FCND DP No. 85

FCND DISCUSSION PAPER NO. 85

INTRAHOUSEHOLD IMPACT OF THE TRANSFER OF MODERNAGRICULTURAL TECHNOLOGY: A GENDER PERSPECTIVE

Ruchira Tabassum Naved

Food Consumption and Nutrition Division

International Food Policy Research Institute
2033 K Street, N.W.
Washington, D.C. 20006 U.S.A.
(202) 862–5600
Fax: (202) 467–4439

April 2000

ABSTRACT

This study explores the intrahousehold impact of transfer of modern agricultural technology from a gender perspective. The data suggest that group-based programs targeting women have a greater potential to address gender relations within the household and society than do programs targeting women as individuals. In male-dominated societies where women have limited access to internal or external support networks, programs targeting women as individuals that do not also provide alternative sources of support are bound to fail in their gender goals.

CONTENTS

TABLES

APPENDIXES

ACKNOWLEDGMENTS

First of all, I offer my earnest gratitude to the villagers, and especially to the women, who in spite of their tremendous workload agreed to work with us to enrich our knowledge about their community, the program, and its impact on their lives. Next, I thank the team of qualitative data collectors without whose hard work the study could never be completed within such a short period of time. The enthusiasm and commitment of the team members have been inspiring for me. I especially thank Tawheed Reza Noor, the research officer of the Bangladesh Field Office, Save the Children/USA, for undertaking the difficult task of team management and supervision. He has been a great support to me. Special thanks go to Caroline Arnold, the director of Save the Children/USA, for making it possible for us to participate in this interesting study. I appreciate her insight on the links between similar research work to development. I cannot thank enough Agnes Quisumbing, who patiently read the first draft of this report and edited it thoroughly. Her suggestions for improving the report have been very useful to me. I also thank DATA (Data Analysis and Technical Assistance) for introducing us to the organizations implementing the programs and for providing us with preliminary information on the study villages. I remain grateful to Gono Kallyan Trust (GKT) and Banchte Shekha (BS), two of the implementing agencies, for arranging accommodations for the study team and to all three implementing organizations for extending their help during fieldwork.

Ruchira Tabassum Naved
International Centre for Diarrhoeal Disease Research
Bangladesh

GLOSSARY

Bhaber Shomoy	Crisis Period
Baishakhi Mela	Fair organized to celebrate the Bengali new year
Behati	Snacks and fancy food like cookies, candy, bread, bun, butter roles, toys, cosmetics, and other miscellaneous items purchased from vendors
Burkah	A dress covering all of a woman's body except for the eyes
Chhon	Hemp
Denmohor	Mehr
Deowa-Thowa	Dowry
Deri	Savings
Eidgah	Space for praying on the occasion of *Eid*
Fazr Azan	Call to prayer at dawn
Gaas Gasonto	Herbal medicine
Golpata	A kind of leaf used for thatching
Gorom Bhat	Freshly cooked rice
Jangla	A frame made usually from bamboo for supporting plants
Jatra	Folk theater
Jau	Porridge
Kabin	A written marriage contract
Kacha road	Mud road
Kobiraj	Herbal healer
Maktab	A place, where children learn to read the *Quran*
Madrasa	An Islamic educational institution
Morodra	Men
Notun Shabji Chash	New vegetable cultivation
Palan	Land attached to homestead
Panta Bhat	Rice cooked the day before and preserved with water
Pithha	Homemade cake
Poonta Pet	Pregnancy from nonnormative sex
Robishoshya	Crops such as pulses and mustard harvested in the period mid-February to mid-April
Shalish	Local judicial
Shantrashee	Hooligans
Shawrote and Dishari	BS groups
Shayana Holey	When one reaches puberty
Shemai	A kind of homemade sweet
Siu	See you
Tablig	Preaching for Islam
Van	A three-wheeled vehicle with a wooden platform for carrying goods
Waz Mahfil	Religious sermon
Zolaitta	Secret savings of women

1. INTRODUCTION

Micronutrient malnutrition is a serious problem in developing countries. It is well established that micronutrient requirements are greater for women and children because of their special needs for reproduction and growth. Unfortunately, however, women and children suffer most from micronutrient deficiencies. Micronutrient deficiencies impair cognitive development of young children, retard their physical growth, and increase child mortality. Iron deficiency in pregnant and lactating women may lead to maternal death during childbirth and put their offspring at the risk of the same deficiencies (IFPRI/BIDS/INFS 1997).

The intrahousehold distribution of micronutrients depends largely on the relative bargaining power of household members. In the context of asymmetry in gender relations, the distribution of micronutrient-rich (and more costly) food is likely to favor the male members of the household. This likelihood calls for intrahousehold analysis of the gender-differentiated impact of programs targeted toward improving micronutritional status of the poor and promoting production of micronutrient rich food. This report is based on a qualitative study of intrahousehold impact of transfer of modern agricultural technology from a gender perspective, which in turn is part of a larger project, "Adoption of Commercial Vegetable and Polyculture Fish Production in Bangladesh: Impacts on Income, Household Resource Allocation, and Nutrition," being undertaken jointly by IFPRI, the Bangladesh Institute of Development Studies, the Institute of Nutrition and Food Science, University of Dhaka, and Save the Children/USA.

The very nature of intrahousehold research, which examines cultural concepts of division of labor, attitudes toward status within households, and perceived versus actual contributions, lends itself to a multidisciplinary approach (IFPRI 1996) combining qualitative and quantitative research methods. Qualitative research methods have become increasingly important modes of inquiry into complex social phenomena. Qualitative research has the flexibility that allows respondents to offer interpretations and choose themes that broaden the scope of the research and deepen understanding of the social

processes. It helps researchers understand the culture, perception, attitudes, and opinions of people and to explore the interpretations of different phenomena by people, i.e., to gain the “emic” perspective.

With a goal of obtaining results rapidly and at low cost, this qualitative study was undertaken to provide a deeper understanding of intrahousehold processes from a gender perspective, and to help integrate intrahousehold and gender concerns into survey questionnaires by creating new variables based on in-depth knowledge of the local context. Specifically, the study analyzes the intrahousehold impact of transfer of agricultural technology for producing micronutrient-rich food from a gender perspective. Another objective is to explore the sociocultural setting in which the programs are operating, as this context may influence program outcomes.

Impact studies very often do not attach due importance to program input or the process through which programs are implemented, though both are highly relevant to program outcomes. This study set as an objective to go beyond the official documents describing programs and to collect and analyze qualitative data on how the programs under consideration are implemented in the field.

This study sought to assess the emic perspective on four questions: (1) Has income been increased from implementation of new technology, and if so, who controls the additional income? (2) Has micronutrient-rich food intake increased as a result of transfer of new technology, and if so, how are these foods distributed by gender and what factors explain the distribution pattern? (3) How are other benefits from implementation of new technology distributed within the household and across gender? And (4) What is the impact of implementation of new technology on gender relations? Finally, the study compares outcomes between individual and group approaches across the programs under discussion.

2. GENDER ASSYMETRY AND INTRAHOUSEHOLD DYNAMICS IN BANGLADESH

In Bangladesh, the subordination of women to men is ensured by the existing patriarchal system, which determines power relations within households and the bargaining power of household members through various mechanisms. Key among these mechanisms is organization of the family, kinship and marriage, inheritance patterns, gender segregation, and the ideologies surrounding these practices. Descent in Bangladesh is organized along patrilineal lines; consequently, biological paternity of the child becomes a crucial social issue that necessitates surveillance and control over women's sexuality and reproduction. This control is manifested in such things as the early marriage of girls and in institutionalization of *purdah*. The social arrangements associated with marriage—the preference for lineage and village exogamy and for patrilocal residence—serve to undermine further women's autonomy. Moreover, once married, a woman usually loses the support network of her own kin; moreover, there is little basis for solidarity with her husband's kin (Kabeer 1988).

Apart from its implications for women's personal autonomy, the prevailing system of gender relations also defines and limits their economic and social power. Male and female space is differentiated by the institution of *purdah*, which confines women's legitimate sphere of activities to the boundaries of the homestead, and serves both to obscure the value of the labor they perform and to restrict their access to mainstream employment opportunities. Women's reproductive role is deemed as subsidiary and negligible. Moreover, women's contribution to the creation of market value remains socially invisible because of their absence at the point at which their value is realized (Cain, Khanam, and Nahar 1979; Kabeer 1988; Adnan [date unknown]; Amin 1995).

The systematic devaluation of women is manifested in their lesser claim to subsistence resources within the household. Gender inequality is demonstrated in all sorts of household consumption, be it food, clothing, or treatment. The cumulative discrimination against women results into their lower nutritional status and higher

morbidity and mortality rates (Chen, Huq, and D'Souza 1981; Kabeer 1988; Mahtab 1989; Ahmad and Morduch 1993; Ahmed 1993; Naved 1996).

3. DATA AND METHODOLOGY

The data for this report was collected from November 1996 to January 1997. Two types of technology were studied. First was the commercial production of improved varieties of vegetables developed by the Asian Vegetable Research and Development Center and adapted by Bangladesh Agricultural Research Institute. This technology is disseminated by an NGO named Gono Kallyan Trust (GKT) in Saturia. Second was the polyculture fish technology developed by the International Center for Living Aquatic Resource Management (ICLARM) and disseminated by the Fisheries Research Institute and the DANIDA-financed Mymensing Agricultural Extension Project in Mymensing. The same technology is disseminated in Jessore as well by Banchte Shekha (BS)—an NGO.

The techniques used for data collection included key informant interviews (KII), focus group discussion (FGD), case studies, trend analyses, impact flow, observation, historical profile, social maps, resource maps, Venn diagrams, and mobility maps (see Appendixes 1 and 2). Triangulation among various qualitative techniques was used to validate the information gathered. Although this report attempts to present the emic perspective, the conclusions are based on a synthesis of this perspective with the understanding and analysis of the researcher.

The study villages for the qualitative research were selected from among the villages covered by the quantitative survey (see IFPRI/BIDS/INFS 1997). Only the program villages, where a complete village census has been conducted were considered for this study, which was supposed to enable researchers to combine qualitative and quantitative data for analysis and validation of the results.

Table 1—Distribution of case studies by site and sex

Area	Program village	
	Female	Male
Saturia	7	6
Mymensingh	10	10
Jessore	5	3

Table 2 shows that in Saturia, the program village selected is Bhashiali. Enayetpur had been selected as the program village. The program village in Kishorganj (Mymensing) covered in this study is Barabhag. Since there were no female beneficiaries in Barabhag, a few case studies of female beneficiaries were conducted in Gafargaon for comparison with male beneficiaries.

Table 2—Study villages by site

Program site	Program village
Saturia	Bhashiali
Jessore	Enayetpur
Mymensingh	Barabhag, Mahirkherua, Ghagra Chhoibaria

The team of data collectors was a multidisciplinary group (anthropologists, economists, and development practitioners) comprising five women and five men, all of whom had training in qualitative data collection. A special two-day training for this study was conducted before data was collected.

4. PROGRAM DESCRIPTION

As mentioned, this study did not limit itself to official documents only; it also applied qualitative techniques such as KII, FGD, observation, and case study materials to understand the program. After reviewing the official documents, KIIs were conducted with senior staff of the organizations concerned to gather more information. Later, KIIs were conducted with field staff to get a better sense of how the programs are implemented in the field. FGDs were also conducted with field staff in Saturia. Finally, an attempt was made to observe group meetings. Description of the programs presented in this section is based on these data.

GONO KALLYAN TRUST (GKT)

GKT is an NGO that has been disseminating improved vegetable technology in Saturia Thana under Manikganj District since August 1995. According to its 1996 annual report, 97 percent of GKT's members are poor women. Each member is supposed to attend a weekly group meeting and deposit Tk5 (about US$0.10) into group savings. Performance of members is measured in terms of regular savings and attendance at weekly group meetings. After six months, members with a satisfactory performance record are eligible to participate in GKT development programs, which include credit, training on poultry raising, vegetable production (including AVRDC vegetables), and health and sanitation programs. Members choose the program they wish to participate in, and thus all members do not necessarily participate in identical sets of programs.

It was evident from the team's observation of group meetings, focus group discussions, and case studies that, although GKT operates through women's groups, group dynamics were quite poor. Members do not necessarily attend the weekly meetings, and indeed, there is no regular gathering or discussion. We observed that the members do not come to the meeting punctually, some arriving two to three hours late to carry out credit and savings-related transactions, and then leaving. The level of interaction among the group members at the meeting was extremely low. Many members

did not come themselves, but sent their children or other relatives to pay their installments and deposit the savings. It was clear that the weekly meetings were meant for the collection of savings and installments.

If a loan is required, group members individually inform the field staff. The field staff forwards the request to the office and if the office considers the member eligible it disburses the loan. The credit transaction takes place at the GKT office. The field staff was asked whether the groups ever have any group discussions. Her response was that, "If the group members wish, they can have a discussion."

Dissemination of AVRDC technology by GKT aims to improve the socioeconomic condition of poor women through the cultivation of improved vegetables (GKT 1996). The program includes selection of sites and beneficiaries, motivational work, training, input distribution, provision of technical support during sowing and transplanting period, and day-to-day visits. GTK trained 453 people on modern vegetable technology in Saturia.

Group members willing to adopt the AVRDC technology attend a one-day training session. According to the most articulate women who received training, the new technology includes new seed varieties, preparation of compost at home, and pest management. (Some women were confused about what was new in this technology, and some could not tell what they have learned during the training.) After the training, GKT supplies seeds, with the cost of the seeds to be paid in the post harvest period. However, the adopters reported inadequate and untimely supply of seeds. The GKT extension officers visit the program participants regularly and provide support in growing these vegetables (Quisumbing and Brown 1996; IFPRI/BIDS/INFS 1997).

BANCHTE SHEKHA (BS)

Banchte Shekha (BS) is an NGO that has operated in rural Jessore since 1981. BS targets poor women from households owning less than 0.5 acres of land. Program interventions are carried out through groups of women organized by BS. There is a very strong consciousness-building effort by the organization, which differentiates it from

many of the other NGOs operating in Bangladesh. Furthermore, the high gender sensitivity of the organization is apparent in its program approach and in its recruitment policy. In contrast to other NGOs, a large proportion of BS staff (80 percent) are women. According to BS's director, consciousness-raising is the organization's main task, while its other activities are undertaken as supporting measures.

BS's program includes: health, education, legal aid, credit, and economic opportunities. The strongest component is legal aid, which the NGO defines as "its niche," with the other programs, including credit, receiving less emphasis. BS's credit-related operations are carried out every week, while group meetings are held monthly. Different issues related to credit, savings, fish culture, health, etc. are discussed at this monthly meeting. Once a month each member deposits Tk20 as savings.

The health and education programs are similar to those implemented by many other NGOs in Bangladesh. BS promotes a number of income-generating activities such as handicrafts, homestead gardening, sericulture, fish culture, and apiculture. The women producing the commodities under these projects are paid by BS according to some set rates. BS then sells the commodities either at their sales center or to some wholesalers.

Two years ago BS started a program to transfer new polyculture fish technology to its group members. In Bangladesh, pond ownership is usually associated with higher socioeconomic status. Moreover, women functionally do not own important assets like land or ponds. BS, therefore, arranges for interested members to gain leases to ponds that need excavation. The ponds are excavated as a part of a food for work program funded by the World Food Program. The group members and, if necessary, other villagers participate in excavating ponds. Depending on its depth, the pond is leased by the BS groups for 5–10 years (deeper ponds are usually leased for 10 years).

Interested group members receive a seven-day training and a four-day follow up, the effectiveness of which is evidenced by participants' ability to clearly explain the content of the training. Women participating in the project are supposed to manage the whole project on their own, while BS provides monitoring and supervision. Group members can always seek technical support from BS. BS also provides credit for the

project, but credit is not compulsory and is released on request. The size of the loan is determined by the size of the pond (Tk35 per decimal). BS encourages its members to deposit the income from the project in their savings account. If necessary, the members can withdraw money from the account with prior approval of BS.

In Enayetpur, two BS groups are implementing the new technology in three separate ponds. The group named *Shawrote* operates in two ponds and *Dishari* operates in one, involving 41 women from this village. Six years ago, upon the advice of BS, group members leased ditches that could be transformed into ponds for fish culture. The women negotiated with the ditch owners with the help of BS. BS suggested that the women use wheat received by BS from the food for work program to pay day laborers to excavate the pond. At that time, the women did not dare take on this huge responsibility themselves. They said they did not know where to keep the wheat, how to protect it and, most importantly, whether they had the courage to employ and pay men to dig the ponds. So, they requested BS to manage the excavation of the pond on their behalf. BS agreed, and thus the ponds were excavated and fish cultivation initiated under the guidance of BS. The ponds were re-excavated about four years ago.

The new fish culture technology was introduced only one and one-half years ago in Enayetpur. Members paid a training fee of Tk145 for a seven-day training, and were provided with food and lodging. After the training they received 10 kilograms of fingerlings at no cost from BS and purchased another 20 kilograms. Seven months ago participants received a three-day follow-up training on this technology, but this time each was provided lodging, food, and a payment of Tk145.

Initially each member contributed Tk 50 to the cost of fish production. In the group named *Shawrote,* all 26 members participated in the project and raised a total of Tk1,300, which was used to purchase fingerlings and fertilizer. Now, the group generates enough revenue to pay costs, so members do not have to put in more money.

The women themselves work for the project, and their husbands and children help from time to time. The husbands and sons bring algae from canals for feeding the fish, men bring oil-cakes from the market, and daughters gather rice powder as fish feed.

