Feed Seller	Feed Sellers collect and purchase chicken feed, mix and sell to the different types of rearers.

The socio-economic survey

A mid-term review of the SLDP was carried out in November - December 1994. The review team recommended generation of field data through a structured/semi structured questionnaire.

Consequently, a socio-economic survey was planned by TA team in cooperation with DLS and with academic support from the Socio-economic Research Division of the Bangladesh Livestock Research Institute.

The survey was conducted in September-October 1995 with the broad objective of documenting the impact of SLDP activities on the socio-economic condition of the beneficiaries. The specific objectives of the survey was to assess the impact of SLDP on the following aspects:

- * Poultry population;
- * Adoption of high yielding breeds;
- * Consumption pattern of households, particularly animal protein;
- * Beneficiary savings and household investment;
- * Level of income and poverty; and

- Gender relations and status of women in the family and in the society.

The results of the survey embodied in this report may provide input for an end of project evaluation and give guidance to those who wish to undertake similar projects in future.

METHODOLOGY

Selection of study area

The most important part of a socio-economic survey is the selection of an appropriate study area. This is usually done by value judgement bearing in mind the purpose of the study. For this purpose, 4 districts namely, Natore, Kishoreganj, Choudhury and Rajshahi were selected. From each district, one thana was selected for collection of data on SLDP beneficiaries. The selected thanas are Natore sadar, Mirpur, Akhandanga and Charchat. The activities of the project are being implemented in these thanas by BRAC only.

It was mentioned earlier that three NGOs namely, BRAC, Proshika and Swasth Bangladesh are involved in implementation of the project in rural areas of Bangladesh. BRAC started its operation in August 1993 while Proshika and Swasth Bangladesh started operation in March 1995. BRAC has so far covered 66 thanas while Proshika and Swasth have covered 10 and 4 thanas, respectively. This survey covered those thanas where BRAC started implementation of SLDP activities at the earliest phase of the project.

Sampling procedure

A number of villages from each thana covered by SLDP activities was selected for collection of data from beneficiaries. The selection of sample beneficiaries was made on a random basis. A total of 1000 beneficiaries, taking 250 from each thana, was interviewed. In case all the required samples were not available in one thana, the investigators had to select the missing sample from a neighbouring thana where the project activities started at the earliest phase.

The distribution of sample beneficiaries is shown in a table given below. The number of samples in each beneficiary group was more or less proportional to the total number of beneficiaries in each group.

Name of beneficiary	Total no of beneficiaries	Total no of beneficiaries in the study areas by Nov. 1995	Total no of beneficiaries in survey sample
Poultry Workers	16,000	415	100
Key Rearers	240,000	12,150	752
Chick Rearers	2,400	139	60
Model Rearers	1,600	95	40
Mini Hatcherers	40	15	8
Feed Sellers	800	73	40

Preparation of questionnaire

A structured questionnaire was used for recording of data from the respondents. The questionnaire was prepared in conformity with the objectives of the study. The questionnaire was pretested and necessary modifications, additions and alterations were made before the final questionnaire was developed.

Collection and reliability of data

For this study, data was collected in October 1995. The direct interview method was followed for collection of data. A total of 12 Investigators, 8 men and 4 women, collected data from the beneficiaries. Among the Investigators, 9 were quite experienced having a post graduation degree in agricultural economics and 3 were graduates. They were divided into four groups. Each group consisting of two men and one woman responsible for collection of data from one thana in 21 days.

Before the survey, the Investigators received a two day training on the purpose of the survey, interview technique and on the questionnaire. The training programme was organised by the Socio-economic Research Division of BLRI on 25 - 26 September 1995. A guideline on the survey explaining the different parts of the questionnaire was prepared and distributed to Investigators during the training.

In course of data collection, the Investigators were closely supervised in the field by the author, 4 Co-Investigators and one Socio-Economist/WID Specialist, who themselves stayed in the field with the team and participated in questioning and discussion. After collection of data, each of the questionnaires was thoroughly checked, and errors and omissions were corrected by re-interviewing the farmers where necessary.

The sample beneficiaries were interviewed by appointment. They were approached through local staff members of BRAC who were directly involved in the project. All respondents

cooperated with the Investigators and disclosed facts clearly.

For previous information on the socio-economic status of beneficiaries before their membership of SLDP, the information recorded in the baseline surveys available with the local area offices was used. Whenever any confusion arose, the Area Manager and the beneficiary were approached separately for the purpose of verification.

Data so generated can be treated as reliable and dependable.

Data analysis and reporting

After collection of data, six Tabulators were appointed from the Investigators for tabulation and compilation of data. Their work was closely supervised and supplemented by 4 Co-investigators. The compilation work continued till the last day of December 1995. The author provided guidance for tabulation and compilation of data and prepared the final tables. A draft report was written by the author in early January, 1996 and was circulated to related persons for comments. After necessary modifications, the report was finalized in late January 1996 and was submitted to the appropriate authority for guidance.

RESULTS AND DISCUSSION

Characteristics of beneficiary farms

There were 752 Key Rearers, 60 Chick Rearers, 40 Model Rearers, 100 Poultry Workers, 40 Feed Sellers and 8 Mini Hatcherers under investigation in 1995. The total number of households surveyed was 1000. The proportion of male headed households was 76.50% while the proportion of female headed households was 23.50%. All female headed households were represented by married women, but they were either separated from, divorced or abandoned by their husbands. In some cases, their husbands died leaving behind the burden of children and other family members on them. The religion of members was overwhelmingly Islam (98.3%). Only 1.7% members had their faith in Hinduism (Table 1).

The average family size of the beneficiary households was 4.45, which indicates use of family planning measures to keep the family size small. Children below 15 years of age contributed 45.88% of family members and the rest belonged to labour active age group above 15 years old. The proportion of male members was 27.69%, while the proportion of female members was 26.34% within the labour active age group.

The membership of SLDP, as administered by BRAC, is restricted to a person whose family owns less than 0.5 acres of cultivated land and sells out labour at least for 100 days in a year for survival. All beneficiaries covered by this survey reported to have fulfilled this eligibility criterion. The average size of farm of the beneficiary households was 0.11 acres indicating that they belong to the hard core poor families of the rural community.

Poultry and breed

The number of poultry reared per farm in 1995 was 17.13 for Key Rearers, 11.08 for Chick Rearers, 31.82 for Model Rearers, 10.12 for Poultry Workers, 9.77 for Feed Sellers and 10.75 for Mini Hatcherers. The average number of poultry reared per farm was 16.31 which was much higher than the national average¹. This indicates that the SLDP has made positive impact in increasing the poultry population of the country.