Sometimes, the men bring fingerlings from Jessore. The women dig pits in the households of two of the members and prepare compost there. Before they received the training on the new technology, the women used to divide into two groups and take turns going to the nearest market once a week to collect cow dung from butchered cattle. It is very unusual for village women to go to the market place, so women were requested to provide detailed information on this. The women explained that they used to go to market at dawn in order to avoid encountering men. After the training, however, they learned about other kinds of fish feed, such as oil cake and rice powder, and have stopped going to the market.

Every four months, fish are sold. When the women decide to sell fish, they ask their husbands to inform the fishermen. The fishermen come to the ponds and the price is first settled. The fishermen catch the fish, weigh them, and pay 50 percent of the agreed-upon price. The balance is paid after the fish are sold in the market. The husbands collect the balance from the fishermen and hand it over either to the cashier or the leader of the group. From the total sales, an amount equivalent to the cost of production is deposited in the bank, with the remainder divided equally among group members.

MYMENSING AQUACULTURE EXTENSION PROGRAM (MAEP)

Introduction of polyculture fish technology by the Mymensing Aquaculture Extension Program was initiated in 1993 with the assistance of DANIDA. The objectives of the project are poverty alleviation, employment generation, and capital accumulation through increased fish production. At the beginning of the project, all ponds under the project area were identified. Based on the number of ponds, extension workers were locally recruited to motivate the farmers to adopt the new technology. The extension workers provided the farmers with training and were supposed to closely monitor their progress.

The program covers three types of farmers: demonstration farmers, credit farmers, and contact farmers. For demonstration purposes, roadside ponds or ponds located in a central place are selected. Farmers from any socioeconomic class can serve as

demonstration farmers. The credit farmers are supposed to be landless or marginal farmers owning up to 100 decimals of land. Among the credit farmers, 30 percent are mandated by DANIDA to be women. In order to simplify program operations, MAEP requires that the jointly owned ponds be leased by one of the owners for three years. The farmers receive Tk50–60 per decimal of pond from MAEP as part of credit, which they have to hand over to the other pond owners. If the lease value is more than the amount paid by MAEP, and the farmer is still willing to lease the pond, he is allowed to pay the difference from other sources. The farmers receive a three-day training and open a joint account at a formal bank with MAEP. They receive a loan of Tk220 per decimal of pond. The loan repayment starts six months after the initiation of the project and repayment is completed in 30 monthly installments. All income from the project is deposited in the bank account. The savings can be withdrawn three years later when the MAEP project ends. For record keeping, a "pond book" is kept with the farmers, but entries are usually made by the extension workers, as most of the farmers are illiterate. The extension workers are supposed to visit the farmers regularly.

To popularize polyculture fish technology, farmers from higher socioeconomic classes, called *contact farmers,* are also trained. They are first motivated to adopt the technology and then are provided with a one-day training. No credit is given to these farmers, and they are not monitored closely by extension workers. According to MAEP officials, only 40 percent of the contact farmers follow the prescribed practices in fish culture completely.

5. PROFILES OF THE STUDIED VILLAGES

Profiles of the program villages are presented here to illustrate the sociocultural context where these programs operate. Thus, we briefly touch upon the history of the village, available natural resources (land, water, trees and plants, etc.), social and physical infrastructure, occupational patterns, and cropping patterns. The data collection techniques used for the purpose were historical profiles, transect and social maps,

cropping patterns, crop calendars, Venn diagrams, and mobility maps. An important dimension of the village profiles is the attempt to portray the current situation of women participating in the program.

Before describing each village separately, a few general items are mentioned here. First, in many aspects the villages under study do not resemble a typical Bangladeshi village. All of them stretch along major roads connecting important parts of the country. Bhashiali, for example, is an NGO-infested village that is also quite close to Dhaka; and Enayetpur is located near the India-Bangladesh border. Barabhag is an extremely conservative village, and in terms of gender subordination, women in Barabhag are among the most disadvantaged.

BHASHIALI: A VILLAGE WHERE GKT DISSEMINATES AVRDC TECHNOLOGY

Bhashiali is a roadside village under Fukurhati union of Saturia Thana. According to the villagers, Saturia Thana headquarters is located a 15-minutes walk from the village. A brick road connects the village to Saturia Thana Headquarters and Manikganj. There is no electricity. As it is shown in the social map drawn by the villagers (Appendix 3), the households stretch mainly along the main road connecting Dhaka to Saturia and along the mud roads and canals within the village around the farmland. Most households are concentrated in the middle of the village. The villagers clearly divide Bhashiali Kestopur from Bhashiali Kandapara. Bhashiali Kestopur is bordered in the south by a canal, which separates it from Bhashiali Kandapara. There are 142 households in Bhashiali Kestopur and 80 households in Bhashiali Kandapara. Bhashiali Kandapara was reported by the villagers of both areas to be the better off. Bhashiali Kestopur is divided into five *paras*, namely Uttor para, Modhya para, Dakkhin para, Pashchim para, and Bandura.

The occupational distribution of the household heads in these two parts of the village, collected during the session on social map, shows a sharp contrast and indicates the better status of Kandapara. In Kestopur, the overwhelming majority, about three-fourths of household heads, are farmers, whereas in Kandapara only about one-fifth are engaged in farming. No day laborer lives in Kandapara, whereas about one-fourth of

household heads in Kestopur are day laborers. The overall occupational distribution in Bhashiali shows that farming is less important than occupations like petty business or rickshaw or “van” driving (a three-wheeled vehicle with a wooden platform for carrying goods). The fact that GKT members essentially come from Kestopur also indicates differences in socioeconomic conditions between the two paras.

The village is quite green with lots of trees and other plants. Fruit trees are comparatively fewer. The mango, coconut, date palm, and other fruit trees that abound in other rural areas of Bangladesh are rare here. One of the villagers explained that a lot of fruit trees were uprooted by a devastating tornado that swept over Saturia in 1989. However, bamboo, pipul, and mahogany trees are abundant (Appendix 4). The trees valued for wood have been planted here recently as a result of NGO motivations, and people have also begun planting orchards of such fruits as guava.

Aman, boro, aus paddy, and sugarcane are grown here. Some land is allocated to jute and pulses. Though rice is the main crop, many vegetables are grown in the village. There are some small vegetable plots where vegetables are grown the entire year. Radishes, spinach, amaranths, cabbages, okra, bottle gourds, pumpkins, turnips, beans, and other vegetables are grown in the field. Spices such as turmeric are grown as well. In the courtyards and at the back of houses, vegetables like water gourds, beans, eggplant, okra, red amaranths, and tomatoes are also grown.

The houses are mostly tin-roofed, and many are made entirely of tin. After the tornado, massive relief programs were undertaken in the village, and all demolished houses were reconstructed with tin. The villagers pointed out that the houses with bamboo walls indicate extreme poverty. These are usually owned by people who had to trade off their share of relief to buy other necessities.

There is no pond in the village. Although there are many wells, only two are usable, and the village’s 25 tubewells are the main source of water. On average nine families depend on one tubewell for drinking and washing utensils. For bathing, washing clothes, and cooking, pond water from the nearest village is used. All the people of the

village go to a pond across the road to bathe. Seven deep tubewells in the village provide irrigation water.

Although the fields were being harvested when we were in Bhashiali, the village looked clean. In contrast to other rural areas of Bangladesh, the sanitary condition appeared unusually good. According to the villagers, about 70 percent of the households have ring slabs in the toilets. The air is free of odor, and feces were not seen. The villagers take pride in the improvement in their sanitary condition and consider it an important event in their life (Appendix 5).

BRAC was the first NGO to start working in the village in 1980 (Appendix 5). Since, the tornado struck, however, other NGOs have moved in. After starting with relief work in the village, GKT eventually introduced its other programs in Bhashiali in 1990. Other NGOs operating in Bhashiali are Proshika, ASA, and Bangladesh College Mission. Many NGO interventions in the area and wide exposure of the village to outsiders during the post-tornado period have inured the villagers to strangers. Villagers are not curious about strangers, and children do not flock around outsiders, which is unusual for rural areas of Bangladesh.

Massive relief work and NGO operations have led the community expect some benefits from outsiders who come to the village. At the beginning, this was a barrier for our team to work in the village. When team members explained clearly the objectives of their visit, villagers asked what would they get in return. When the villagers understood that we were not going to hand out cash or gifts, many lost interest in talking to us. Men would gossip a lot with male team members, but whenever the discussion turned to something related to the study they would start to disappear one by one. Some of the women told us directly that they would not talk to us because we were not going to remunerate them. We believe that the cordiality of the team members made them rethink, and finally, even those whose attitude was at first negative cooperated—despite the demand this made on their time.

While the children in Bhashiali looked malnourished, adults seemed unusually tall for Bengalis. They have high long noses, long faces, and most are lean and thin. The

men's muscles show that they are quite hard working and strong. Women age very fast—though they average five to ten years younger than their husbands, they tend to look older. The difference in appearance is striking. The men are usually stylish, wear neat and clean clothes, and seem well cared for, while their wives looked a lot older and wore tattered clothes. Many men resembled middle class urban men, while their wives were dressed like domestic workers in lower middle class families in urban areas. For instance, by her looks Julekha, aged 32, appeared to be in her mid forties. However, her husband looked 35 years old. According to Julekha her husband resembles a prince. She commented, "He looks so young that he can easily pass as a bridegroom."

Data show that gender discrimination is universal among the households participating in the program, and this is manifested in gender-differentiated resource allocation patterns within the families and in discriminatory attitudes toward females. The children usually enroll in schools established and run by NGOs like BRAC and PROSHIKA within the village, or they attend primary school in the neighboring villages. However, the girls drop out from school quite early, and most are married off by the age of 14. Shephali, a GKT member's daughter, for example, is 13, and has been married for almost a year. The women told us that she is lucky, because she started menstruating just before her marriage. The daughters of Majeda, another GKT member, were married off when they were about 14. From the women's narratives, it is clear that they prefer to marry their daughters off at an early age to avoid their developing romantic involvements. In fact, Shephali's father arranged her marriage in a hurry when he heard that she had some boyfriends. The girls' age at marriage has not increased much compared to the previous generation. According to the case-study narratives, most of the women below 40 were married around puberty.

Another reason for marrying daughters early without giving them much education was given by Julekha, who said, "A daughter is a commodity for sale. One is free of all the anxieties once her daughter is married off. After a daughter's marriage, parents do not have her responsibilities anymore." She continued, "A son, on the contrary, has to be

brought up properly to be able to earn an income, carry forth the lineage, and keep high the family honor."

FGDs and case studies confirm that most marriages are arranged and village exogamy is practiced. No one interviewed by this study was married to a man from her native village. Dowry has become widespread, and its size is growing. It became evident from case studies, FGDs, and trend analysis that today's grandmothers were married without dowry and sometimes brideprice was even paid. Transactions and expenses were minimal in marriages in the previous generation. The dowry system was only emerging in those days. In stark contrast, Majeda had to pay Tk20,000 for her younger daughter's marriage this year.

In an FGD, women reported that polygamy in Bhashiali is rare at present. However, they said that the threat of divorce and another marriage has increased (Appendix 6). Several men were reported to maintain extramarital relationships. The practice of wife beating is quite common, and has been well internalized by women. Despite the efforts of NGOs to promote gender awareness, the village women appeared to agree that husbands have the right to beat their wives. Though some women recognize the recent developments women are undergoing, they remain convinced that women can never be equal to men because they believe womankind was created from one of the bones of a man.

In general, program participants' mobility for work is limited (Appendix 7). They fetch tubewell water from a neighboring house, go to the neighboring village across the street to bathe, wash, get water for cooking, and work in the *palan* for growing vegetables. They also collect fodder for their cattle from their cultivable land. However, the NGO members may venture to more distant places to receive training arranged by NGOs, some as far as Shingair, which is 20 kilometers away. One woman even visited Dhaka for a training program arranged by Proshika. Some women go to Saturia for vaccination of livestock and poultry. A few women go to Baliati (4 kilometers away) to the agriculture extension office to collect better varieties of seeds and seek advice on farming.

Almost all the women go to their natal homes once or twice a year, and many visit their relatives outside the village once a year. Some women attend social ceremonies like marriages, funerals, and circumcisions. Some occasionally go to neighbor's house to watch television, and a few have seen a movie in Saturia or Manikganj.

ENAYETPUR: A VILLAGE WHERE BS DISSEMINATES ICLARM TECHNOLOGY

BS began working in Enayetpur from the very beginning of its operations in Jessore. This village stretches along one side of the Jessore Khajura road. According to the historical profile, there is a broad mud road running through the village, constructed in 1947. In 1986, the road was widened. The key informants reported that the village is quite small, with 107 households. There are four *paras* in the village named according to the titles of the people living in each, Tarafdar para, Dafadar para, Bishwas para, and Molla para.

According to the key informants there is one deep tubewell in the village, established in 1982. According to a key informant, 65 percent of the households own tubewells, and tubewell water is used for both drinking and cooking. There are more than 50 ponds in Enayetpur, the water from which is used for washing and bathing. Almost all households have ring slabs in their latrines. The latrines are fenced and many use curtains made of gunny bags at the entrances. There are many trees and plants in one part of the village, from which women said they collect fuel. There are a rice mill and five shops in the village.

While there is no primary school in the village, there is a BRAC school and a *maktab* (where children are trained to read the Koran). About 35 percent of children are reported by a key informant to be enrolled in the BRAC school. All the children are supposed to go to the *maktab*, which opened in 1996. BS used to run an adult literacy center for women in the village. Now, an NGO named CCDB has a similar program.

According to the key informants only about 30 percent of household heads are farmers. One-fourth are engaged in petty trade. There are many rickshaw and "van" drivers, and some people are in the service sector.

Houses in Enayetpur have been constructed haphazardly and did not look overly neat or clean as in some of the other villages of Jessore. Roofs are made of tile, straw and leaves (called *golpata*), and walls are mostly mud. There are 18 brick houses in the village, most of which are made of mud rather than cement. The brick comes from the brickfield in the village. These houses are quite cheap in comparison to houses made of cement. The courtyards are quite small. There are fruit trees around the houses but not in the courtyard. Haystacks were uncommon and there were few cattle. Some households had beanstalks and bottle gourd plants, but this was not common, as people believe the plants damage the roof.

There are a lot of date palm and mango trees, with the other trees consisting of coconut, guava, banana, papaya, jackfruit, palmyra, mulberry, mahogany, acacia, fig, and silk-cotton plant. It is apparent that some trees were planted recently for timber.

BS members from Enayetpur reported that most girls are married off at the age of 13 or 14. However, recently some families have begun to educate their daughters and delay their marriages, which is more common among BS member households. For example, BS member Firoza's daughter is still unmarried at age 19 and is attending college. Her sister-in-law was married at age 18. Another BS member, Halima, married her daughter off when she was 16.

According to the data from FGDs and case studies, marriages are typically arranged by the families and village exogamy is common. Usually, the father selects the bridegroom, but may consult the mother in finalizing a match. Consent of daughters in marriage is not sought. It is evident from the case studies that this part of marriage has not changed much over time, but the most dramatic change in the marriage system has been the switch from brideprice to dowry and the tremendous increase in dowry size over time.

The team found that BS members gave biased information regarding the present dowry situation in Enayetpur. BS teaches them to protest against the dowry system and not to demand or pay dowry. So, when asked whether they will pay dowry when marrying off their daughters, most said they would not marry their daughters to those

who demand dowries. A BS member Momena, for example, said that she disapproves of dowry. She and her husband did not pay dowry for their first daughter's marriage, and she is determined not to pay dowry in any of her daughters' marriages. However, from her husband's account, the team learned that they in fact gave a *deowa-thowa* or in-kind dowry.

In contrast to the other women, Rizia Khatun was outspoken on the issue of dowry. She has already married off one of her daughters at the age of 13 and has begun accumulating dowry for the next one. She said that in recent years, she has not seen any marriage in the village that was truly without dowry. She holds that girls must be married off immediately after they reach puberty in order to avoid scandals. Recently, the incidence of romantic affairs among the young has increased in the village. Sometimes, the girls become pregnant before marriage. One such incident occurred in her husband's family. The daughter of her brother-in-law had an affair and she conceived. When she started to vomit it dawned upon the family members that she was pregnant. They took her to the Jessore Hospital and an abortion was induced. This made Rizia rush her daughter's marriage. Rizia's husband and other male relatives selected the groom. She just had a chance to see him before marriage. Rizia's family had to give the bridegroom a bicycle, which cost them Tk2,000, and a wristwatch worth Tk250. In addition, they had to give their daughter silver jewelry. The groom's family did not give her anything besides the nose pin.

Case study materials show that the rise of the practice of dowry among the poor in Enayetpur is a more recent phenomenon than it is in Bhashiali. From the accounts of marriage in Enayetpur, it is clear that although the process started late, the switch from brideprice to dowry is complete. However, the late emergence of the system in Enayetpur may explain why cash is still not the dominant form of dowry. Over time the expenses on wedding feasts seemed to be increasing, with the menus becoming more elaborate and the numbers of guests increasing.

In general, the women in Enayetpur are quite articulate. Though they keep their heads covered, they do not shy away from strangers. We observed that this contrast is even sharper in the case of BS members.

BARABHAG: A VILLAGE WHERE MAEP DISSEMINATES ICLARM TECHNOLOGY

Barabhag is a roadside village under Latifabad union located 6 kilometers from Kishorganj District town. The village is beautiful—during our visit, the fields, golden with rich harvest and stretching under the beautiful sky, were quite moving. There is a bazaar named Sadullarchar bazaar at the entrance to the village (Appendix 8). The first building that draws attention is a *madrasa* (religious school) and an orphanage. There are boarding facilities in the *madrasa*. The next striking thing is the Sonali Bank project, which seems to be rather large in scale for a village. There is a large rice mill and a cattle and poultry farm with a pond where fish culture takes place. The adjoining field is used as a space for praying on the occasion of Eid. There is another rice mill in the north and several big poultry farms in the village. There are three brickfields in Barabhag, but only two are functioning. There are several stationery shops and a tea stall in the village. Electric poles have been erected but electricity has reached only a part of the village.

The village comprises 353 households (Appendix 8). The households are not along the road, but are in the interior. Most are of mud with roofs of straw; others are of tin, and a few are brick. The houses look spacious and neat, with clean courtyards in front with many trees around them. The impression dramatically changes when one approaches and especially when one enters a house. The houses look shabby, with dirty and messy interiors.

There is one primary school, one *madrasa*, and four BRAC schools (Appendix 8). There are three mosques, each with its own *maktab*. Most children attend *maktabs* as well as primary or BRAC school, though some parents consider *maktabs* an appropriate substitute for formal education. Some boys and only a few girls attend high schools located in neighboring villages.

There are tubewells in each *para* from which drinking water is collected. According to the villagers, every two or three households shares a tubewell. There are about 70 ponds in the village, most of them small, from which people get water for cooking and washing. Pit latrines are most common. Only 20 to 25 percent of households have ring slabs. Housing or sanitary conditions did not seem to be a high priority. Even middle class farmers and some rich farmers were observed to have poor sanitary conditions.

Most of the cultivable land in the village is planted with rice (Appendix 9). Pulses are grown in some plots. Previously, the villagers grew jute, but they recently stopped when the price fell. Some farmers grow betel leaf. Pumpkins, radishes, cauliflower, eggplant, green papaya, okra, kachu, potatoes, sweet potatoes, tomatoes, and fruits are grown mainly in courtyards and at the back of houses. While pepper has been produced in Barabhag in previous years, it has not been profitable and less will be sown this year. Banana is the most common fruit grown. Almost every household has bamboo, coconut, and betel nut trees. Some women participating in BRAC grow mulberry trees.

In seven of the ponds, credit farmers carry out fish culture using MAEP-disseminated technology. There are some contract farmers who also received training from MAEP and partially implement the new technology.

In explaining their Venn diagram, program participants said that BRAC is the main NGO, which began working there in 1984. UNDP was reported to have initiated some development projects in the village two years ago.

From case studies and FGDs, it was clear that both men and women in Barabhag hold that among the family members males are more important than females, “because a family depends mainly on men.” One villager said, “You cannot depend on daughters, who will leave the family after their marriage. Sons, on the contrary, will earn for the family.” Thus, like in Bhashiali, girls are married off early. Men cited the possibility that grown up girls may be raped by local hooligans. This, according to them is one of the reasons why they do not dare send their daughters to school. Besides, men hold that there is no use in educating girls. As one of the credit farmers, Abdul Khaleq, said, “If girls are

educated, they will get a job and would not abide by norms of *purdah*. This I cannot accept. Besides, other people are also against women's work." Marriage is traditionally arranged by a girls' father and her other male relatives. Women have no say in their children's marriage, and the bride's consent is never sought.

Dowry seems to be an age-old phenomenon in Barabhag. In our case study data, we found evidence of brideprice in a marriage that took place 48 years ago. A villager said that radios, televisions, and bicycles are popular items to be demanded at a wedding in Barabhag. He added that the size of dowry depends largely on the attributes of the bridegroom. For example, if the groom does not hold a job, the usual rate is around Tk10,000, whereas if he holds a job, his family usually demands about Tk20,000. Villagers said that there is competition to pay larger dowries as everybody wants to ensure a better life for his daughter by marrying a desirable groom. Furthermore, they said that small dowries "threaten" the marriage.

The terms of the dowry are more broadly defined here. It is not only demanded at the time of the marriage, but after marriage as well. The accounts of Abdul Khaleq and Ambia clearly demonstrate this. Their daughters are extremely beautiful, so the family began to receive marriage proposals when they were still very young. Their first daughter was married off at age 14, and no dowry was demanded. Later, however, the son-in-law started to resent it, so Khaleq bought him a calf. The second daughter was also married without a dowry. Then the son-in-law demanded Tk8,000. Khaleq and Ambia decided not to pay the dowry, saying that if the demand had been clear at the time of the marriage, they would have spent less on the wedding ceremony and paid the dowry. They leased out their cultivable land to pay Tk12,000 wedding expenses, and it is no longer possible for them to pay the dowry. This dispute was one of the causes of the breakdown of this daughter's marriage.

Men said that wives must obey their husbands. They added that whatever a husband does, he can never be at fault. Furthermore, a wife must remain thankful to her husband, because he has endowed her with the honor of being a wife.

Women's mobility is highly restricted in Kishorganj (Appendixes 10 and 11). Women (except for the extremely poor) wear an elaborate *burkah*, or dress that covers all her body except for the eyes, to go to the next *para*. While the *burkah* is a symbol of status in many rural areas, in Barabhag it is a necessity defined by the community, which holds even for the poor. Earlier, absolutely no women were allowed to work in the fields. Only some poor women used to work in other households. However, recently as a result of NGO interventions, poor women have begun working outside. There are two local cigarette factories in the vicinity, for which many women and children work at home. A few women have attended development-agency training on agriculture and fish culture. Even fewer went to Kishorganj for training on fish culture. Three young women recently went to Malaysia to work. Women are seldom allowed to go to Barabhag to attend social ceremonies. Some men allow their wives to attend religious sermons, but do not allow them to watch television. According to them, women get "spoiled" if they watch television.

6. DISSEMINATION OF NEW TECHNOLOGY AND INCOME

One of the main aims of the programs under discussion is to increase commercial production of the micronutrient-rich vegetables and fish. So, before going into the analysis of the distribution of benefits we briefly touch upon production and income from implementation of AVRDC and ICLARM technologies.

MORE INCOME?

In this section, we discuss whether household income has increased as a result of program participation. This discussion will be based on data collected through trend analyses, FGDs, and case studies. In Bhashiali, we found that the program participants have different sources of income, among which is vegetable production using AVRDC technology. According to participants, personal income has increased as a result of their participation in different NGO programs. During the trend analyses sessions (Appendixes

12, 13, 14, 15), they preferred to discuss general changes in their personal income as a result of participation in different income-generating activities rather than in vegetable production alone, which contributes a relatively small share of income. Since women consider GKT's credit program the most important factor in boosting their income, they were inclined to talk more about it than vegetable production. The facilitator tried to keep the discussion on track, but finally let the women discuss the overall changes first, and then tried to explore whether any changes were due to the particular program we are concerned with. The text presented here follows the same pattern. General changes are presented first and then we attempt to assess whether these changes are related to AVRDC vegetable production.

There was consensus among the adopters that they have greater employment opportunities leading to increases in income as a result of different NGO interventions (Appendix 12). The trend analysis shows that women's income has increased almost two-fold after the introduction of new technology. However, in explaining the sources of the increase, the adopters emphasized investment of their loans in agriculture, cattle, or poultry rearing. It was apparent from the discussion that vegetable production using new technology is a less important source of income.

All participants reported that they attended a one-day training on AVRDC technology, after which they received from GKT a few seeds, which they sowed in their courtyards, at the back of their houses, or in the land attached to their homestead (*palan*). Most women complained of the inadequate number of seeds supplied.

In some cases, the new technology was implemented by participants' husbands, who grew the vegetables on the land they operate in. Jobeda's husband, for example, started growing the vegetables immediately after she received the training, but she herself does not grow them. In contrast, both Aleya and her husband use this technology. Aleya grows the seeds in her palan, while her husband uses them on both his rented and owned land. In cultivating vegetables, he follows his wife's and the GKT extension officer's instructions.

In Bhashiali, the women said that the vegetables they grow are used both for their own consumption and for selling. They further said that the best products are usually sold and the rest is consumed at home. In some families, however, vegetables from this project are mainly used for home consumption. Vegetable production has therefore reduced expenditures on vegetables. One of the adopters, Rahima, said that the family now only rarely buys vegetables from the market. When okra and red amaranth were grown on Julekha's *palan*, she reduced her purchases of vegetables from the market. At times, she would add leafy vegetables other than red amaranth from the bushes and shrubs around their house, but she avoided purchasing vegetables. Jobeda's husband has grown AVRDC vegetables on the 5 decimal plot he owns. Jobeda reported that throughout the year, she cooked vegetables from their land almost every day. All the others as well reported consuming a substantial part of what was produced.

How much has the women's income increased from AVRDC vegetable production? Program participants had difficulty giving exact income figures. This is partly due to the fact that the size of production was negligible, as were sales and amounts earned. Besides, this petty cash is usually kept with income from other sources, complicating differentiation of the income. Data show that the range of income varied from case to case depending upon the land ownership status of the trainee's family, size of land allotted to these vegetables, the type of vegetable sown, and weather and level of care taken. The women from Uttor *para*, for example, received training but did not grow these vegetables. They were at first reluctant to talk to us about this. Eventually they told us that the size of their homesteads is so small that it does not allow for vegetable production. Moreover, some of them live on land owned by others. So, they received the training to receive the fee of Tk20 and that was it. (For GKT's part, it may have provided this futile training to meet certain targets.)

Among the new vegetable growers in Bhashiali, Rahima was found to have earned the highest income. Year round she has grown a number of AVRDC vegetables such as bottle gourd, okra, tomato, eggplant, bean, red amaranth, and potato. She is satisfied with the income gained from selling vegetables. While she could not give exact

income figures, she said she is able to pay the weekly installment and deposit the weekly savings from the earnings. According to GKT staff, the weekly savings amount is Tk5, and according to GKT's annual report, the size of weekly installment payment is Tk50. So, Rahima was able to earn at least Tk55 per week from production, which is a substantial income for a poor rural woman in Bangladesh.

Julekha has grown okra and red amaranth in her *palan*. Half the produce was consumed, some was given to neighbors and relatives as gifts, and the rest was sold from her doorstep. She earned about Tk250 selling these vegetables last year. Julekha plans to grow more AVRDC vegetables, because the yield is higher, it cuts expenses on purchase of vegetables, and it brings in additional income.

Aleya has grown AVRDC vegetables twice. The first time she grew Indian spinach, red amaranth, and beans on 4 decimals of land attached to her house. Her husband and son sold some of the vegetables. She could not give the exact figure that was earned from selling the produce, but guessed the income was around Tk400 over five months. Interestingly, her husband reported that the total income earned amounted to Tk500. The second time she grew summertime tomatoes and suffered a loss. Aleya's husband earned Tk900 from selling AVRDC vegetables that he had grown on agricultural land. Last year, vegetable sales from the rented land brought him Tk200. Half of the proceeds was handed over to the landowner and he kept Tk100.

In Enayetpur, one of the groups that adopted the new technology earned a total of Tk10,000 from sales last year. The 22 group members divided Tk7, 000 among themselves and deposited the rest in the bank. Moreover, 75 kilograms of fish from this pond were consumed by the families of the adopters. The other group, consisting of 21 members and implementing the new technology for the last five years, earned Tk14,550 last year.

The male credit farmers stated in an FGD in Barabhag that implementation of new technology has increased income from fish cultivation many times. In the past, they used to earn a maximum of Tk2,000–3,000, while they now earn about Tk8,000–9,000. Abdul Hakim, for example, released Tk900 worth of fingerlings the first time. After four

months, he received Tk2,100 from sales of fish. Now, he has about Tk8,000 in his bank account. They sell fish every three months.

In contrast, the female credit farmers from villages of Gafargaon did not know the size of production or of income from sales. Their narratives indicate that they are minimally involved in the project. None owned a pond. In order to achieve the target for female beneficiaries, the extension officer motivated their husbands without involving the women. The women do not know clearly what was discussed between them. When the men were convinced of the benefits of fish cultivation, they prepared papers showing that the women have leased in the ponds. The women then attended training at Gafargaon where either their husbands or adult sons were also present. After receiving the training, the women, accompanied either by their husbands or sons, went to the bank with the extension worker to receive a loan.

The female credit farmers' role is limited to feeding the fish, and the rest of the project activities is carried out by the male counterparts. For example, all the members of Asia's family are involved in fish culture. She and her four children feed the fish, but when the fish are caught and sold, she keeps herself out of sight of the fishermen. She knows that the fish are sold three times a year, but does not know how much is earned and deposited in her bank account. Her husband and eldest son carry out these activities.

Farida Yasmin, the young wife of an agricultural extension worker and daughter-in-law of a very rich farmer, does not even feed her fish. Her servants do whatever is needed for fish culture. She sometimes goes to the pond when she is sure nobody is around. Being a new bride (she has been married for more than three years now) she strictly observes *purdah*. Data from Gafargaon show that the men in the family decide when to catch fish. They call in the fishermen who catch the fish and sell them in the market. The women do not even know how big the catch is. The amount received from fish sales is deposited in the bank by the extension worker and the male members of the family. Thus, the women could not say how much was received nor how much was deposited.

In contrast to male farmers, female farmers did not have any plans for their accumulated savings. For example, since Sahera does not know the size of income from the project, nor the amount in her account, she does not have definite plans for utilizing the money after three years.

Given the greater production capacity, farmers in Barabhag earn a substantial income from fishponds. Income gains from the project in Enayetpur were greater than in Bhashiali; moreover, the income is distributed among the BS members equally, while the size of income from vegetable gardening varies largely among program participants.

WHO CONTROLS THE INCOME?

The nature of intrahousehold impact of additional income largely depends on who eventually controls the income. Undoubtedly, it is essential to target women for egalitarian shifts in distribution of benefits of additional income. However, in societies where women have minimal bargaining power, the increase in income is not necessarily an indicator of these shifts. In Sub-Saharan Africa, Dey found that "although women in theory generally have the right to dispose of the product and income from their own economic activities, in practice they are often constrained to using them to meet their responsibilities for certain expenditures…that are determined by their husbands or by prevailing male-enforced norms" (Dey 1992). In Bangladesh, men carry out transactions, receive cash from selling products, and thus gain access to women's income. In this male-dominated society, this amounts to control over the income.

As Blumberg (cited in Kibria 1995) notes in her work on gender stratification, it is women's control over key economic resources rather than mere economic ownership or participation that is critical to their power within the family. When women not only earn but also control the use of their income, they can use it more effectively as a bargaining chip with the implicit threat of withdrawing it from the household economy. It is recognized that women's ability to exercise control over their own earnings depends largely on cultural traditions, age, stage in family life cycle, and social class.

In Bhashiali, there was controversy among the women regarding the magnitude of their control over their earnings. In general, all of the women agreed that nowadays they handle more money, which includes their own as well as their husbands' earnings (Appendix 12). They explained that with the changing scenario in the rural areas, gender roles and responsibilities are also undergoing changes. Recently, women have become more capable of earning an income. The business and service sectors are booming in the countryside, providing the rural poor, but still mainly men, with various employment opportunities. The nature of occupation of landless or land-poor men has changed. While they may have been primarily engaged in agriculture previously, business or service is now an equally important source of income. The nature of economic activities they now undertake (driving rickshaw or vans) has greatly increased men's mobility, leading them to spend most of their time working outside the village. New responsibilities related mostly to household management have been added to the traditional gender-specific responsibilities of women. Thus, the sphere of decisionmaking and control of women over some of the resources have seemingly increased (Appendixes 12 and 23). They can freely handle and use money for daily expenses. This was made possible without radically increasing women's mobility, because vendors now come to the door to sell goods. However, women are still not allowed to make decisions regarding large expenses, and most women are conscious of the fictitious nature of their control over resources. They made sarcastic remarks about not being able to turn down any of their husbands' claims, even on their own income. For example, Honufa's and Julekha's husbands' took money from them for investing in their business, and Monwara's, Halima's, and Momtaz's husbands took their money to buy land, seed, and fertilizer. The women said that the money is never returned.

It was found that the income generated from the agricultural land is treated exclusively as men's income and income from *palan* as women's income. Thus, whether women have brought in the technology or not, or allocate labor to the production or not, they do not have any greater access to the income earned from implementing AVRDC technology in the agricultural land than they usually have to the income earned by men.

Moreover, women often cannot retain—either fully or partially—the income they earn from the vegetables they grow. In families where men exercise more control and sell the produce, earnings from the production of improved vegetable varieties is often used by them. However, not all the women depend on their husbands to sell vegetables. Now some wholesalers go from house to house to buy commodities. Some women use this opportunity to sell the vegetables at home and keep the money in their own hands, saying that men sometimes overlook these petty earnings. Thus, despite the limitations, earnings from vegetables are quite useful to women who do not involve men in this project. A woman commented, “Earlier, once men came to know that their wives have some money at hand (may it be as small an amount as Tk50) they used to get it from them by hook or by crook. Now, women have become clever. They do not tell their husbands about their money.”

In Bhashiali, most of the women were found to differentiate between their own and their husbands’ earnings whether they pool them or not. Almost all were found to maintain secret savings stores (*zolaitta*). Those who differentiate between their own and their husbands’ income are most likely to be successful in keeping control over their own income.

Furthermore, we found that women selling vegetables themselves at home or selling them by sending their sons to the market usually have greater control over the income. If husbands are involved in selling, the women either fully or partially lose control over the income. Recall that Sufia and Aleya could not give the exact figures of income from selling vegetables, as their husbands sold them in the market. Sufia did not get any money from her husband after the sales took place. On the other hand, Julekha usually sells vegetables to wholesalers herself and keeps the income—she never tells her husband how much she has earned or saved. Rahima sends her son to sell the vegetables in the market and retains full control over the income.