As per project document, the Key Rearers and the Model Rearers are supposed to rear adult chicken, and Chick Rearers are supposed to rear chicks. Other categories of beneficiaries are not entitled to get loans for rearing chicken. Our observations suggest that all categories of beneficiaries reared chicken although they received credit for their respective enterprise only. Many Poultry Workers were reported to have been rearing chicken as Key Rearers but this survey has considered those only as Poultry Workers.

A Chick Rearer produced 4.33 batches of chicks in 1995. The number of chicks per batch was

¹ The 1988-89 Survey on livestock and Poultry shows that the number was 6 per household in rural areas of Bangladesh (Alam, 1995).

272.17. In addition, she reared 11.08 adult chicken for meat and egg purposes. Also the Feed Sellers and Mini Hatcherers reared a good number of adult chicken for meat and egg purposes.

All birds reared by different categories of beneficiary households were classified by type of breed. It was observed that 47.4% of all birds were improved type while 52.6% were local. The percentage of improved breed was higher for Model Rearers (79.18%), followed by Mini Hatcherers (56.98%), Chick Rearers (49.32%), Key Rearers (44.84%), Feed Sellers (42.7) and Poultry Workers (39.72%). In the case of Chick Rearers, all chicks were identified as improved type. Considering the national average figure of improved breed chicken at around 5%, one can safely conclude that the SLDP has contributed substantially to breed improvement in rural areas.

The distribution of chicken by sex shows that 65.61% were female birds and 43.39% were males. The farms under investigation were mainly layer farms and they reared a higher number of female birds for egg and meat.

For Key Rearers, the average weekly production of eggs was 38. Key Rearers main source of replacement stock was from Chick Rearers closely followed by replacement from own stock.

Model Rearers on average produced 113 eggs per week of which 12% was table eggs and 88% was hatching eggs. At the time of the survey Model Rearers sold eggs at a price of Tk. 2.5 per table egg and a price of Tk. 3 per hatching egg.

A part of the objective of the SLDP is to enhance the productivity of small stock, of which one element is to reduce the mortality rate of chicken in rural areas. To achieve that objective, the programme has ensured adequate supply of vaccines for chicken. Moreover, the Poultry Workers buy medicines locally to meet the demand of beneficiaries. Arrangements were made for giving proper training to Poultry Workers and other beneficiaries. This has reduced the mortality of chicken in the study areas. One can notice from Table 2 that the mortality rate of adult chicken was less than 3 per cent for each category of farms. The mortality of adult chicken was even less than 1 per cent in the case of Poultry Workers who had the necessary vaccines and skills to save their chicken from diseases. When the mortality rate of chicken is over 15%, even in Government farms², one can conclude that the SLDP has made significant positive impact on the mortality rate (2.38%) of chicken³.

In the case of Chick Rearers only, the mortality rate was relatively high (9.13%). It is a common experience that the mortality rate of chicks is much higher than that of adult chicken.

Credit

² The mortality rate of chicken is estimated to be 25 to 60 per cent in the case of chicken reared traditionally in rural areas (Nakamura, 1990).

³ It may be mentioned that the study area was flood and cyclone free.

SLDP has made provision for granting loans to group members for individual enterprises which is repaid by the beneficiaries through weekly instalments. Table 3 shows that the average amount of loans taken and the amount repaid by the beneficiaries after they became members of SLDP. It can be noticed that the average amount received by each beneficiary was Taka 1002.7 and the amount repaid was Taka 997.59. Nobody reported to have missed payment of any weekly instalment and there was no overdue loans in their accounts. When asked whether they faced any problems to repay the loan, all respondents replied in negative.

The amount of loan received by different beneficiaries varied due to the type of enterprise. For example, the Key Rearers received the lowest amount of loan (Tk. 1002.66), while the Mini Hatcherers received the highest amount (Tk. 5750.00). The repayment of loan depended on the maturity of repayment schedule which varied from 75 to 100 weeks after they received the loan. The amount repaid each week included the principal and the interest and varied with the variation in loan amount.

All the loanees were found to be serious in maintaining the regularity of weekly instalments and keeping their loan pass books updated. No default was found during the study period. Unless the loans were highly productive in generating additional income, such a repayment behaviour would not have been expected from those operating under serious limitation in asset base.

Income generation

The repayment behaviour of group members suggests that the loans were properly used and that investment in SLDP activities was profitable. An attempt was made to analyse the profitability of SLDP activities in 1995. The results are summarised in Table 4. It can be noticed that the average net income per household from SLDP activities was Taka 426.77 per month. The amount of income was highest Taka 1046.58 for Mini Hatcherers followed by Taka 757.28 for Feed Sellers, Taka 761.03 for Chick Rearers, Taka 500.09 for Model Rearers, Taka 393.59 for Key Rearers and Taka 264.60 for Poultry Workers. The average monthly benefit/cost ratio was 1.5:1 for all farms. The benefit/cost ratio was highest, 3.86:1 for Key Rearers and the lowest 1.06:1 for Feed Sellers.

The Key Rearers kept chicken under a semi-scavenging system and depended less on purchased inputs. So, they incurred less cost to earn the income. The Feed Sellers had to depend entirely on purchased inputs and had to sell out the prepared feed with low margin. However, their monthly size of business was large and so they generated much higher income per month compared to other type of beneficiaries.

The distribution of SLDP income and expenditure per farm for each type of beneficiary is shown in Table A-1, A-2, A-3, A-4, A-5 and A-6. It can be noticed that the feed cost followed

by the labour cost⁴ represent the major items of expenditure for Key Rearers, Model Rearers and Feed Sellers, while feed cost followed by cost of day old chicks were the major items of expenditure for Chick Rearers. In the case of Mini Hatcherers, the cost of eggs was the major item of expenditure followed by cost of labour. The Poultry Workers had to spend more on medicine followed by labour and transportation.

The major source of income for both Key and Model Rearers was sale of eggs. The Mini Hatcherers, on the other hand, generated the lions share of income from the sale of DOCs to SLDP members. The Poultry Workers' source of income originates from vaccination fees (Tk. 0.25 per vaccination of chicks and Tk. 0.50 per vaccination of adult chicken) and from sale of medicines⁵. The Chick Rearers generated most of their income from sale of chicken to Key Rearers and the Feed Sellers from sale of feed to SLDP members.