Halima is a very interesting woman who fought hard to retain control over the income from vegetable production. Her husband received Tk500 from sales of bottle gourds and claimed the money. To this Halima reacted by retorting, “Okay. You have

made the *jangla* (a frame made usually from bamboo for supporting the plant), so you receive your payment as the day laborer (the wage rate is Tk30 per day). But I have sown the vegetable so the rest belongs to me." Unfortunately, all these debates are around the ownership of the money, which is kept by the husband. Halima said that she knows how much money she herself has earned, and it does not matter whether it is with her or her husband. She is confident that if necessary she can always recover the money from her husband. It must be mentioned here that the land purchased using Halima's loan from GKT is in her husband's name. Despite her confidence, it is hard to imagine how she could ever recover her financial contribution to the family. (In fact, a marriage dispute is highly possible, because Halima is childless and currently struggling to curb her husband's desire for another marriage.)

In Enayetpur as well, women said that they now handle a fair amount of cash, including their own and their husbands' earnings. However, in contrast to the women of Bhashiali, they related it to fish cultivation. Before fish cultivation, they had no such opportunity, since some husbands would not give them any money. Things began to change after women began earning their own incomes. For example, Rizia's husband did not use to give her his earnings. Later, when Rizia got involved in fish cultivation and started to earn an income, she gained her husband's confidence. He started to hand over his earnings to her, and she currently manages the household budget.

Firoza Khatun said that her husband has always given her his earnings to keep, but she never dared use them. However, when she needed some money, she used to hide a portion of the rice crop, which she would sell at home. With that small amount she could occasionally buy a blouse or give her daughter some pocket money. Now that she has her own income she keeps it separate. Her husband continues to give her his earnings to keep, and she is now allowed to use this money. Her husband never tries to gain access to her income.

As mentioned, in MAEP program the income from fish cultivation is deposited in the farmers' bank account, but they have not yet obtained access to that income. So, the question about control over the income is irrelevant for male farmers in Barabhag.

However, they do participate in catching and selling fish. In contrast, the female farmers do not usually know how many fish are caught or at what price they are sold, and thus do not know how much was earned or deposited in their accounts. The women's role in the whole process is even less than a laborer's, since there is no direct payoff.

Fungibility of credit is also an issue after loans are used for other purposes. Sahera's husband used part of a loan intended to cover the fish production costs for buying goods for his shop. Although legally, Sahera leased in the pond from her father-in-law, it is unlikely that she will utilize or control the income from pond cultivation.

In contrast to all the other female credit farmers, Mojida Khatun has a vague idea of the amount of money deposited in her account from selling fish through her eldest son. And this was not because she had any greater involvement in the project. She came to know about it when her eldest son discussed getting access to it for meeting the family's needs. At first, he convinced the extension worker to withdraw Tk6,000 from the account for buying a cow. The cow was bought about a year ago for feeding Mojida's husband with milk. The cow has now stopped giving milk. So, Mojida's son wants to withdraw from the account the rest of the money (around Tk7,000) either to buy another cow or to buy some land. If he decides upon the latter, it will be bought in Mojida's husband's name.

Thus, program participants in Enayetpur exercise greater control over their income adopters from Bhashiali, which is mainly attributable to the group approach adopted by BS in project implementation. In Bhashiali, only those women who sell the produce at home or sell it through young sons stand a better chance to retain control over the income earned. The situation in Gafargaon is even worse. The women here do not even know how much is earned from the project.

MORE SAVINGS? MORE INVESTMENT?

In Bhashiali, program participants reported that they sometimes use the earnings from sales of vegetables for investment purposes. For example, Halima, Honufa, and

Julekha have used their earnings to become moneylenders. Other women purchased poultry.

In Enayetpur, we found that women usually do not spend all their earnings instantly unless there is an emergency. They reported that as earnings from this project increased, their savings from other sources increased as well. They prefer not to deposit it in the bank so that they can have easy access to it. Women use these savings both for consumption and investment, although only small investments are possible given the size of the income. Those women whose families own cultivable land often give their husbands money to purchase fertilizer or other agricultural inputs. Most of the women use this income to buy poultry; some have even bought goats from the sale of eggs. Firoza reported that she has invested the income from fish cultivation to lend money at a 100 percent rate of interest. The women stated that one of the major reasons for savings and investment is to accumulate dowries for their daughters' marriages.

The MAEP program is designed to boost savings for future investment. The income from sales is deposited in the joint bank account of individual farmers with DANIDA and the farmers can withdraw the total amount only at the end of the three-year project. The male farmers liked this arrangement because it prevents them from spending the income at hand instantly. When they receive the total amount they can then invest it in some profitable venture. Some of the male farmers have plans to lease another pond while, others want to enlarge their current ponds.

In summary, income from vegetable production is petty and tends to be spent instantly, or it is kept together with other income and this makes it difficult to sort out its use. Rarely, women accumulate income and invest it in moneylending. In contrast, income from fish cultivation in Enayetpur increases the size of savings of the program participants. The money is used either for emergencies or is invested in money-lending businesses or in buying poultry, goats, or agricultural inputs.

DISTRIBUTION OF BENEFITS

Cooperative bargaining models predict that women's economic gains translate directly into increases in their threat points and hence into increases in the well-being of family members. A host of literature produced by sociologists and anthropologists suggests that men and women do not make the same choices regarding expenditures and human capital investments. Many researchers have argued that women display greater altruism, especially in relation to children (Kabeer 1992). It is therefore interesting to see how women use the benefits of these projects and whether these gains provide women with additional leverage to achieve egalitarian shifts in gender relations.

MORE FOOD AND BETTER FOOD? FOR WHOM?

A study in Brazil (Thomas 1992) found that, although household food shares decline as women's income rises, food expenditures rise and the composition of food consumption changes. The calorie and protein content of food tends to rise as income is distributed away from men toward women. The income of women is therefore associated with higher per-capita calorie and protein intake by household members, and these income effects are significantly larger than those for men. However, the women themselves do not necessarily benefit from this changing pattern. As Kabeer (1988) pointed out in relation to women in Bangladesh,

> Women are quite literally a residual category in the distribution of food, eating after men and usually after children, and making do with what is left. This is partly self-imposed deprivation since it is women who cook, distribute and serve meals. But it is sanctioned by widely held belief that the practice ensures the longevity and good fortune of the male guardians.

It has been mentioned that in Saturia a part of the produce is consumed by the families themselves and some is sold either in the market or from the home. According to the women, vegetable consumption in general has increased in the families that grow the improved vegetables. We found that the women are likely to eat more of these vegetables

since other household members, especially men, continue to prefer traditional varieties. Aleya, for example, said that neither her husband nor her children eat these vegetables. Similarly, Julekha said that her family members do not like the taste of the vegetables. Thus, because others do not like them, the women are allowed to have more of the new vegetables in their diet.

According to the program participants in Bhashiali, both the amount and the variety of vegetables consumed have increased in their families after introduction of AVRDC vegetables. A woman said that previously only a limited number of vegetables were grown on the homestead, including bottle gourd, beans, cucumber, pumpkin, etc. Men used to grow eggplant, radish, and a few other vegetables in the cultivable land. The additional vegetables women grow now are red amaranth, okra, Indian spinach, cabbage, tomato, etc. There are more varieties now and the quantity produced is larger. As a woman said, “While women often had to eat rice with mashed chili and turmeric previously, now they can eat vegetables round the year.”

In the FGD and trend analysis sessions (Appendix 12), the women stated that with increases in household income in general and women’s income in particular, expenditures on food have also increased. The case studies also showed that people are better fed now. As Aleya said, “Previously, at times we had to eat *jau* [porridge made of wheat]. Now we always eat rice.” Rahima said, “Now during *awbhaber shomoy* [crisis period], we may go without fish or meat but not without rice.” In a focus group discussion, women said that previously the meal used to consist of rice and pulses, but the variety of food in diet has now increased. This is because men are no longer the sole income earners and women now contribute to family income. Presently, the diet consists of rice, fish, vegetables, pulses, sometimes meat and eggs, milk and fruits, although, meat, eggs, and milk are eaten less frequently. In order to highlight the change in the quality of food they now consume, one woman said, “Earlier we used to have *panta bhat* [rice cooked the day before and preserved with water] in the morning and now we eat *gorom bhat* [freshly cooked rice]. Previously, they could not afford to cook twice a day since it requires more fuel. But with their improved financial status, many can now afford to do so. The women

now regularly buy for their children snacks and fancy food like cookies, candy, and bread for their children using their money. However, the women made it clear that these changes took place as a result of participation in overall NGO programs, not specifically because of vegetable production.

Though recently food availability at the household level has increased, the pattern of intrahousehold distribution of food by gender has not yet changed much (Appendix 14). The women said that even if the number of meals decreases from four to two for women, they still try to feed their husbands and children as frequently as usual. According to the women they undergo self-deprivation because they have to feed men and children well. Since men undertake a lot of manual labor, they are perceived as having greater food requirements, while children go to school and need sufficient food for the development of their brains. Thus, when food is scarce women sacrifice their share. Girls may also be fed less frequently than boys, which women justified by the fact that they are often not in school. They also mentioned that the girls must get used to such deprivation.

In Enayetpur, we found that the families consume only small amounts of fish from the pond. The women and their spouses reported that they usually catch fish for consumption when there are guests. This implies that not much of that small amount is actually consumed by the household members and, given unequal pattern of intrahousehold distribution of food by gender, it can be assumed that women hardly have any share. FGDs and case studies conducted in the study supply ample evidence of the unchanged nature of intrahousehold food distribution, suggesting that women in fact consume a small share of the micronutrient rich fish.

The poor in Enayetpur have a hard time during the months of February, March, and September. During these months employment opportunities are limited and the cash at hand is invested in agriculture. It is during this period that women and girls suffer most, even though the women usually spend their income from fish culture and other sources to buy food in such periods. The women argued that distribution of food in favor of men is justified because men work hardest in the fields, on streets, in the rain, and

under the scorching sun. So, when food is scarce, women reduce their own intake and eat only two meals.

The quality of the food consumed by each household member varies as well according to relative bargaining power. Food is scarce in Rizia's family during the months of May to July. Her husband is a "van" driver, who often cannot work during this period because of rain and storm. During those months, all the family members have two full meals while Rizia has only one. Still, she said that her husband suffers most in this period because he cannot eat fish, milk, or bananas, which they often buy exclusively for him at other times of the year. She said he just couldn't eat simple meals. Rizia said that she does not discriminate against her daughter in food allocation. Her daughter, who works at the BS office, contributes significantly to the family's income from her embroidery.

This pattern of food distribution is observed at other times of the year as well. Women sacrifice the food traditionally perceived to be delicacies in favor of men and male children. Moreover, women eat last and whatever is left. As Morjina's husband Hossain Ali described, "Men eat first and then women eat. A wife lives in her husband's house and not the opposite. So, it is only natural that men will eat first. If not enough food is left after men eat, the women may manage to borrow some food from the neighbors; otherwise they eat whatever is left." Narration of other program participants showed similar pattern of food distribution and self-deprivation by women.

Morjina Khatun said she uses the income earned from fish cultivation to purchase food items during periods of crisis. In normal times, the family eats a lot of vegetables with rice. Once or twice a week they may have fish, but they sometimes go for one or two months without fish. They have meat only three times a year during religious festivals like *Eids* and *Shab-e-barat*. Similarly, Momena's family cannot afford to eat fish daily. Families like Momena's and Halima's often go without pulses as well. In general, they eat less of those items, which have to be bought. Thus, they mostly eat rice and vegetables along with fruit from their own trees. Occasionally they eat eggs from their own poultry. Nobody among them has fish more than once or twice a week.

In Mymensing, most of the credit farmers belong to much higher socioeconomic categories than the stated criteria for eligibility. Some of them are quite rich owning three or more acres of land. These farmers have larger ponds, and thus production is greater and fish is regularly consumed in these families. Although gender discrimination in food allocation is prevalent here as well, the women still were found to have at least some fish, which can be explained by the income effect.

It is obvious that the pattern of intrahousehold food distribution by gender has remained unchanged for the beneficiary households in all the study villages.

IMPROVED HEALTH-SEEKING BEHAVIOR?

Program participants in Bhashiali hold that health-seeking behavior in their families has improved in general and for children in particular (Appendix 14). They pointed out that the decreasing number of children has increased their value. People are more conscious about children's health needs, and thus girls are now less likely to be discriminated against.

Another reason for improving the treatment of girls mentioned by the women in FGD and case studies is that mothers now have the ability and inclination to pay for their treatment if the father does not wish to do so. Fathers were said to take a son's illness more seriously than that of a daughter. Though this is true for mothers as well, a sick girl child is still usually a mother's responsibility. In contrast, household resources are mobilized if a son is sick and requires treatment. With increased financial capability, boys receive better treatment. While women are more likely to pay for a daughter's treatment than their husbands, they themselves attach more importance to their son's treatment. They emphasized that sons must be cared for well because they will provide support to their parents in their old age. For example, a few months ago Shahnaz's son had tuberculosis. Her husband wanted to treat him locally. Shahnaz took the initiative to go to Dhaka Shishu Hospital where he had to stay two months before he was fully cured. Most of the expenses related to his treatment were borne by Shahnaz herself. Similarly, adult men in the family always avail themselves of the best possible curative services.

Now, they have better treatment possibilities as women contribute for their treatment. Program participants found it difficult to sort out the contribution of vegetable production in increasing their financial capability that translates into better treatment-seeking behavior for their daughters. They explained that this is because they have different sources of income and competing priorities for using the scarce resources that women have. Thus, daughters have better chances for treatment if other, more important issues do not have to be resolved by the women at the same time. For example, if both a son and a daughter have to be treated and there is just enough money to treat only one, the son will undoubtedly prevail.

While preparing the mobility map for treatment, program participants informed the team that there are many village health practitioners in Bhashiali and neighboring villages. In Saturia, there is a medical hospital as well as many private practitioners. Still, even a few years ago it was hard for women to obtain any treatment. The women said in the trend analysis session that the men would never ever inquire about women's health problems, even when they were bedridden. When they were sick, women were often told that women do not die. Only in case of serious illness were religious healers called in. While the program participants used to be fully dependent on men, they are now earning their own incomes and have increased mobility. So, when they fall sick, they now have a better chance of obtaining treatment, though they may not want to use it. Women also pointed out that in a nuclear family, the most widespread family structure in Bangladesh, the opportunity cost of having a sick wife is greater than it was in the previously common extended family system.

Still, women used to the practice of self-deprivation hardly seek proper treatment for themselves. Thus, Julekha told us that when her husband had severe diarrhea, she spent Tk500 to cure him, but when she had the same disease, she did not call in a doctor nor did she purchased oral saline as she had in her husband's case. She simply took homemade oral saline without consulting anyone. She said that she never goes for treatment unless the disease is in a very late stage. She justified providing better treatment for her husband with the saying, "If men survive, a family survives."

Thus, in spite of some changes, things have not yet changed radically. Since women are trained to be tolerant and shy, they do not usually communicate their health problems with husbands in the initial years of marriage, especially if it is a reproductive health problem. Men, on the other hand, attach the least importance to the sickness of females in the family. Only when the suffering becomes intolerable do the women seek advice from female neighbors or relatives. At first, they try herbal medicines, and only talk to their husbands if they are not cured. Julekha, for example, explained that this is because "women can endure a lot. They do not die [when they go] without medicines." Even in the case of unwanted pregnancy, women may refuse to share the information with husbands. For example, a woman who did not want to disclose an accidental pregnancy to her husband came to Mohela for help. She asked Mohela to accompany her to the hospital in Saturia where she underwent an abortion.

For all sorts of treatment, women and their family members in Enayetpur usually go to the neighboring village of Monoharpur, where both allopathic and homeopathic treatments are available. It was clear from the FGD that, like in Bhashiali, a husband's treatment takes priority because he is the breadwinner, and women's own diseases are neglected, not only by others but by themselves. For instance, Rizia spent Tk3,000 from her savings for her husband's treatment, but said she would hardly do so for herself.

Women often try herbal and religious treatment and seek allopathic or homeopathic treatment at Monoharpur only as a last resort. Men go to Monoharpur more frequently and at an earlier stage of a disease. Men even go to Jessore for treatment. Women may go to Jessore medical hospital if they have a complicated pregnancy. Mobility is not the important factor, which constrains women from seeking medical care. Their mobility increased markedly after they joined BS and got involved in fish cultivation and learned to go to Monoharpur market without being accompanied by men. Thus, financial constraints, and socially and culturally accepted and internalized priorities, rather than lack of mobility hinder women's access to health care.

However, there is substantial variation in health-seeking behavior among BS members. For example, a BS member named Anwara suffers from high blood pressure

and was taken to a doctor in Jessore. Currently, she regularly takes medicines prescribed by the doctor, and from time to time her husband takes her to the doctor for a check up. In contrast, treatment-seeking behavior in Parul's family is clearly differentiated by gender. Parul generally goes to the village doctor and only once has gone to Jessore for treatment. She had duodenal ulcer and was cured after following a prescribed diet and medication. Her husband always goes to the doctor in town for his own treatment. Similarly, for her son's treatment, they always go to the town but go to the village doctor for her daughter. Thus, there has not been any change in gender-differentiated pattern of treatment-seeking behavior in the families of program participants in Jessore.

BETTER EDUCATION?

Evidence from Brazil and other countries suggests that an increase in women's income raises the share of the household budget spent on education, healthcare, and household services much more than if the additional income was in the hands of a man (Thomas 1992; Garcia 1990; Katz 1992). This is true in Bangladesh, where it has been found that women spend their income primarily on children's education and miscellaneous items especially for children (Naved 1994).

Program participants in one of the focus group discussions in Bashiali said that several factors underlie the desire to educate children. Previously, education was not highly valued by rural people. Presently however, both the enrollment and educational attainment of children has increased. Parents recognize that more education is essential for improving their daughters' marriage prospects. The women also recognize that better-educated women have a much better prospect of finding jobs than men. Moreover, there are now other incentives for educating girls like the Food for Education program and scholarship program for girls, and NGO schools, all of which reduce the direct costs of schooling. Since the women now have some earning capacity, they can send their daughters to school by bearing either all or part of the expenses, even if their husbands do not favor the idea of educating daughters. The women purchase dresses and

miscellaneous items (slippers, pen, pencil, eraser, etc.) for sending children to school. The program participants may also pay school fees, if necessary.

In one of the group discussions in Bhashiali, there was a debate on how increased involvement of children in vegetable cultivation influences their education. Some women were saying that this has an adverse effect. Julekha's daughter, for example, would not listen to her mother who insisted that she prepare her lessons in the morning. She would rather go to water the vegetables, spending a lot of time on this activity everyday. According to Julekha, this is why her daughter could not sit for last year's examination. Honufa complained that her son is worn out when he returns from selling vegetables in the market and cannot prepare his lessons. On the other hand, some women emphasized that vegetable production has positive effects on their children's education. They cited the example of Momtaz's and Zohra's daughters, who bear education-related expenses by growing vegetables. A note of caution should be sounded here. We found that these women hold multiple memberships in different NGOs. They informed us that other NGOs like BRAC and Proshika also trained them in vegetable production and supplied them with seeds. So, not all the vegetables grown by them were AVRDC vegetables. Also, Honufa's son not only sells vegetables grown by his mother, but some of his father's produce as well.

Women from landless families in Enayetpur were reported to often use income from fish culture to pay their children's examination fees. For example, Momena used her total income from fish culture to pay her two sons' exam fees. The women said that there are many expenses associated with sending children to school, i.e., notebooks, pens, pencils, dress, slippers, and soap, all of which are covered by the income from fish culture.

The female credit farmers reported that decisions regarding children's education depend entirely upon their husbands. Husbands bear the all expenses related to schooling children, including school clothes. Since husbands decide whether to send a child to school and how long he or she will continue, it is difficult for women to predict whether, if at all, their children will be educated.

BETTER HOUSING?

Nobody in Bhashiali was found to invest in improving housing conditions, which is understandable given the negligible incomes and the fact that this income is usually not accumulated. Two BS members in Enayetpur involved in fish cultivation constructed brick houses by pooling their income with other family income. In these two families, men's earnings are used for daily expenses, and women's income is saved and often reinvested to increase savings. These savings were used to construct the brick houses.

BETTER CLOTHING?

According to the program participants in Bhashiali, previously only men used to dress well. Now, with increased mobility and exposure, as well as their own income, women dress much better (Appendix 12). Some women said that they sometimes buy their saris from their own earnings. They also contribute to the purchase of all household members' clothes during the *Eids*. But again, this is from the women's overall savings from different sources, and vegetable production is not the main source of women's income.

Buying dresses for children and other family members is another common use of the income from pond cultivation in Enayetpur. For instance, on the occasion of *Eid Aleya*, Firoza and Rahela made shirts for their sons. Khushmon, Zohura, and Kohinoor made dresses for their daughters, and Halima and Kohinoor bought saris for themselves. Morjina sometimes buys saris from door-to-door salespeople. Once she bought a shawl for her husband and he was very pleased. Rizia said, "I used to have only one sari. After bathing, I had to wear the wet sari again." Now, she owns three saris, wearing two regularly and the third occasionally. Whenever any of them is torn she buys another instantly.

GREATER MOBILITY?

Women's mobility has increased significantly over the recent years in Bhashiali. However, the increase in the mobility related to AVRDC vegetable production is

negligible. Women had to go to the GKT training center across the road to attend a one-day training. The training center is by a pond where these women go several times a day for bathing, washing, and fetching cooking water. The seeds were delivered by GKT staff to the women's doorstep. Most women have sown these seeds in their courtyards or plots attached to their houses. If the vegetables are not sold at the doorstep, then either husbands or sons take them to the market.

Introduction of the new fishpond technology in Enayetpur has not increased women's mobility, since women no longer have to go to the market to get cow dung for feeding the fish. Now, they obtain other food items without having to go to the market.

The polyculture fish project in Gafargaon has not increased women's mobility either. Although the female credit farmers had to go to the MAEP office at Gafargaon for training, they are not much involved in the project, as their husbands make most production and marketing decisions.

BETTER GENDER RELATIONS?

Income earning by women has the potential to generate egalitarian shifts in gender relations at the household level by providing women the bargaining chips with which to assert power in household decisionmaking. However, this potential for positive change is not always realized (Sen 1990). Kibria (1995) pointed out that the impact of a woman's income on her power within the family depends on the symbolic meanings and interpretations that are attached to the income by the woman and her family members. Thus, in an adverse situation, women's income may actually boost family conflict (Kibria 1995). On the other hand, Safilios-Rothschild and Mahmud (1988) observe that in patriarchal societies men may be less inclined to directly assert their authority and demand control of women's income, because their economic superiority and headship over women is so firmly established. Thus, it is important to look into the impact of the income gains the projects under study, how this income is perceived by the household members, and whether the women use their earning capacity to leverage egalitarian shifts in gender relations within the household.

In Bhashiali, the program participants believed that their status in the family has been enhanced, but attributed this mainly to NGO credit programs.

In Enayetpur, it is obvious from the FGD and the case studies that spousal communication has improved as a result of involvement of women in income-generating activities such as fish culture. The traditional "separate spheres" in decisionmaking has undergone some changes. While women were previously uninvolved in major decisions regarding investment or sales of major assets, women are not only consulted but some even take these decisions themselves due to their contribution to family income. At present, many families use the loans received by women and/or the income earned by them to purchase assets such as land, cattle, or rickshaws. Thus, women gained the right to participate in investment decisions and have more say in all the spheres of household decisionmaking.

Participation in group activities, training, and interaction with the world beyond their immediate families has made BS members more confident and articulate and has improved their bargaining skills. As Firoza put it, "I can now spend money without asking my husband's permission. I have become confident. I interact with many people. I have learnt to speak up. My husband now listens to me." However, the opportunity is not always utilized effectively because of the prevailing traditional concepts of gender roles and images.

Some men now appreciate women's contribution to the family. Firoza told us proudly that her husband told her the other day, "This family has been recreated by you. It was not so bright as it is now." Indeed Firoza has earned the respect of all of her family members. Her brother-in-law always boasts that his sister-in-law is an "expert," and he often seeks her advice.

Rizia said that her family members appreciate her being involved in the BS program, and feel proud of her when she goes to Jessore to receive training. They helped her pack up and her husband gave her a ride on his "van." This overwhelmed Rizia. She recalled days when she used to be physically assaulted by her husband with regularity. He used to squander money and gave her no money at all to run the family. Now things

have changed: he no longer beats her, he gives her all his earnings, and he does not gamble anymore.

Some villagers used to criticize the women for joining BS. Firoza said that now the men and women from the village respect the women involved in fish cultivation. They come to see the catch and praise the BS members. Men come to them to learn the new technology, and those who learn from them respect them very much. This makes the women content. When Rizia returned home from her first training, the villagers crowded around her. Seeing her new sari and her new hairdo, neighbors clapped their hands in appreciation and the children danced.

Despite villagers' appreciation of women's involvement in income generation, girls are still not highly valued due to the dowry system. For example, Rizia's eldest daughter used to do embroidery at the BS office, earning about Tk550 per month. A major part of her earnings went into dowry accumulation. She has been recently married off, and her sister has now taken over her place in the office. Still, Rizia said, "I prefer sons. It is hard to marry off daughters. The birth of a girl child disgraces the mother and her head is bent. If a boy child is born a mother feels proud and honored. The birth of a girl means the birth of worries and concerns."

The female credit farmers in Gafargaon have minimal decisionmaking power. It is entirely up to men whether they will consult their wives before making any household decision. In general, men take all the decisions regarding the household budget. To emphasize their lack of decisionmaking power Sahera said, "I have given birth to four children, yet I ask my mother-in-law how much rice I'll cook for the day. I never do anything without asking her."

The women also do not have control over their own bodies; husbands decide how many children a woman must bear. While a few men now discuss with their wives how many children they will have, men always make the final decision. Similarly, the timing of childbearing is also not under women's control. Both the decision to use contraception and the choice of method depend on men. Men never use male methods. A woman said, "Men do not use any method because they do not want to die. Instead, they make women

use contraception." Another woman explained, "They do not want to use any method themselves, because they are afraid it will make them impotent." Thus, female credit farmers do not notice any change in their status within the household that they could attribute to fish cultivation.

7. DISCUSSION

It is clear that for most of the women, income gains from implementation of the AVRDC technology are not substantial. However, it needs to be remembered that the program participants come from poor households. Moreover, women are targeted for the project, and there are several reasons why women's ability to utilize the knowledge of new technology and to earn a substantial income by implementing the technology is limited. First, the land tenure system is not in their favor. Although Islamic law gives a daughter the right to inherit half the son's share of patrimonial property, the right is more formal than real. The strict enforcement of *purdah* means that women cannot cultivate the land themselves, negotiate directly in the market for labor and other inputs, or sell the produce. Such functions are mediated by their male representatives, who thereby gain de facto control over the land and its produce. Women's control is further weakened by the practice of village exogamy: as married women tend to live at some distance from their father's property, they must rely on others to represent their interests. Furthermore, most women waive their rights to the land in favor of their brothers. Since they are dependent on male protection, they exchange their right to land in exchange for the promise of kin support in times of distress. Such support is prescribed by religious and cultural norms, but it is more likely to be forthcoming if women renounce their claims (Kabeer 1988).

Second, the gender division of workspace between men and women validated by the system of *purdah* does not allow women to grow these vegetables in the cultivable land owned by the family. Thus, women in Saturia ended up implementing new technology in their homesteads, which is the traditional domain of female activities. Thus, production of AVRDC vegetables in homestead does not contradict traditional

norms and does not challenge the existing gender division of labor and workspace. Another implication is that for women the scope for implementing the new technology is limited to the homestead plots resulting in small size of production and income. The fish production by women's groups in Jessore appears to promise better results in challenging the gender division of workspace. However, internalization of this division by women still hinders use of this opportunity, which is apparent from the fact that women are reluctant to increase the size of the operation if it would require a substantial increase in their mobility and make them work at a place further away from their houses.

All these factors lead to the allocation of small plots for these vegetables, small production, and thus, small income. Unfortunately, whatever the income, women do not automatically have control over it, as sale of produce is mostly mediated by men. Women have to deal with men individually to gain control over the fruits of their labor, and often they give up the income either fully or partially. Thus, intrahousehold power dynamics have not changed much.

Another factor is that only a small amount of the vegetables are sold, which, because it brings in only small amounts of money, make this income not quite visible. Two major implications follow from this. First, such income does not contribute much to improving the status of women, either within their households or in the community. And second, even the women hardly notice the income, and mostly use it as petty cash.

For fish cultivation, ownership of ponds was transferred to individual women in Mymensing and to groups of women in Jessore. Though the income earned by an individual woman from this project in Enayetpur is by no means greater than that earned by those implementing AVRDC technology successfully in Bhashiali, the project has some important advantages. First, in Jessore, groups of poor women actively participate in the production of fish, effectively involving men at different stages but by no means losing control over the project. Here the negotiation takes place at a higher level than the household. Individual men must negotiate with groups of women who are backed by an organization. Thus, men do not have direct access to the income.

An important dimension of fish production by groups of women is that it challenges the traditional gender division of labor and workspace. Involvement of women in production outside home initially met with negative reactions from the community, but when the project proved successful in bringing a financial return, women's position within households and communities was strengthened.

The periodic sale of fish brings in an income that is not negligible for a rural woman. In contrast to the vegetable growers, who tend to spend their earnings instantly, the women in Enayetpur usually save the amount and use it for investment or emergency purposes.

No doubt the success of this project is largely due to the group approach in project implementation. In fact, in male-dominated societies where women have extremely limited access to internal or external support networks, targeting programs to women as individuals without providing an alternative source of support is bound to fail in its gender goals. This is evident from MAEP program that targets individual women. Intrahousehold dynamics were disregarded in the design of this particular program and, as a result, women are minimally involved, and the project is fully controlled by men. At times women were found to provide labor input to the project without directly gaining any benefits. Although the MAEP program in Gafargaon was reported to bring a sizeable income, this had no positive implications for women.

Greater care is needed to ensure that development interventions do not lead to increased male control of female labor and earnings. As was shown when the new vegetables were grown in the field, men played the main role in production and marketing. Given the tenure system and the tradition excluding women from the processes of production and sale of produce, the program may not be able to address intrahousehold distribution. If men control vegetable production, and as it becomes more commercialized, there is a danger that women will have even less control over the proceeds from adopting the new technology. Women in that case will merely supply the labor without due remuneration. In fact, there is the possibility that there will be an

increase in the demands on their time, while the existing patterns of intrahousehold food distribution will remain unaddressed.

This study finds that the transfer of AVRDC technology has marginally increased women's consumption of these particular vegetables, but mainly because the vegetables are not considered as tasty as traditional varieties.

Fish cultivation clearly failed to improve traditional pattern of intrahousehold food distribution, which favors males. The share of women and girl children remains negligible in intake of micronutrient-rich fish, which is viewed as a delicacy in poor households. In Enayetpur, the size of fish production is not large enough to allow females to consume this food after the males have had enough. Thus, in Bhashiali, intake of micronutrient-rich vegetables by women increased within a short period due to the intrahousehold dynamics of food distribution that tend to make women consume the bulk of low-status food.

Although group-based fish production does not immediately result in increased intake of micronutrient-rich fish by women, it still seems to be an effective strategy in the long run as (1) it brings more income over which women have greater control; and (2) it strengthens women's position and may provide them with greater access to micronutrient-rich food in the future.

APPENDIXES

APPENDIX 1
A SHORT NOTE ON THE QUALITATIVE TECHNIQUES USED

HISTORICAL PROFILE

Historical profiles of the program villages revealed important information for understanding the present situation. It provided a summary overview of the key historical events in a community and their importance.

TRANSECT

Transect in this study basically consisted of walking through a village to get a firsthand impression about it based on close observation and informal discussion with the villagers on available natural resources, land use, sources of income, living conditions, conditions of women and children, etc.

SOCIAL AND RESOURCE MAPS

The male villagers prepared these two separate maps. The social maps contain information on spatial arrangement of households, primary occupation of household heads, roads, canals, rivers and ponds, fields and land, educational institutions, religious institutions etc. The resource maps focused on water resources, main agricultural crops, and trees and plants.

VENN DIAGRAM

The Venn diagrams show the development organizations that operate in the program villages, their interrelationships, and their importance as perceived by the villagers.

KEY INFORMANT INTERVIEWS

These were interviews of knowledgeable individuals who have some firsthand familiarity with the issues or settings to be studied to elicit their perceptions of the nature

and extent of the problem under study. Three types of key informants were interviewed in this study, namely the program directors and managers, the outreach staff, and the beneficiaries. In addition to queries about the program in general, questions on perceived intrahousehold impact of the transfer of new agricultural technology were also included in these interviews.

OBSERVATION

Observation is important for crosschecking information as well as for finding out new information. In this study, nonparticipant observation of group meetings was carried out. The observer's role was nonintrusive.

FOCUS GROUP DISCUSSION

This is a method of getting information from a group of four to eight people, all of whom have a common background, by discussing a particular topic. A moderator leads and stimulates conversation using a guide. In the present study, several FGDs were conducted at each site. The topics were income distribution, women's status, and attitudes and aspirations.

CASE STUDIES

The case studies included semistructured, open-ended interviews of program participants and their spouses. The case studies included detailed background information of the program participants (i.e., information on marriage, joining the NGO, adoption of new technology, distribution of output, income, control over income, distribution of income, status within the family, attitudes related to gender, aspirations regarding daughter's future, etc). The distribution of case studies is shown in Table 1.

TREND ANALYSIS

A trend analysis shows changes over a period of time. In the trend analysis sessions, participants were requested to show the status of some indicators before and

after the introduction of new technology by putting seeds or beans or other tiny things in the boxes corresponding to the different periods. The themes for the trend analysis were employment and earning opportunity of women, control over income and use of income, role of women in household decisionmaking, abuse of women, etc.

MOBILITY MAP

Two types of mobility maps were prepared in each program village, one illustrating mobility of women seeking healthcare, and the other mobility for other purposes, including work, recreation, and social work. Several dimensions of mobility such as distance, frequency and purpose of visits, etc. were discussed during the session.

IMPACT FLOW

This is basically a flow chart showing the effects of the transfer of new agricultural technology as perceived by the beneficiaries.