Due to benefits derived from SLDP activities, weekly income of beneficiary households has significantly increased. One can notice from Table 5 that the average weekly income of beneficiaries has increased by 60 per cent after the intervention of the SLDP in the study areas. Although there was an increase in income from other sources due to an improvement in economic activities of people in general, a substantial part of the incremental income of beneficiaries came from their participation in SLDP. It may be mentioned that the contribution of SLDP to total household income was 23.22 per cent for all beneficiaries which varied from 17.10 per cent for Poultry Workers to 45.80 per cent for Mini Hatcherers during the reference period in the study areas.

Savings

The SLDP has made it mandatory for its group members to save per week. With the increase in income, the beneficiary households made substantial progress in savings. Each beneficiary paid at least Taka 5.00 per week towards the group savings funds. The total saving per household was Taka 1181.58 which was made by Taka 413.16 from group savings and Taka 768.42 from own savings (Table 6). Those who had the opportunity to earn more have accumulated more savings.

As the income increased, the beneficiary households faced no problem to repay the loan. Moreover, they were able to save and form capital for investment. The evidence is confirmed by the fact that no loan was fallen overdue in their accounts.

Economic condition

⁴ All were female family labour engaged in poultry rearing. The cost of labour per day (eight hours) was calculated on the basis of opportunity cost. The cost varied from Taka 15 - 20 per day in the study areas.

⁵ Other than SLDP members, the neighbouring non-members were also benefitted from vaccines and medicines supplied by Poultry Workers.

The responding beneficiaries were approached to give their opinion on their economic condition after the SLDP intervened there. The perception of respondents about their own economic situation is enumerated in Table 7. It can be noticed that 99.9 per cent of group members have reported an improvement in economic condition after the intervention of the SLDP. Only one respondent reported to have experienced a deterioration in the household's economic condition due to sudden death of her husband.

The evidence confirms that the SLDP has made positive contribution to improve the economic condition of group members in the study areas.

Consumption

As the economic condition of the beneficiary households improved, one would expect that the intake of food items by household members has increased after the intervention of SLDP. The proposition was thoroughly investigated and analysed. The results are summarised in Table 8. Particularly the consumption of animal protein from eggs, chicken and meat has increased.

It appears that the consumption of all food items increased after membership. The increase in consumption was substantial in the case of eggs, chicken, milk, meat and grains. With regard to consumption of eggs within the households, children, and especially boys, were given priority. However, the consumption of vegetables did not substantially increase. It seemed that the income elasticity of demand for vegetables was low for the low income groups in the study areas.

Investment

As income increased, the beneficiaries invested a part of their income in productive assets. Land is the most important asset in rural areas on which most beneficiaries invested. The average size of land area owned by a beneficiary household was 0.10 acres before membership. This area increased to 0.11 acres after membership (Table 9). All beneficiary groups reported to have gained, excepting Mini Hatcherers who remained static, in land transaction.

Apart from investment in land, the beneficiaries invested part of their increased income in livestock. Table 10 shows that the number of chicken, goat, sheep and cattle possessed by a beneficiary household has increased after membership. The increase in chicken population per household was noticeable. However, the number of ducks per household has declined.

The number of houses and moveable assets owned by each type of beneficiary household before and after SLDP membership was examined. Results presented in Table 11 show that the number of all assets, excepting weaving loams, increased. Few members have reported that they disposed of their weaving loams for more investment in poultry.

As income increased, the beneficiary households made more investment in human capital. As a result, the schooling rate of children increased after membership (Table 12). Particularly,

the proportion of girl students in school increased.

Utilization of income

The use of income of beneficiary households before and after membership was investigated and analysed. Results presented in Table A-7 show that the expenditure on food, clothing, housing, medicare, animals and on marriage gift/dowry significantly increased after membership. Also, per household savings increased substantially during the reference period. Total expenditure and savings per household increased from Taka 14271.52 before membership to Taka 22394.36 after membership in the study areas. There has been a 57 per cent increase in household expenditure and savings after membership which is almost proportional to the increase in income of beneficiaries.

Poverty

The incidence of poverty within the beneficiary households was estimated. The results are presented in Table 13. It can be noticed that the proportion of households living below the poverty line⁶ was 52 per cent. The magnitude of poverty varied from 37 per cent to 54.26 per cent among different types of beneficiaries.

The incidence of poverty was higher for Mini Hatcherers than for Chick Rearers although the level of income was higher for the former than for the latter. This was due to more uneven distribution of income among Mini Hatcherers⁷.

The per capita income of beneficiary households, excluding the SLDP income, was estimated. From that income, a measurement of poverty was made (Table 13). It was observed that 80 per cent of the surveyed households remained below the poverty line. This indicates that the SLDP has made significant impact on the magnitude of poverty of the poorest section of rural

⁶ The poverty level income of rural people has been estimated to be an annual per capita income of Taka 5000 in 1995 prices. The project document of SLDP (Danida, 1993) assumed an annual per capita income of Taka 4750 as poverty line which was sufficient to meet 90% of food requirements in 1993. This becomes around Taka 5000 in 1995 after making an allowance of 5 per cent to cover the rate of inflation. The Bangladesh Institute of Development Studies (Rahman and Hossain, 1995) estimated Taka 4790 as poverty line in 1989-90 prices (assuming a daily intake of 2112 k. cal. per person), which becomes Taka 6309.39 in 1994-95 prices after inflating the figure by 31.72 per cent to cover an increase in the cost of living index of rural people. Taking this estimate into consideration, the proportion of beneficiary households living below the poverty line was 74 per cent (86 per cent based on non-SLDP income) (Table A-8).

⁷ For further explanation, see Alam (1993, 1988).

community.

The respondents were asked to say whether they had food shortage during the reference year. Their replies are summarised in Table 14. It can be observed that about 53 per cent of the beneficiary households faced the problem of food shortage during the reference year. Although the reply depends on one's standard of food intake, it has relevance with her level of income and poverty.

It can be noticed from Table 14 that the percentage of respondents reported to have food shortage is comparable with the percentage of people living in poverty (Table 13).

The study has indicated that with a very low level of investment on poultry, about 50 per cent of the very poor people have come out of poverty⁸. The incidence of poverty of the said group of people can further be reduced with higher level of investment on livestock and intensification of the SLDP.

Decision making

All the beneficiaries of the project are women. SLDP has ensured employment and income for them and thereby enhanced their status in the family. Their relationship with husbands has improved and their participation in decision making has increased.

Table 15 shows the magnitude of female participation in deciding the use of income. It can be noticed that their participation increased after they became members of SLDP. Similarly, their participation in deciding children to go to school has also increased (Table 16). The evidence suggests that the socio-economic status of women within the household has increased after the intervention made by SLDP in the study areas, whereas no change has yet been registered with regard to beneficiaries status in the village society.

Membership of BRAC

All beneficiaries were asked whether they were interested to continue membership of BRAC. All beneficiaries were in favour of continued membership. Most of the beneficiaries interested in continued affiliation expressed that poultry rearing was profitable and that they would be benefitted by membership even in future.

Further, beneficiaries were asked that if a similar project should start in another part of the country, what piece of advice they would recommend if any changes were to be made. Their replies are summarised in Table 17. It appears that most of the respondents suggested bigger amount of loan for making the size of their business larger. Few Poultry Workers suggested

⁸ UNDP (1995) shows that 50 per cent of all people in Bangladesh are living above the poverty line.

a regular salary from BRAC for Poultry Workers for their services in rural areas.

SUMMARY AND CONCLUSION

This study conducted in 4 districts of Bangladesh has evaluated the impact of interventions made by SLDP on socio-economic conditions of rural poor women. One thousand sample households from different types of beneficiary groups were interviewed. Results showed that the SLDP has made substantial positive impact on poultry population, adoption of HYVs, disease control and mortality, employment, income and poverty in rural areas.

The target group for the project are poor men and women. The membership has consisted only of poor and disadvantaged women as defined in their eligibility criterion. The programme has pioneered a number of innovations related to poultry production and provided credit to group members for their adoption and income generation. This has ensured employment of poor women and generated income for them.

The number of poultry reared per farm was 16.31 which is much higher than the national average. The distribution of these birds shows that 65.61 per cent were female. About 47 per cent of all adult chicken are improved type. In the case of chicks, the proportion of HYVs was 100 per cent.

The mortality rate was less than 3 per cent for adult chicken and 9 per cent for chicks, which is much lower than the national average.

The average size of loan received per beneficiary was Taka 1,002.66 which varied from Taka 1,000 to Taka 10,000, depending on the type of beneficiary farm. The loan was repaid by weekly instalment. No default was found during the study period. The loans were properly used in productive activities and were profitable. Nobody reported to have faced any problem in repayment of loans.

The total net income per household was Taka 1845.67 and the average net income per household from SLDP activities was Taka 426.77 per month. The SLDP income was 23.12 per cent of total income of beneficiary households in the study areas. With the increase in income, the beneficiary households made substantial progress in savings originating mainly from SLDP activities. The total cumulative savings per beneficiary after membership was Taka 1181.58, which was made by Taka 413.16 from group savings and Taka 768.42 from own savings. At the same time, the consumption of all food items and investment in productive assets increased after membership of SLDP. Moreover, the proportion of households living below the poverty line declined to 52 per cent from 80 per cent, which can further be reduced with higher level of investment in livestock and intensification of SLDP in future.

SLDP has ensured empowerment of women in the study areas and increased their participation in decision making. The generation of income and employment from SLDP activities has enhanced the status of women in the family. Their relationship with their husbands have improved after they became member of SLDP.

Almost all beneficiaries reported that their economic condition has improved after their

participation in SLDP and 100 per cent of them wanted to continue as members of SLDP in future.

The contribution of SLDP to generate income and to reduce poverty of the rural poor is significant. Further extension of the programme in other areas of the country is desirable. It is also desirable to intensify the programme integrating goat and cattle enterprises with poultry. This will increase the level of income of beneficiaries and alleviate poverty.

REFERENCES

- Ahmed, Z. 1995. Monthly Progress Reports. TA team, SLDP, Dhaka.
- Alam, J. 1995. Livestock Resources in Bangladesh: Present Status and Future Potential. The University Press Limited, Dhaka.
- Alam, J. 1993. Growth and Target-oriented Programmes for Poverty Alleviation: An Analyses of Evidence and Suggestions for Future Actions. Farm Economy, Vol 9.
- Alam, J. 1988. Income Distribution in Rural Bangladesh: The Effect of Village Organization with Associated Improved Technology. Asian profile. Vol. 16. No. 40.
- BRAC. 1993. Baseline Records on Beneficiaries.
- Danida. 1995. Mid-Term Review Report: Smallholder Livestock Development Project in Bangladesh. Ministry of Foreign Affairs, Copenhagen, Denmark.
- Danida. 1993. Project Document on Smallholder Livestock Development Project in Bangladesh. Ministry of Foreign Affairs, Copenhagen, Denmark.
- Nakamura, R.M. 1990. A Livestock and Poultry Disease Control Programme for Bangladesh. Consultancy Report for ARP-11. Checchi/USAID/BARC, Dhaka.
- Rahman, H. Z. and Hossain, M. (eds.). 1995. Rethinking Rural Poverty: Bangladesh as a Case Study. Sage Publication, India.
- UNDP. 1995. Human Development Report 1994. University Press, New York

ACKNOWLEDGEMENT

The author is grateful to members of the study team (Appendix B) for their valuable assistance in this study. He is thankful to Dr. Nazir Ahamed, Director General and Dr. Jalil Amber, Deputy Director, DLS and Ms. Hanne Nielsen, Socio-Economist, TA team for providing comments on the draft report. He is also thankful to Mr. Hans Askov Jensen, Team Leader, and to Dr. Ziauddin Ahmed, Liaison Officer, TA team for monitoring the data collection and its compilation.

The author is particularly thankful to Dr. M.A. Saleque and Dr. Mizamur Rahman of BRAC and their colleges in the field for their support in data collection. He acknowledges his debt to all beneficiaries of the study areas, without whose willingness to provide information this study would not have been possible.

The author expresses his sincere appreciation to Danida for providing funds to carry out this study.

The views expressed in this survey report are those of the author and do not necessarily reflect the views of either GOB, Danida, DLS or BLRI.

Jahangir Alam

Table 1 : Personal information of beneficiary households under SLDP programme.

Beneficiary type	No. of household	Percentage of female headed household	Religion		Population				Farm size (acre) per household
			Islam (%)	Hindu (%)	Total (No.) in Household	Children below 15 years (%) per household	Household members over 15 years		
							Male (%)	Female (%)	
1. Key Rearer	752	19.28	98.14	1.86	4.46	45.69	28.03	26.01	0.11
2. Chick Rearer	60	55.00	100.00	0	4.90	47.62	27.55	24.83	0.14
3. Model Rearer	40	17.50	92.50	7.50	4.35	44.82	28.74	26.44	0.12
4. Poultry Worker	100	30.00	100.00	0	4.23	44.45	26.71	28.84	0.11
5. Feed Seller	40	45.00	100.00	0	4.02	44.72	25.47	29.81	0.09
6. Mini Hatcherer	08	25.00	100.00	0	4.75	44.74	21.05	34.21	0.15
All Households*	1000	23.50	98.30	1.70	4.45	45.88	27.69	26.43	0.11

* Indicates weighted average.