APPENDIX 2

USE OF QUALITATIVE TECHNIQUES FOR COLLECTING DIFFERENT BLOCKS OF DATA

Block	**Technique**	**Who participated**
Village profile	Transect	Team members
	Social Map	Men from all socioeconomic categories
	Resource Map	-Ditto
	Crop Calendar	-Ditto
	Event Calendar	-Ditto
	Venn Diagram	Program participants
	Mobility Maps	Program participants
	Case Study	Program participants and their spouses
	Focus Group Discussion	Spouses of program participants
Program profile	Key Informant Interviews	Managerial staff of implementing agency
	Observation of group meeting	Field level staff of implementing agency
	Focus Group Discussion	Field level staff of implementing agency
Income, control over	Case Study	Program participants and their spouses
income, savings and	Focus Group Discussion	-Ditto
investment	Trend Analysis	-Ditto
	Impact Flow Chart	-Ditto
Distribution of benefits	Case Study	Program participants
	Trend Analysis	-Ditto
	Impact Flow Chart	-Ditto
	Mobility Map	-Ditto
	Focus Group Discussion	-Ditto Spouses of program participants

APPENDIX 3

SOCIAL MAP

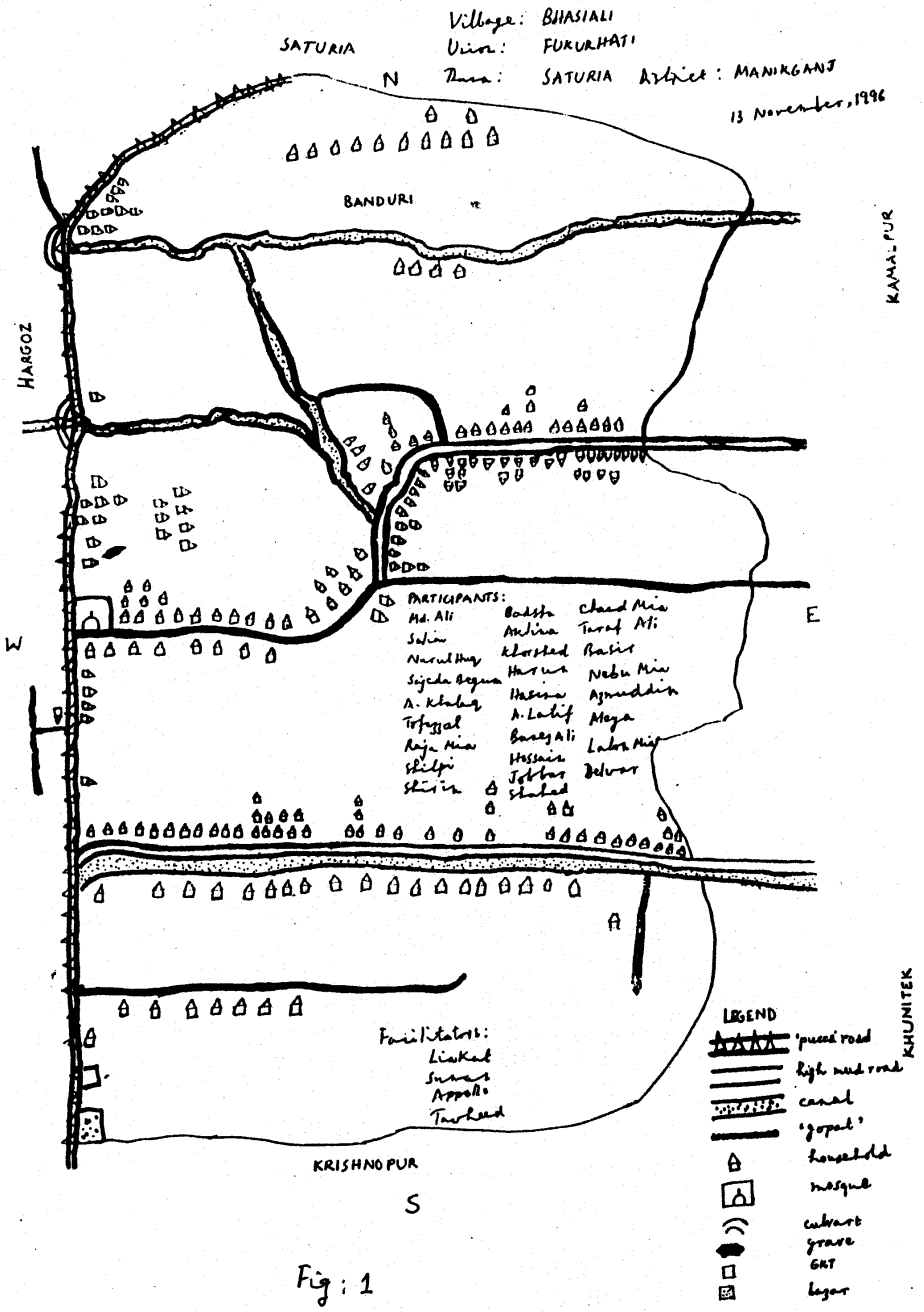


Fig: 1

APPENDIX 4

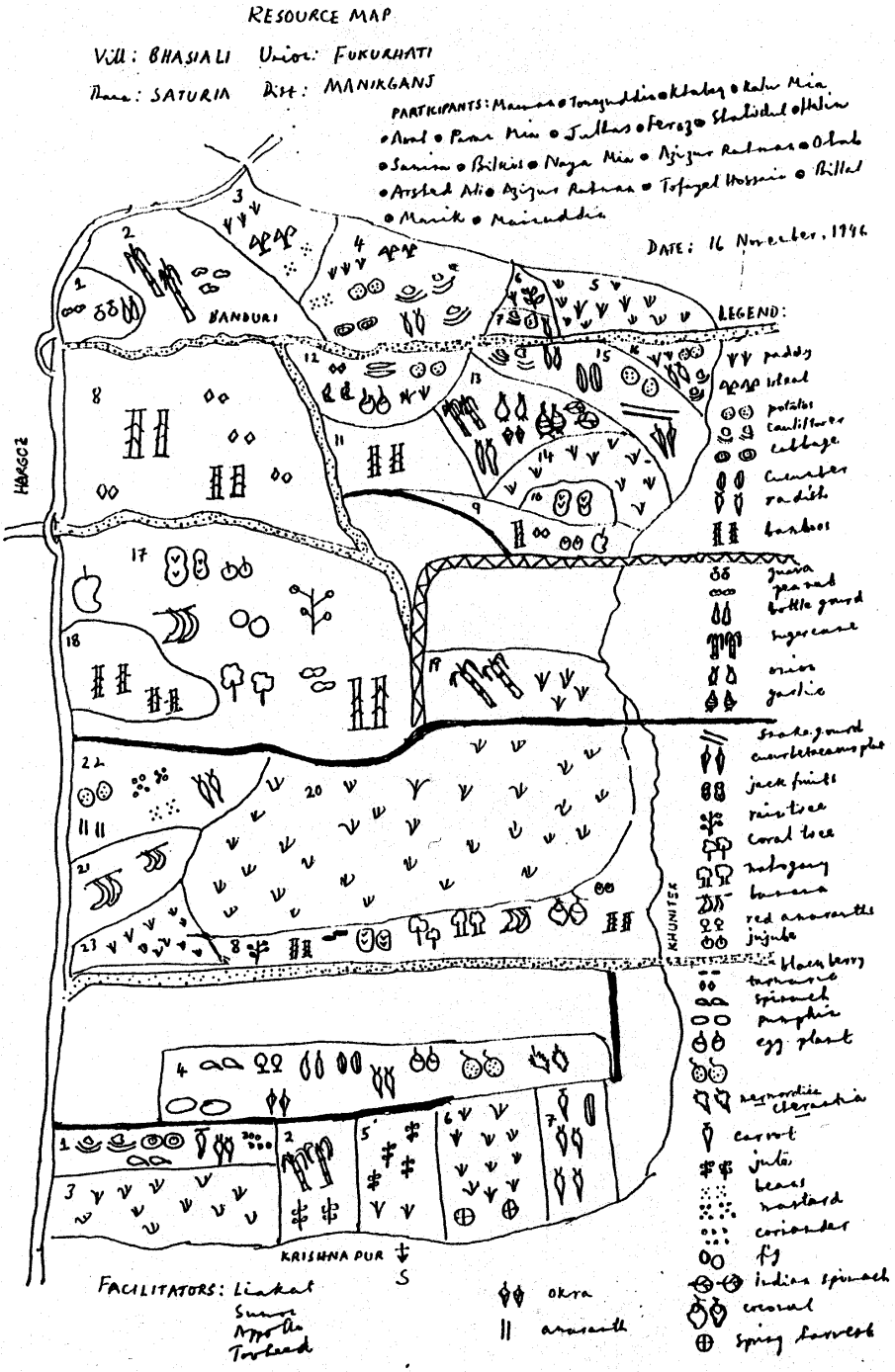


Fig 2

APPENDIX 5

HISTORICAL PROFILE

Village:	BHASIALI
Union:	FUKURHATI
Thana:	SATURIA
District:	MANIKGANJ
Date:	November 14, 1996

1943	Famine
1956	Construction of the main mud road
1961	Land Settlement
1971	Liberation War
1972	Foundation of village mosque
1978	Introduction of IRRI in Bhasiali
1980	BRAC program starts
1987	A local Youth Club organized
1988	Flood
1989	Tornado
1990	Introduction of GKT programs
1993	Introduction of water sealed latrines

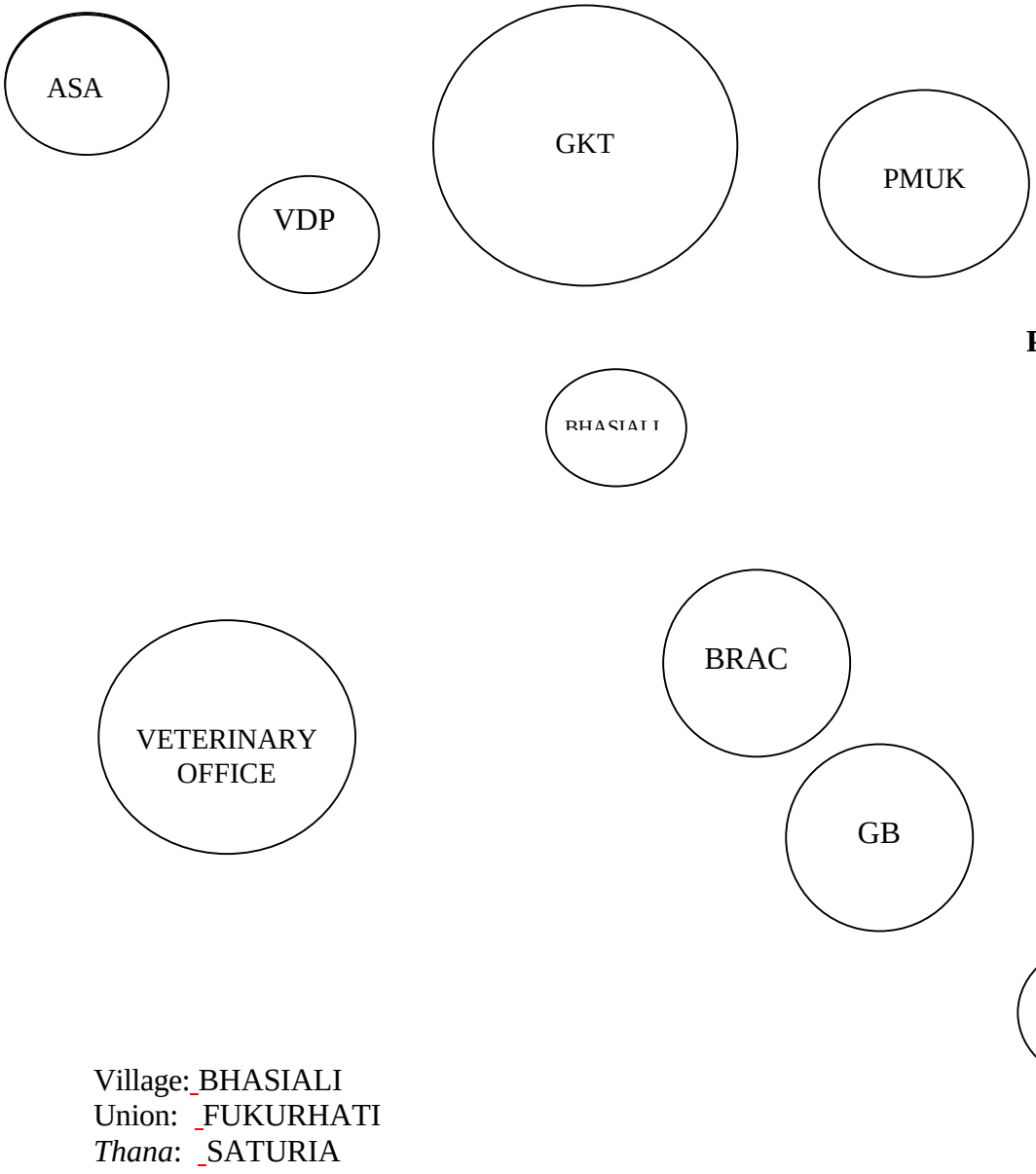
Participants:
Lutfar Rahman
Taizuddin
Raizuddin
Saidur Rahman
Amizuddin
Nazimuddin
Shobuz
Obaidur Rahman
Liton Mia
Somesh

Facilitators:
Tawheed
Appollo
Suman
Liakat

APPENDIX 6

11 November, 1996

VENN DIAGRAM



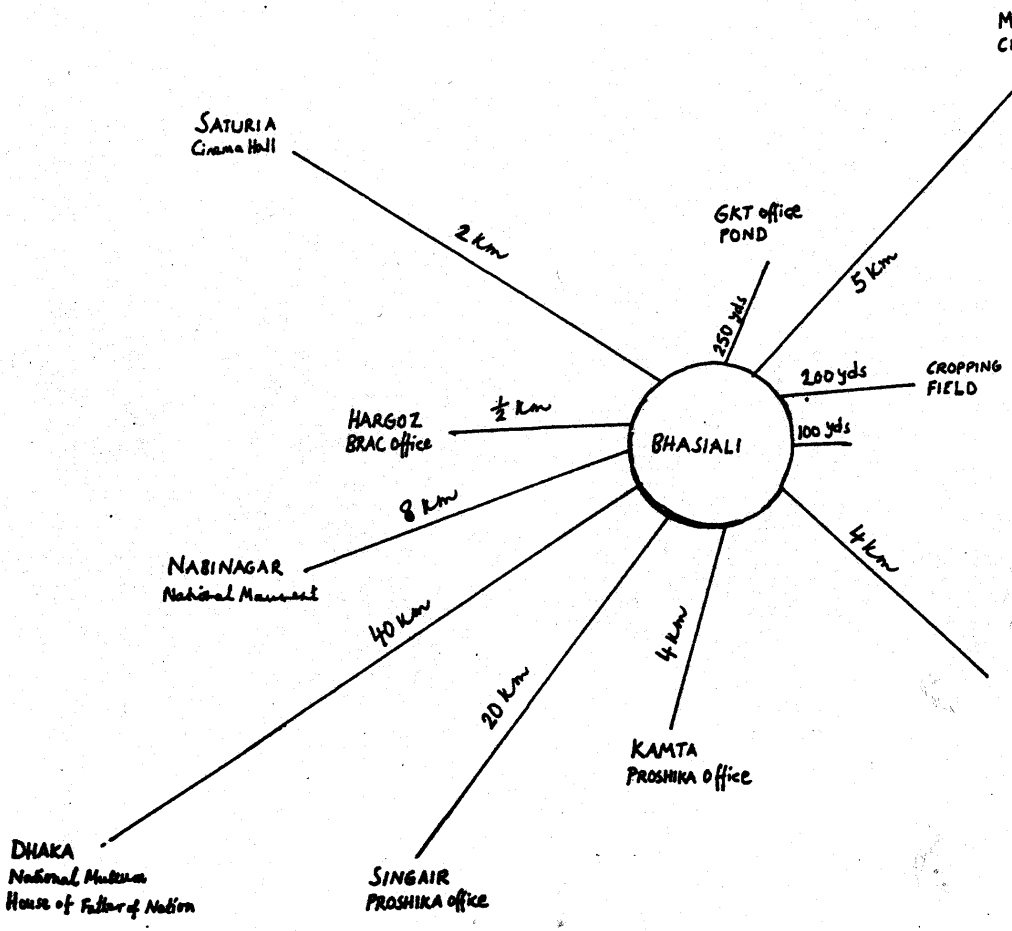
Participants:
Shadnaj
Mohela
Aleya
Amena
Lal jaah
Ambia
Noorjahan
Melasuh

Village: BHASIALI
Union: FUKURHATI
Thana: SATURIA
District: MANIK GANJ

Facilitators: Delwara
Hasina

APPENDIX 7

Women's Mobility For Work, Social Work And Recreation



Participants:

Lal Jaan
Noor Jahan
Mohsina
Mehernessa
Sukroj
Sufia
Amena
Jobeda
Ambia

Facilitators:

Hasina
Delwara

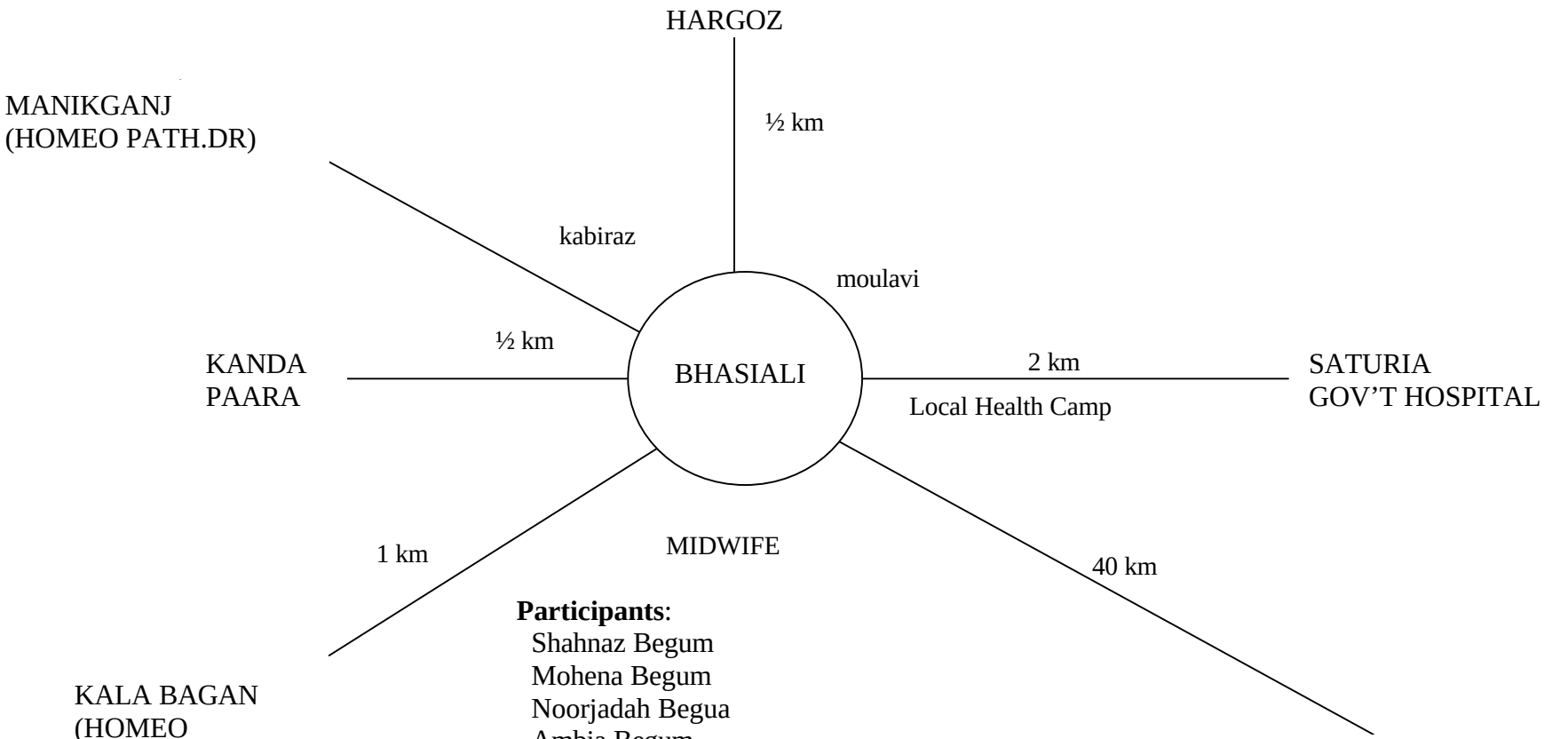
Vil: Bhasiali
Union: Fukurhat
Thana: Saturia
Dist.: Manikganj

13 November 1996

Fig 3

APPENDIX 8

WOMEN'S MOBILITY FOR TREATMENT



Participants:
Shahnaz Begum
Mohena Begum
Noorjadah Begua
Ambia Begum
Alega Begum
Kad Basu
Amesa Begum
Meherunnesa
Lad Joan
Sufia Begum

Facilitators: Delwara
Hasina

VILLAGE: Bhasiali
UNION: Fudurhati
THANA: Safina
DISTRICT: Masik Gang

12 November 1996

APPENDIX 9

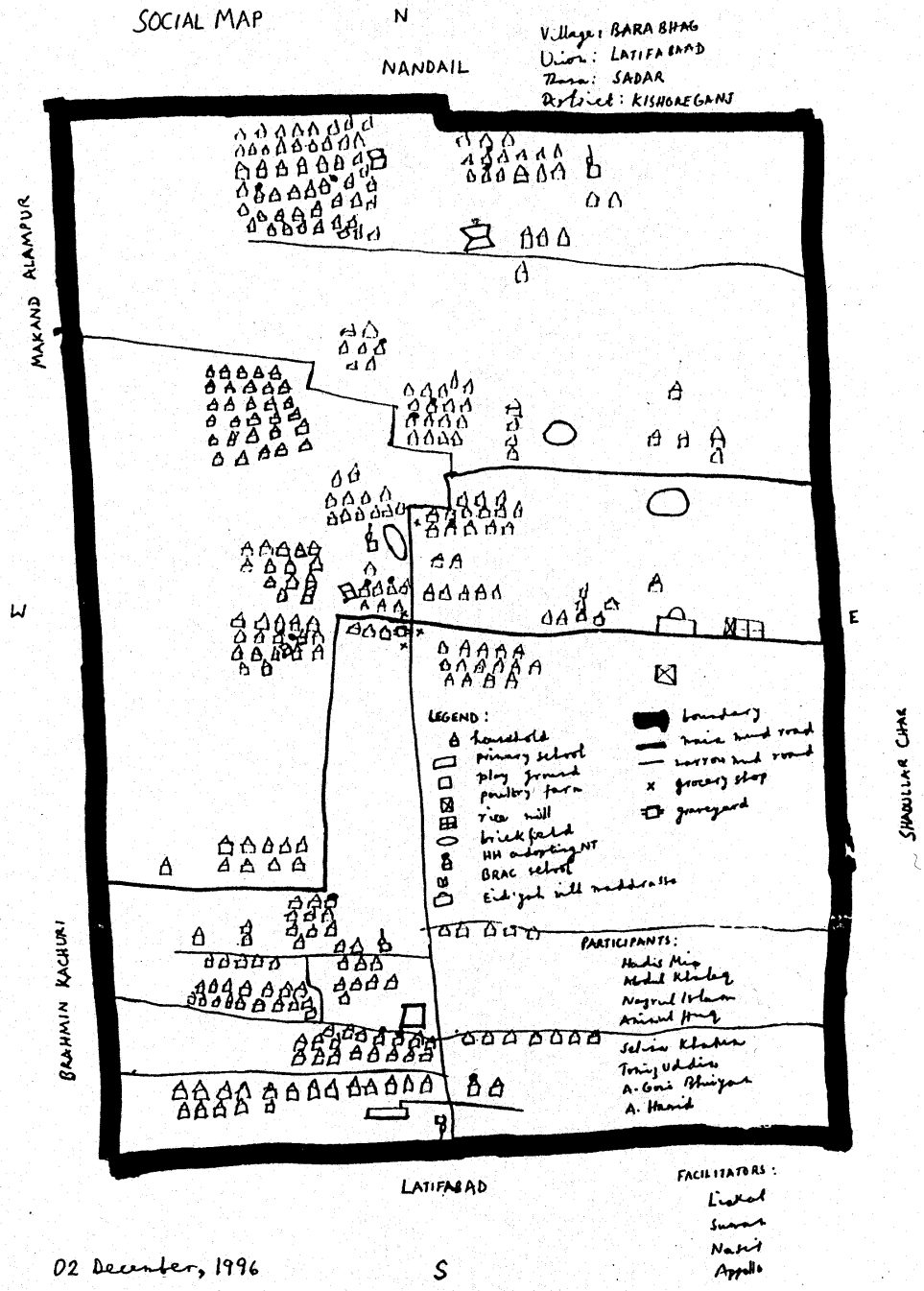


Fig 6.

APPENDIX 10

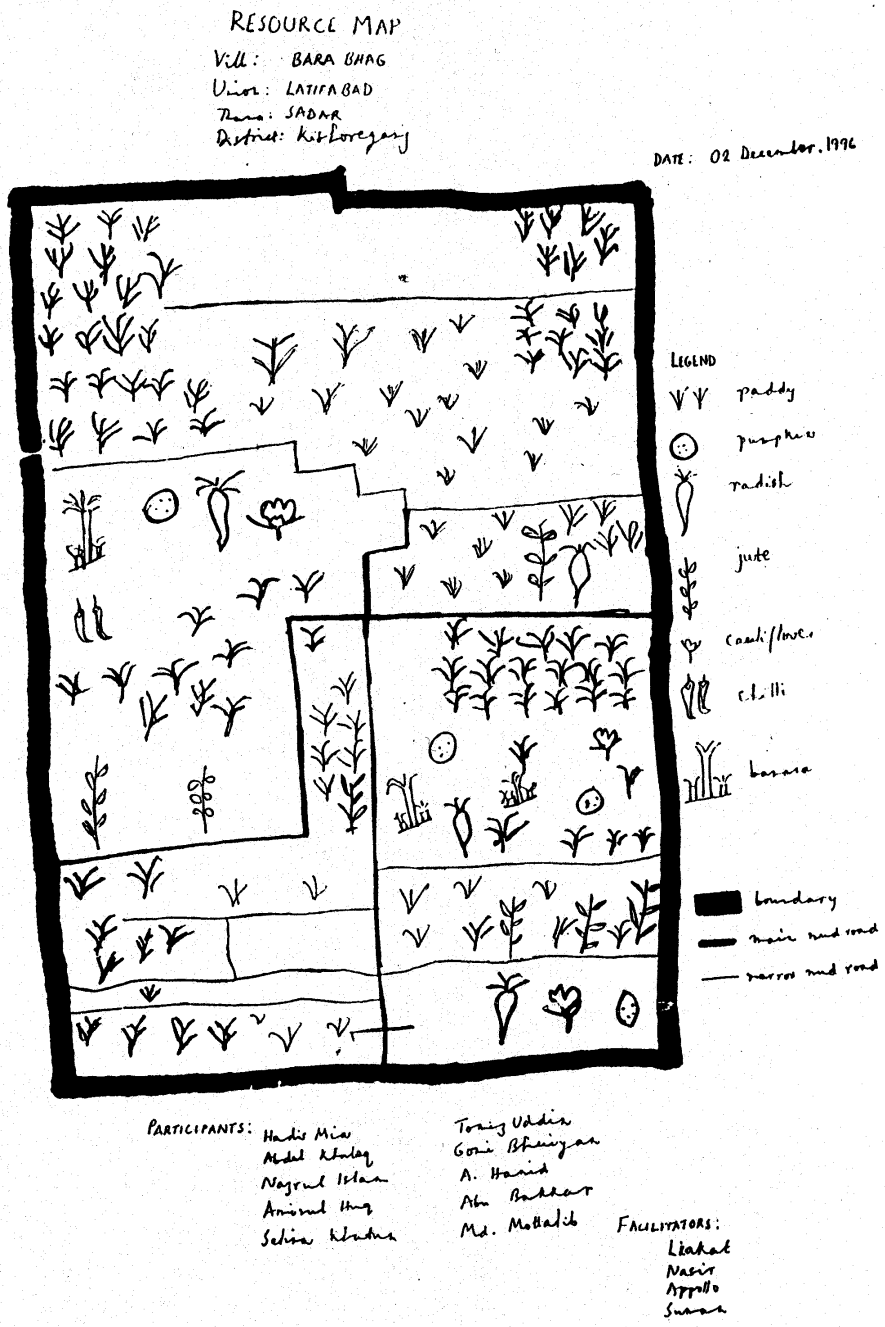


Fig: 7

APPENDIX 11

HISTORICAL PROFILE

Village: BARA BHAG
Union: LATIFA BAAD
Thana: SADAR
District: KISHOREGANJ
Date: December 2, 1996

1916	Construction of the main mud road
1929	Violent storm; the first primary school opened
1936	Foundation of Chintaganj Bazar (afterward known as Shadullar Char Bazar)
1957	Construction of kishoreganj-Mymensingh Trunk Road
1958	Foundation of local seed storage
1960	Foundation of Bara Bhag Senior Maddrasa
1965	Introduction of New Technology in Agriculture (IRRI, fertilizers, motor driven irrigation system, etc.)
1979	Official Bank at Shadullar Char Bazar
1981/82	Food Storage at Shadullar Char Bazar
1984	BRAC intervention
1986	Bidi Factory in the locality
1987	Brick fields opened in Bara Bhag
1989	Poultry farm established
1990	Rice mill established
1992	• Foundation of the main mosque • Introduction of STW and DTW • Large-scale fishery project starts based on private initiative
1994	• Projects on Poultry and Dairy Farm are added to the Fishery Project • MAEP activities are initiated • Construction of Sluio gate for the Canal

Participants:

Anis Mia
A. Sattar
Matiur Rahman
Abdul Karim
Abdul Helim
Joynal Mia
Khaleq Molla
Momrez Ali
Abdus Salam
Mujibur Rahman
Ramzan Ali
Bablu Mia
Sohrab Mia
A. Hekim
Abdul Hamid

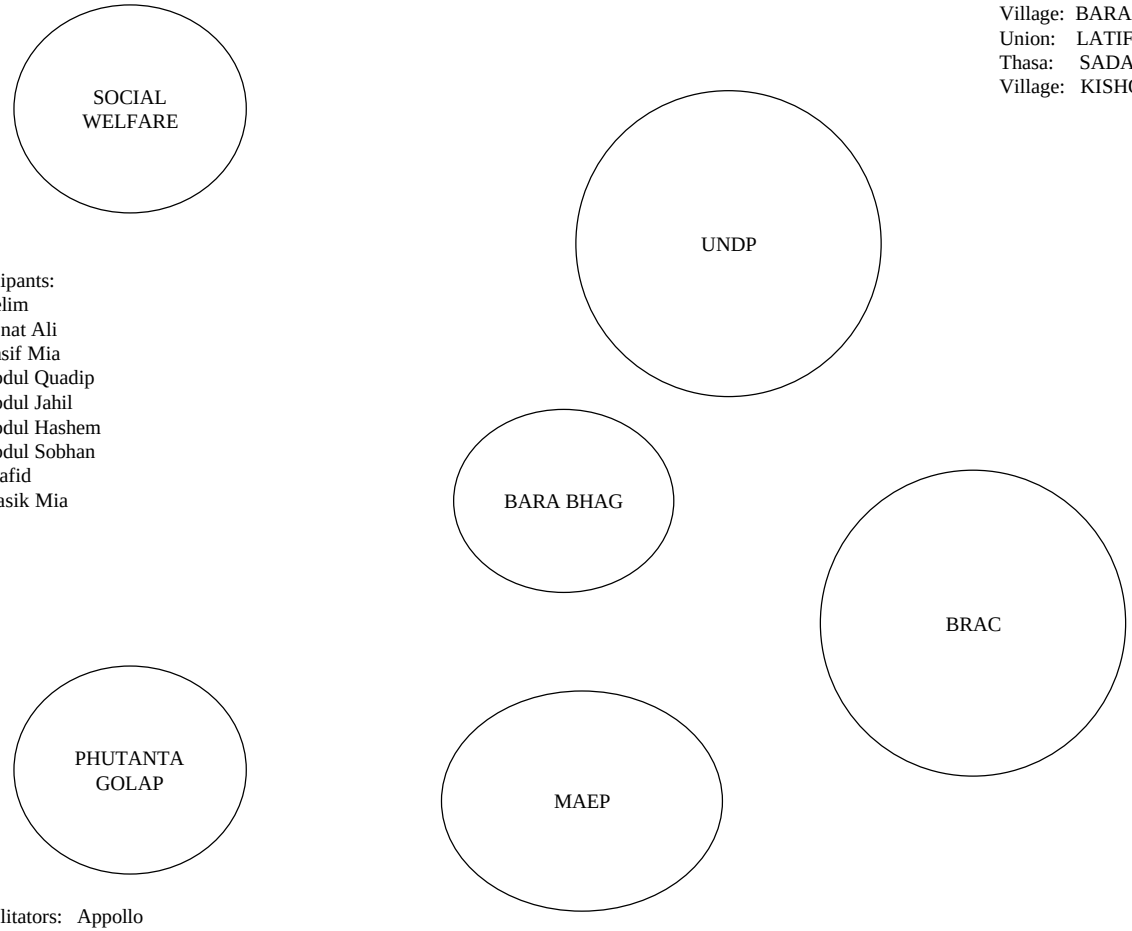
Faciliators:

Tawheed
Nasir

APPENDIX 12

VENN DIAGRAM

Village: BARA BHAG
Union: LATIFA BAAD
Thasa: SADAR
Village: KISHOREGANJ



Participants:
Helim
Asnat Ali
Hasif Mia
Abdul Quadip
Abdul Jahil
Abdul Hashem
Abdul Sobhan
Shafid
Masik Mia