Table 2: Number of chicken reared by each beneficiary farm by type of breed and sex.

Beneficiary type	Total number of chicken	Type of breed		Type of sex		Mortality Rate (%)
		Local (%)	Improved (%)	Male (%)	Female (%)	
1. Key Rearer	17.13	55.16	44.84	35.96	64.04	2.72
2. Chick Rearer	11.08**	50.68	49.32	33.73	66.27	0.90 & 9.13*
3. Model Rearer	31.82	20.82	79.18	27.04	72.96	1.57
4. Poultry Worker	10.12	60.28	39.72	35.23	64.77	0.69
5. Feed Seller	9.77	57.29	42.71	31.03	68.97	1.27
6. Mini Hatcherer	10.75	43.02	56.98	25.75	74.25	1.16
All Farms	16.31	52.60	47.40	34.39	65.61	2.38

* Indicates mortality rate of chicks per batch.

** A chick rearer on average reares 272.17 chicks per batch, which is 100% improved type.

Table 3 : Amount of loan taken and the amount repayed by beneficiary type.

Beneficiary type	Range of loan per unit (Taka)	Average loan taken (Taka)	Average loan repaid (Taka)	Amount overdue (Taka)	Problems to repay loan	
					Yes (%)	No (%)
1. Key Rearer	1000-1200	1002.66	712.58	0	-	100
2. Chick Rearer	5000-7000	6500.00	4399.27	0	-	100
3. Model Rearer	3000-4000	3725.00	1428.50	0	-	100
4. Poultry Worker	-	-	-	0	-	-
5. Feed Seller	2000-6000	3900.00	3248.00	0	-	100
6. Mini Hatcherer	4000-6000	5750.00	1340.00	0	-	100
All beneficiaries	-	1003.60	997.59	0	-	100

Table 4 : Cost & return analysis of beneficiary farms for SLDP (Poultry) activities in 1995.

Beneficiary type	Average per household monthly gross income (Taka)	Average per household monthly total cost (Taka)	Average per household monthly net income (Taka)	Benefit / cost ratio
1. Key Rearer	531.23	137.64	393.59	3.86:1
2. Chick Rearer	3356.41	2595.38	761.03	1.29:1
3. Model Rearer	1456.16	956.07	500.09	1.52:1
4. Poultry Worker	433.92	169.32	264.60	2.56:1
5. Feed Seller	14028.70	13271.42	757.28	1.06:1
6. Mini Hatcherer	2791.59	1745.01	1046.58	1.60:1
All farms	1285.99	859.22	426.77	1.50:1

Table 5 : Average weekly income of beneficiaries before SLDP membership and at time of interview.

Beneficiary type	No. of household	Income before membership				Income at time of interview			
		Non-SLDP income	SLDP income	Total income	% of SLDP to total income	Non-SLDP income	SLDP income	Total income	% of SLDP to total income
1. Key Rearer	752	272.37	-	272.37	-	328.73	91.83	420.57	21.84
2. Chick Rearer	60	270.63	-	270.63	-	406.06	177.57	583.63	30.43
3. Model Rearer	40	274.73	-	274.73	-	322.18	116.69	438.87	26.59
4. Poultry Worker	100	240.57	-	240.57	-	320.78	66.15	386.93	17.10
5. Feed Seller	40	262.10	-	262.10	-	294.92	176.69	471.61	37.47
6. Mini Hatcherer	08	289.25	-	289.25	-	288.98	244.20	533.18	45.80
All beneficiaries	1000	268.91	-	268.91	-	330.64	100.02	430.66	23.22

Table 6 : Amount of money saved per beneficiary household in the study areas.

Beneficiary type	Group savings* per beneficiary (Taka)	Savings per beneficiary (Taka) at time of interview	Total savings (Taka)
1. Key Rearer	382.28	594.76	977.04
2. Chick Rearer	630.34	2328.33	2958.67
3. Model Rearer	484.65	756.12	1240.77
4. Poultry Worker	439.00	950.30	1389.30
5. Feed Seller	496.90	1089.70	1586.60
6. Mini Hatcher	587.50	1575.00	2162.50
All beneficiaries	413.16	768.42	1181.58

* Cumulative savings after membership.

Table 7 : Economic condition of beneficiaries at the time of interview compared with before membership.

Beneficiary type	Economic condition		
	Worsened (%)	Same (%)	Improved (%)
1. Key Rearer	-	-	100
2. Chick Rearer	-	-	100
3. Model Rearer	-	-	100
4. Poultry Worker	-	-	99
5. Feed Seller	-	-	100
6. Mini Hatcherer	-	-	100
All beneficiaries	0.10	-	99.90

Table 8 : Intake of food by beneficiary households before membership and at the time of interview.

Beneficiary type	Before Membership							At the time of interview						
	Eggs (No./week)	Chicken (No./year)	Fish (Times/ month)	Meat (Times/ month)	Milk (Liter/ month)	Vegetables (Time/ week)	Grain (Kg/week)	Eggs (No./ week)	Chicken (No./year)	Fish (Times/ month)	Meat (Times/ month)	Milk (Liter/ month)	Vegetables (Time/ week)	Grain (Kg/week)
1. Key Rearer	1.66	2.08	10.49	0.87	0.74	12.23	12.08	4.38	4.89	12.03	1.66	2.67	12.27	14.26
2. Chick Rearer	2.10	1.35	6.56	1.18	0.33	11.73	13.32	5.06	7.00	13.72	3.02	3.34	10.46	16.93
3. Model Rearer	2.40	2.60	7.05	1.28	1.33	12.58	12.01	6.73	5.88	10.25	2.80	3.05	13.40	13.84
4. Poultry Worker	1.98	2.54	10.84	1.43	0.48	11.27	11.65	4.99	4.41	12.84	2.04	1.58	12.13	13.85
5. Feed Seller	2.21	2.7	7.4	1.15	0.50	10.80	11.34	5.03	5.03	8.63	2.50	1.96	11.58	13.59
6. Mini Hatcherer	2.25	2.75	4.75	0.75	1.13	12.25	11.32	6.00	8.37	9.00	3.38	4.25	13.50	13.53
All households	1.78	2.13	9.98	0.87	0.802	12.06	12.08	4.61	5.05	11.99	1.88	2.59	12.18	14.33

Table 9 : Land area owned per household before membership and at the time of interview.

Beneficiary type	Before membership			At the time of interview		
	Homestead land owned (acre)	Cultivable land owned (acre)	Total area owned (acre)	Homestead land owned (acre)	Cultivable land owned (acre)	Total area owned (acre)
1. Key Rearer	0.07	0.03	0.10	0.07	0.04	0.11
2. Chick Rearer	0.08	0.02	0.10	0.10	0.04	0.14
3. Model Rearer	0.08	0.03	0.11	0.08	0.04	0.12
4. Poultry Worker	0.08	0.02	0.10	0.08	0.03	0.11
5. Feed Seller	0.04	0.04	0.09	0.04	0.05	0.09
6. Mini Hatcherer	0.10	0.05	0.15	0.10	0.05	0.15
All households	0.07	0.03	0.10	0.07	0.04	0.11

Table 10 : Number and types of livestock per household before membership and at the time of interview.

Beneficiary type	Before membership					At the time of interview				
	Chicken *	Duck	Goat	Sheep	Cattle	Chicken	Duck	Goat	Sheep	Cattle
1. Key Rearer	5.92	1.01	0.65	0.01	0.26	17.13	0.58	1.05	0.01	0.55
2. Chick Rearer	7.12	1.12	0.83	0	0.20	11.08	0.58	1.00	0	0.90
3. Model Rearer	5.43	1.85	0.75	0	0.15	31.82	0.58	0.80	0	0.50
4. Poultry Worker	7.46	1.21	2.02	0	0.15	10.12	0.66	1.23	0.08	0.23
5. Feed Seller	5.93	1.45	0.43	0	0.18	9.77	1.90	1.03	0	0.58
6. Mini Hatcherer	5.38	1.75	0.38	0	0.25	10.75	1.25	0.13	0	0.25
All households	6.119	1.092	0.793	0.008	0.239	16.311	0.644	1.046	0.019	0.571

Table 11 : Number of houses and assets owned per household before membership and at the time of interview.

Beneficiary type	Before Membership							At the time of interview						
	House	Radio	Bicycle	Loam	Sewing machine	Rickshaw	Others	House	Radio	Bicycle	Loam	Sewing machine	Rickshaw	Others
1. Key Rearer	1.71	0.10	0.09	0.008	0.01	0.03	0.009	1.95	0.15	0.13	0.005	0.01	0.06	0.02
2. Chick Rearer	1.97	0.13	0.13	-	0.07	0.12	0.03	3.23	0.25	0.23	-	0.12	0.17	0.10
3. Model Rearer	2.03	0.18	1.20	0.05	0.20	0.05	0.08	2.60	0.22	0.25	0.02	0.20	0.17	0.10
4. Poultry Worker	1.77	0.16	0.09	-	0.06	0.04	-	1.97	0.22	0.11	-	0.06	0.02	0.01
5. Feed Seller	1.50	0.08	0.05	0.05	0.05	-	0.03	1.73	0.22	0.13	0.03	0.05	0.08	0.05
6. Mini Hatcherer	1.75	0.38	-	-	0.13	-	0.13	2.62	0.25	-	-	0.25	0.38	0.38
All households	1.73	0.12	0.10	0.01	0.03	0.04	0.01	2.05	0.17	0.14	0.006	0.04	0.07	0.03

Table 12.: Number and percentage of school going children before membership and at the time of interview.

Beneficiary type	Before membership				At the time of interview			
	School age children (No.)	Proportion in school			School age children (No.)	Proportion in school		
		Total (%)	Boys (%)	Girls (%)		Total (%)	Boys (%)	Girls (%)
1. Key Rearer	1.06	85.21	57.21	42.79	1.40	100.00	55.17	44.83
2. Chick Rearer	1.32	100.00	56.96	43.04	1.67	100.00	56.00	44.00
3. Model Rearer	1.43	75.44	51.16	83.84	1.65	92.42	54.10	45.90
4. Poultry Worker	1.10	92.00	60.87	39.13	1.44	93.75	58.52	41.48
5. Feed Seller	0.77	100.00	67.74	32.26	1.22	100.00	65.31	34.69
6. Mini Hatcherer	1.0	87.50	57.14	42.86	1.37	100.00	36.36	63.64
All households	1.08	86.06	57.62	42.38	1.42	99.02	55.71	44.29

Table 13: Number and percentage of households below the poverty line.

Beneficiary type	Estimate based on total income		Estimate based on non-SLDP income only	
	No. of household below poverty line	% of household below poverty line	No. of household below poverty line	% of household below poverty line
1. Key Rearer	408	54.26	623	82.85
2. Chick Rearer	20	33.33	39	65.00
3. Model Rearer	20	50.00	33	82.50
4. Poultry Worker	52	52.00	80	80.00
5. Feed Seller	17	42.50	27	67.50
6. Mini Hatcherer	3	37.50	3	37.50
All households	520	52.00	805	80.05

Table 14 : Percentage of beneficiary households reported to have shortage of food in the study areas.

Beneficiary type	Shortage of food	
	Yes (%)	No (%)
1. Key Rearer	55.85	44.15
2. Chick Rearer	38.33	61.67
3. Model Rearer	50.00	50.00
4. Poultry Worker	53.00	47.00
5. Feed Seller	40.00	60.00
6. Mini Hatcherer	25.00	75.00
All beneficiaries	53.40	46.60

Table 15 : Participation of male and female household members in deciding the use of income.

Beneficiary type	Participation before membership			Participation at the time of interview		
	Male (%)	Female (%)	Both (%)	Male (%)	Female (%)	Both (%)
1. Key Rearer	22.47	18.35	57.31	2.39	33.38	64.23
2. Chick Rearer	35.00	15.00	50.00	-	38.33	61.67
3. Model Rearer	07.50	22.50	52.50	2.50	55.00	42.50
4. Poultry Worker	08.00	42.00	37.00	-	57.00	43.00
5. Feed Seller	12.50	32.50	42.50	-	52.50	47.50
6. Mini Hatcherer	37.50	-	25.00	-	37.50	62.50
All beneficiaries	20.90	21.10	53.80	1.90	37.70	60.40

Table 16 : Participation of male and female household members in deciding children to go to school.

Beneficiary type	Participation before membership			Participation at the time of interview		
	Male (%)	Female (%)	Both (%)	Male (%)	Female (%)	Both (%)
1. Key Rearer	03.19	17.42	45.88	02.13	26.73	48.80
2. Chick Rearer	06.67	18.33	53.33	01.67	21.67	65.00
3. Model Reaver	02.50	15.00	52.50	02.50	30.00	50.00
4. Poultry Worker	-	23.00	42.00	01.00	37.00	47.00
5. Feed Seller	-	25.00	42.50	-	30.00	47.50
6. Mini Hatcherer	-	25.00	37.50	-	50.00	50.00
All beneficiaries	02.90	18.30	46.00	01.90	27.60	49.60

Table 17 : Opinion of the beneficiaries on continuation of BRAC membership and their suggestions for any change of the SLDP models.

Beneficiary type	Wanted to continue as member		Reasons for continuation					Change desired (%)				
	Yes (%)	No (%)	0	1	2	3	4	0	1	2	3	4
1. Key Rearer	100	-	10.90	36.97	09.31	24.60	06.65	13.96	14.29	57.31	0	11.57
2. Chick Rearer	100	-	13.33	76.67	1.67	8.33	0	38.33	20.0	16.67	0	25.00
3. Model Rearer	100	-	27.5	25.00	15.00	30.00	2.5	12.50	27.50	57.50	0	27.50
4. Poultry Worker	100	-	23.0	33.0	24.0	8.0	2.0	21.0	6.0	30.0	2.1	5.0
5. Feed Seller	100	-	0	67.5	0	17.5	0	0	0	25.0	0	22.5
6. Mini Hatcherer	100	-	12.5	50.0	12.5	25.0	12.5	12.5	25.0	37.5	0	50.0
All beneficiaries	100	-	12.5	39.8	10.2	21.9	5.40	15.5	13.8	50.7	2.1	13.1

Reasons for continuation

Code 0 = No answer
 1 = She will be benefitted in future
 2 = Shortage of chicken and eggs will be met
 3 = Poultry rearing is profitable
 4 = Others

Change desired

Code 0 = No answer
 1 = No Change is desired
 2 = Desired more loan
 3 = Poultry worker be salaried
 4 = Others

Table A - 9: Progress of the project (from August 1993 to October 1995), BRAC areas.

(A) Number of persons trained by BRAC ⁹.

Beneficiary type	Total target of project (No. of persons)	Achievement Aug. '93 - June '95	Achievement June '95 - Oct. '95	Cumulative achievement up to Oct. '95
Poultry Worker	6600	4942	504	5446
Chick Rearer	1980	1759	110	1869
Key Rearer	198000	109394	41246	150640
Model Rearer	1320	1262	440	1702
Feed Seller	1320	829	67	896
Mini Hatcherer	33	172	32	204
Total	209253	118358	42399	160757

⁹ Ahmed, Z. 1995.

(b) Model wise activity progress, BRAC ¹⁰.

Type of activity	Target & achievement, Aug. '93 - Oct. '95				
Vaccination of poultry	Type of vaccination				
	BCRD	RD	Fowl Pox	Fowl Cholera	Duck Plague
	5786514	7328611	2413324	295285	1127347
DOC rearing and supply	Total no of persons targeted	Rearing units established	DOCs supplied		
	1980	1201	1380139		
Key Rearer	198000	99838	1104177		
Model Rearer	1320	758	21822		
Feed Seller	1320	456	2363620 (kg)		
Mini Hatcherer	33	111	No of DOCs produced		
			146660		

¹⁰ Ahmed, Z. 1995.

**Distribution of SLDP income and expenditure per farm
(per week) of Key Rearer.**

Source of income	Amount (Taka)	Percentage
Sale of eggs	94.73	76.42
Sale of Chicken	10.29	8.30
Home consumption of eggs	7.07	8.67
Home consumption of chicken	1.12	5.71
Other poultry income	10.74	0.90
Total	123.95	100.00

Item of expenditure	Amount (Taka)	Percentage
Feed	19.68	61.26
Transport	0.31	0.95
Medicine / Vaccine	1.27	3.97
Labour	9.11	28.38
Others	0.09	0.28
Interest to BRAC	1.66	5.16
Total	32.12	100.00

**Distribution of SLDP income and expenditure per farm
(per batch) of Chick Rearer.**

Source of income	Amount (Taka)	Percentage
Sale of chicken to Key Rearer	8965.85	95.33
Sale of chicken to others	244.22	2.60
Other poultry income	195.11	2.07
Total	9405.18	100.00

Item of expenditure	Amount (Taka)	Percentage
Purchase of day-old chicken	2315.49	31.84
Feed	3946.20	54.26
Transport	27.03	0.37
Medicine / Vaccine	342.68	4.71
Labour	233.82	3.21
Electricity	143.73	1.98
Others	175.98	2.42
Interest to BRAC	87.73	1.21
Total	7272.67	100.00

**Distribution of SLDP income and expenditure per farm
(per week) of Model Rearer.**

Source of income	Amount (Taka)	Percentage
Sale of eggs	33.71	9.92
Sale of hatching eggs to SLDP members	255.55	75.21
Sale of hatching eggs to others	40.39	11.89
Sale of chicken	4.09	1.20
Other poultry income	6.03	1.78
Total	339.77	100.00

Item of expenditure	Amount (Taka)	Percentage
Feed	173.36	77.71
Transport	3.36	1.51
Medicine / Vaccine	4.58	2.05
Labour	17.68	7.91
Others	18.56	8.32
Interest to BRAC	5.54	2.48
Total	223.08	100.00

**Distribution of SLDP income and expenditure per farm
(per month) of Poultry Worker.**

Source of income	Amount (Taka)	Percentage
Vaccination fees from SLDP members	124.45	28.68
Vaccination fees from others	91.68	21.13
Sale of medicine to SLDP members	124.95	28.80
Sale of medicine to others	92.84	21.39
Other poultry income	-	-
Total	433.92	100.00

Item of expenditure	Amount (Taka)	Percentage
Purchase of medicine	143.36	84.67
Transport	11.83	6.99
Labours	14.13	8.34
Others	-	-
Interest to BRAC	-	-
Total	169.32	100.00

**Distribution of SLDP income and expenditure per farm
(per week) of Feed Seller.**

Source of income	Amount (Taka)	Percentage
Sale of feed to SLDP members	2748.94	83.98
Sale of feed to others	514.30	15.71
Others (Sale of bags etc.)	10.12	0.31
Total	3273.36	100.00

Item of expenditure	Amount (Taka)	Percentage
Purchase of feed	3013.97	97.33
Transport	30.78	0.99
Labour	34.25	1.31
Others	9.78	0.32
Interest to BRAC	7.21	0.23
Total	3096.67	100.00

**Distribution of SLDP income and expenditure per farm
(per week) of Mini Hatcherer.**

Source of income	Amount (Taka)	Percentage
Sale of chicken to SLDP members	616.14	94.59
Sale of chicken to others	-	-
Sale of unhatched eggs to SLDP members	23.95	3.68
Sale of unhatched eggs to others		1.73
Other income from poultry		-
Total		100.00

Item of expenditure	Amount (Taka)	Percentage
Purchase of eggs	356.15	87.47
Kerosene	7.04	1.73
Electricity	5.90	1.45
Transport	4.36	1.07
Labour	22.86	5.62
Others	7.18	1.76
Interest to BRAC	3.68	0.90
Total	407.17	100.00

THE STUDY TEAM

Principal Investigator:	Dr. Jahangir Alam
Socio-Economist/Gender Specialist:	Ms. Amita Dey
Co-Investigators:	Dr. S.M.A. Rahman
	Mr. M.A. Sayeed
	Ms. Jerina Begum
	Ms. Fauzia Yasmin
Investigators:	Mr. Md. Kamrul Hasan
	Mr. Md. Amirur Rahman *
	Mr. Md. Hafizur Rahman *
	Mr. Partha Hefaz Shaikh
	Mr. Md. Mesbahul Alam *
	Mr. Md. Aktarozzaman Sarker *
	Mr. Md. Shamimuzzaman
	Mr. Md. Shafiaul Alam
	Ms. Umme Kulsum *
	Ms. Rebeka Sultana Khan *
	Ms. Sumana Das
	Ms. Nasrin Sultana

* Also worked as Tabulators

ABBREVIATIONS

BCRD	Baby chick ranikhet disease
BLRI	Bangladesh Livestock Research Institute
BRAC	Bangladesh Rural Advancement Committee
DKK	Danske kroner
DLS	Department of Livestock Services
DOC	Day old chicks
GDP	Gross domestic product
GOB	Government of Bangladesh
HYV	High yielding variety
IFAD	International Fund for Agricultural Development
NGO	Non-governmental organisation
RD	Ranikhet disease
SLDP	Smallholder Livestock Development Project
TA	Technical assistance
Tk	Taka
UNDP	United Nations Development Programme
VO	Village organisation
WID	Women in Development

Activities performed

Date	Activity
15.1.	Departure from Denmark
16.1.	<p>Arrival in Bangladesh.</p> <p>Afternoon: Briefing by Liaison Officer on project status and particularly status of impact survey. The draft report is expected ready on 16.1.</p> <p>Evening: Meeting with Local Socio-Economist about her consultancy on the impact survey.</p>
17.1.	<p>Dawn to dusk hartal. Working in Kampsax Guest House.</p> <p>Evening: Meeting with Liaison Officer and Principal Investigator in Principal Investigator's residence on impact survey. Principal Investigator presented the draft survey report, which shows that the SLDP has more that fulfilled the project objectives and that it has positive "side effects" on poultry production outside SLDP beneficiaries.</p> <p>It was agreed that a meeting should be scheduled for further discussions and adjustments of the draft report, when copies of the report have been circulated among the concerned parties.</p>
18.1.	<p>Morning: Meeting at DLS with Project Co-Ordinator, SLDP on status of impact survey and scholarships proposed by the Applied Research Planner. The Project Co-Ordinator informed that he will communicate with IFAD about the financial aspects of the scholarships and that the Director General thereafter will nominate the candidates for scholarships. The nomination is expected to take place in about two months.</p> <p>Afternoon: Meeting at BRAC HQ with BRAC's SLDP Project Manager and Liaison Officer about the draft impact survey and inviting BRAC to comment on the draft report. A meeting for discussion of draft survey report is proposed to take place on 20 or 21 of January.</p> <p>Evening: Meeting at Kampsax Guest House with local Socio-Economist on draft survey report.</p>
19.1.	Friday. Kampsax Guest House analysing and commenting on draft survey report.
20.1.	Office. Morning: Meeting with Liaison Officer and Principal Investigator discussing part of draft report.

Brief meeting with BRAC Livestock Officer about survey.

Meeting with local Socio-Economist discussing part of draft survey report

Afternoon: Meeting continued with Principal Investigator on discussion/comments on draft report. Agreed that the Socio-Economist should collect tabulation sheets for supplementary information for survey from BLRI the following morning.

21.1. Morning: Brief meeting with Project-Coordinator and Liaison Officer on discussion of survey.

BLRI, Savar to get tabulation sheets, but Principal Investigator not in.

Office: Writing on draft final report incorporating comments on report received so far.

22.1. Morning: Office, Writing on draft final report incorporating comments received so far and discussion with Liaison Officer about programme for finalisation of report of socio-economic survey.

Afternoon: To BRAC HQ for information on survey beneficiaries.

23.1. Morning: Office preparing discussion with DLS Director General on draft survey report.

Afternoon: Discussion with Director General, Liaison Officer, Principal Investigator and local Socio-Economist about draft survey report in Director Generals office.

24.1. Morning. Office

Afternoon: At BLRI, Savar for discussion with Principal Investigator of report according to meeting in Director General's office on 23.1.

BLRI, follow up on transfer of Field Assistant from CPF, Mirpur to the poultry research programme of Mr. Mahfuzar Rahman, BLRI, Savar. The Field Assistant will not be transferred because of present work programme in Mirpur. Instead Mr. Mahfuzar Rahman has engaged assistance from Manikganj for a few days when needed.

25.1. Morning: Office and to BRAC for collection of data for survey report.

Afternoon: Meeting with British Statistician who is interested in access

to SLDP data for research programme.

- 26.1. Friday: Working in Kampsax Guest House and having tables for survey report entered into PC programme in private shop.
- 27.1. Morning: Office, meeting with Principal Investigator and Liaison Officer discussing new version of survey report.
- Afternoon: Collecting tables from computer shop for proof reading and corrections.
- 28.1. Morning: Office, report writing.
- Afternoon: BLRI, Savar to extract additional information from survey tabulation sheets.
- 29.1. Hartal. Morning: Getting final tables from computer shop.
- Afternoon: Meeting with Programme Officer and Minister Counsellor, Royal Danish Embassy, Dhaka for briefing of impact survey. It was also discussed that the contract between Liaison Officer and the Royal Danish Embassy is only for the first half of 1996. For an extension period, the contract will again be directly between Liaison Officer and DARUDEC.
- Office: Meeting with Principal Investigator on printing of survey reports.
- 30.1. Morning: Office, report writing and finalizing impact survey report with Liaison Officer and Principal Investigator.
- Afternoon: making copies of impact survey report.
- Evening: Hosting dinner for persons involved in impact survey. Present: Liaison Officer, local Socio-Economist and Principal Investigator.
- 31.1. Morning: Office, discussions with Liaison Officer.
- Meeting with Director General for submission of impact survey.
- Submission of impact survey report to Project Coordinator, Liaison Officer and local Socio-Economist.
- Afternoon: Wind-up meeting with local Socio-Economist.