Facilitators: Appollo
Nasir
Suman

4 December, 1996

APPENDIX 13

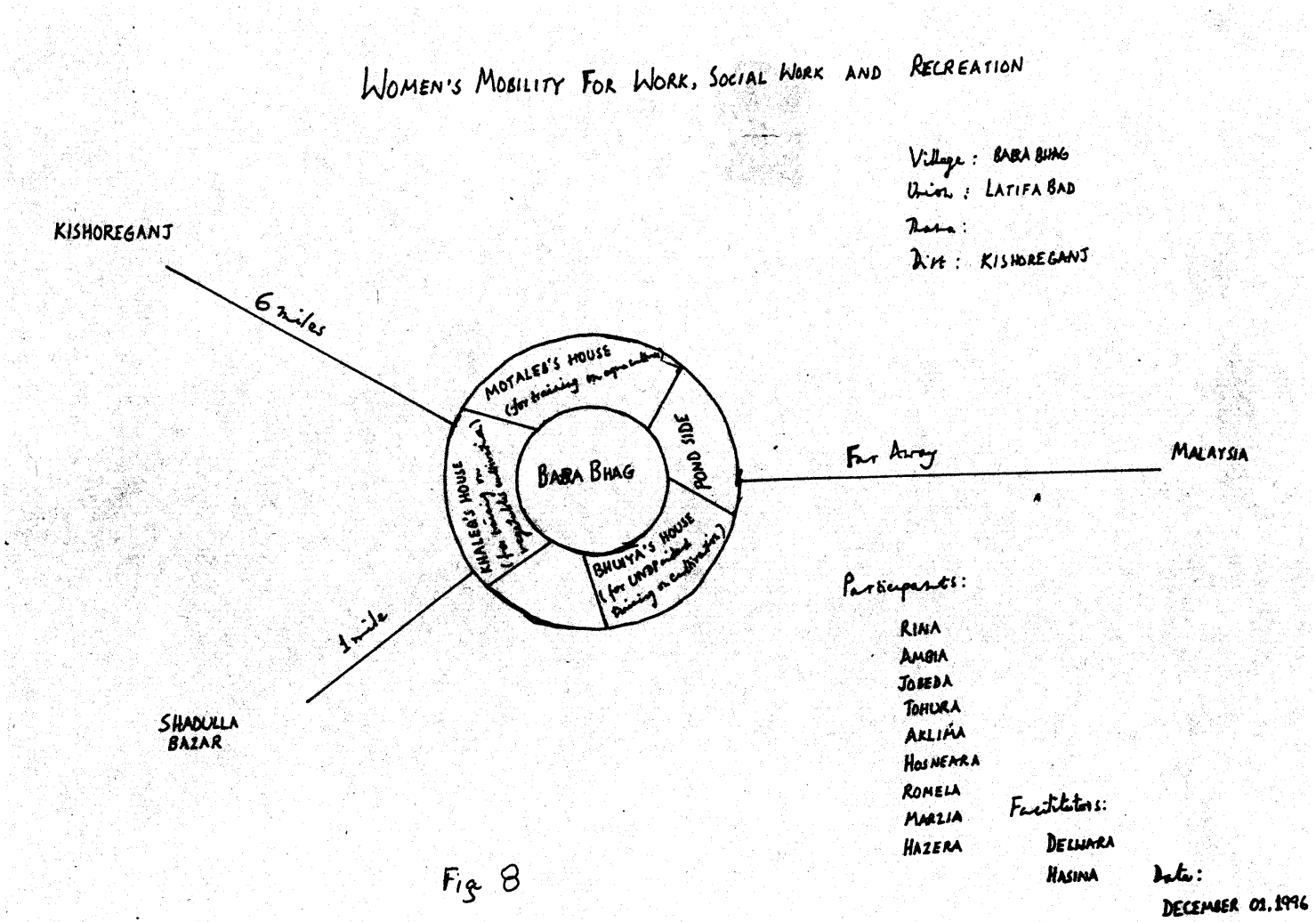
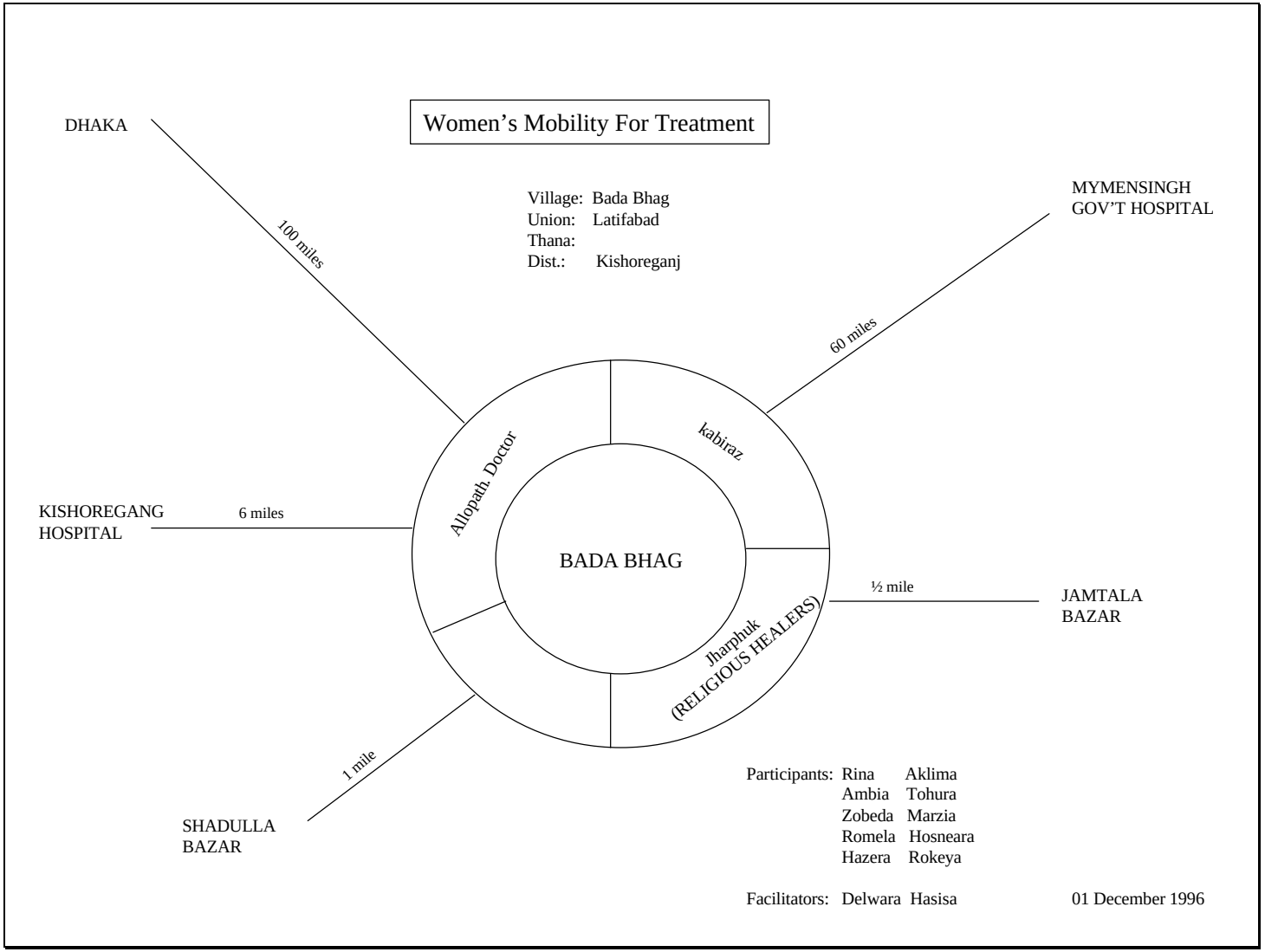


Fig 8

APPENDIX 14


Women's Mobility For Treatment
Village: Bada Bhag
Union: Latifabad
Thana:
Dist.: Kishoreganj
DHAKA
100 miles
MYMENSINGH
GOV'T HOSPITAL
60 miles
KISHOREGANG
HOSPITAL
6 miles
Allopath. Doctor
kabiraz
BADA BHAG
Jharphuk
(RELIGIOUS HEALERS)
½ mile
JAMTALA
BAZAR
1 mile
SHADULLA
BAZAR
Participants: Rina Aklima
Ambia Tohura
Zobeda Marzia
Romela Hosneara
Hazera Rokeya
Facilitators: Delwara Hasisa
01 December 1996

APPENDIX 15

TREND ANALYSIS
INCOME AND ITS DISTRIBUTION

Village: **Bhasiali**
Union: Fukushaki
Thana: Saturia
District: Manikganj
Date: 15 November 1996

T0PIC	BEFORE NT	AFTER NT
Income Earning/Employment Opportunity for Women	o o o o	o o o o o o
Income Earning/Employment Opportunity for Men	o o o	o o o o o
Income Earning/Employment Opportunity for Girl Children	o	o o o
Income Earning/Employment Opportunity for Boy Children	o o	o o o
Income Earned By Women	o o o	o o o o o o
Contribution of Women in Family's Total Income	o o	o o o o
Amount of Money Women Keep at Hand	o o o	o o o o
Amount of Money Women Handle	o o	o o o o
Amount of Money Women Have Full Control Over	o o	o o o
Treatment of Girl Children	o o o	o o o o
Treatment of Boy Children	o o o	o o o o
Treatment of Self	o o	o o o o
Treatment of Adult Males	o o o o	o o o o o
Education of Boy Children	o o	o o o o
Education of Girl Children	o o	o o

T0PIC	BEFORE NT	AFTER NT
Clothes for Boy Children	o o o	o o o o
Clothes for Girl Children	o o	o o o o o
Clothes for Self	o	o o o
Clothes for Adult Males	o o o	o o o o
Mobility of Women	o o o	o o o o o
Expenditures on Toiletries/Cosmetics	o o	o o o o
Entertainments, Gifts, etc.	o o	o o o o o o
“Paan, Bidi, Tamak,” and Cigerrette for Men	o o o o	o o o o o
“Paan, Bidi, Tamak,” and Cigerrette for Women	o o o	o o o o o
Household Savings	o o	o o o
Personal Savings of Women	o o	o o o o
Recreation of Girl Children	o o	o o o o
Recreation of Boy Children	o o o	o o o o o
Recreation of Women	o	o o o o
Recreation of Men	o o o o	o o o o o o

Participants:
Monwara
Halima
Julekha
Rekha
Honufa
Hazera
Kajol Tara
Momtaz Begum

Facilitators:
Momtaz Begum
Delwara Khanam
Shammin Sultana

ANNEX

TREND ANALYSIS
BASIC NEEDS

Village: **Bhasiali**
Union: Fukushati
Thana: Saturia
District: Manikganj
Date: 19 November 1996

T0PIC	BEFORE NT	AFTER NT
Number of Meals in Lean Season for Women	o o	o o
Number of Meals in Lean Season for Adult Males	o o o	o o o o
Number of Meals in Lean Season for Boy Children	o o o	o o o o
Number of Meals in Lean Season for Girl Children	o o	o o o
Food Consumed by Family	o o o o	o o o o o o
Food Consumed by Girl Children	o o	o o o
Food Consumed by Boy Children	o o o	o o o o
Food Consumed by Adult Males	o o	o o
Food Consumed by Women	o o o	o o o o
Variety of Food Consumed by the Family	o o o	o o o o o o
Enrollment of Girl Children in School	o o o	o o o o
Enrollment of Boy Children in School	o o o o	o o o o o o o
Immunization of Children	o	o o o o o o o o
Immunization of Mothers/Adult Females	o	o o o o o o o o
Medical Treatment For Self	o	o o o o o o
Medical Treatment for Girl Children	o o	o o o o
Medical Treatment for Boy Children	o o o o	o o o o o o
Medical Treatment for Adult Males	o o o	o o o o o o

Participants:

Shahnaz	Aleya	Amena	Lal Jaan
Mohela	Ambia	Meherun	Sufoa

Facilitators:
Hasina
Delwara

TREND ANALYSIS
STATUS OF WOMEN WITHIN THE HOUSEHOLD

Village: **Bhasiali**
Union: Fukushati
Thana: Saturia
District: Manikganj

T0PIC	BEFORE NT	AFTER NT
Respect and Appreciation from Household Members	o	o o
Husband and Household Members Help with the Household Chores	o	o o o
Domination by Husband, In-Laws, Son	o o o	o
Conflict with Husband	o o	o o o
Conflict with Other Family Members	o o o o	o o
Physical Abuse	o o o	o o
Verbal Abuse	o o	o
Threat of Divorce/Abandonment	o	o o
Threat of Another Marriage	o	o o
Ability to Make Husband Not to Squander Money	o o	o o
Ability to Prevent Extra-Marital Involvement of Husband	o	o o

TREND ANALYSIS
WOMEN'S ROLE IN DECISION MAKING

Village: Bhasiali
Union: Fukushati
Thana: Saturia
District: Manikganj

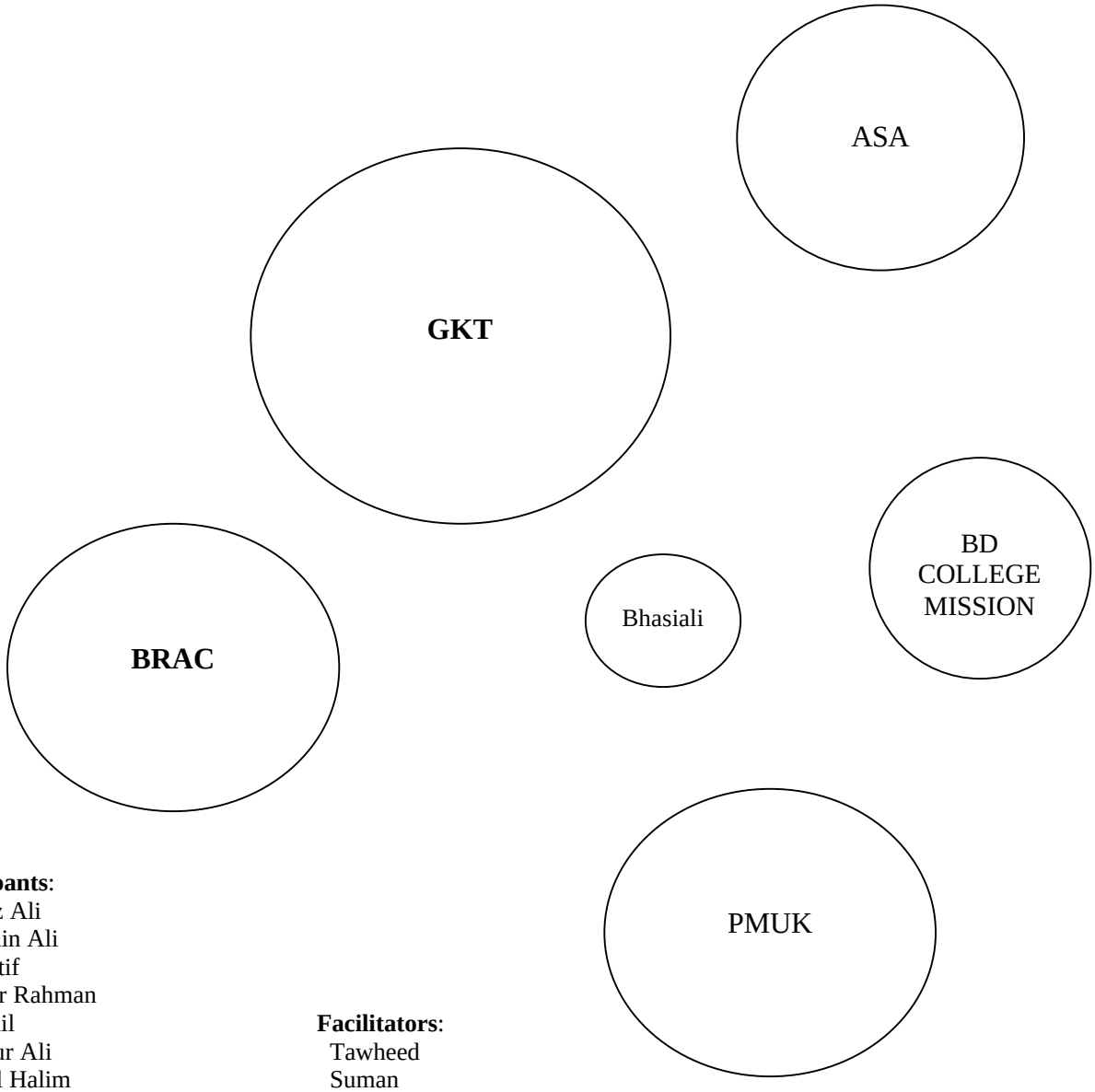
T0PIC	BEFORE NT	AFTER NT
Whether the Children Will Have Education		
Who Among the Children Will Have What Level of Education		
Expenditure on Daughter's Education		
Expenditure on Son's Education		
Whether Health Care Will Be Sought for Daughter's Illness		
Expenditure on Daughter's Health Care		
Defining the Types of Treatment for Daughter		
Whether Health Care Will Be Sought for Son's Illness		
Expenditure on Son's Health Care		
Defining the Types of Treatment for Son		
Whether Health Care Will Be Sought for Her Illness		
Expenditure on Her Health Care		
Defining the Types of Treatment for Self		
Whether Health Care Will be Sought for Her Husband's Illness		
Expenditure on Her Husband's Health Care		
Defining the Types of Treatment for Her Husband		

T0PIC	BEFORE NT	AFTER NT
Selecting Groom for Daughter	—	o o o o o
Whether to Pay Dowry for Daughter's Marriage	—	o o o o o
Amount of Dowry To Be Paid	—	o o o o o
Selecting Bridge for Son	—	o o o o o
Whether to Charge Dowry for Son's Marriage	—	o o o o o
Amount of Dowry To Be Charged	—	o o o o o
Purchase/Sale of Cattle	—	o o o o o
Purchase/Sale of Land	—	o o o o o
Mortgage/Rent Land In/Out and Borrowing/Lending Cash/Kind	—	o o o o o
Spend Cash As Wishes	—	o o o o o
Use of Land	o o	o o o o
Amount of Own Produced to be Sold/Consumed	o	o o o o o
House Construction/Repair	o o	o o o o o
Amount of Savings	—	o o o o
Amount of Investment	—	o o o o
On What to Invest	—	o o o o
Distribution of Expenditure	—	o o o o o
Expenditure on Food	—	o o o o
Expenditure on Clothes	—	o o o
Expenditure on Recreation	—	o o o
Number of Children	—	o o o o

T0PIC	BEFORE NT	AFTER NT
When to Have Children	o o	o o o o o
Use of Contraception	o	o o o o o
Choice of Method	o o	o o o o o

VENN DIAGRAM

Village: Bhasiali
Union: Fukushati
Thana: Saturia
District: Manikganj
Date: 16 November 1996



Participants:
Banez Ali
Hossain Ali
A. Latif
Saidur Rahman
A. Julil
Shukur Ali
Abdul Halim
Shahnaj Khatun
Bilkis

Facilitators:
Tawheed
Suman
Liakat
Appollo

CROPPING PATTERN OF BHASIALI

Village: Bhasiali
Union: Fukurhati
Thana: Saturia
District: Manikgonj
Date: 13 November 1996

Aman	Sowing seeds					Harvesting					Land preparation sowing	
ropa Aman		Sowing seeds		Sowing seedlings				Harvesting				
Aus			Harvesting								Land preparation Sowing seeds	
IRRI.	Harvesting						Land prepara-tion			Sowing seedlings		
Jute				Harvesting								Spraying seeds
Sugarcane								Tending young sugarcare				Cutting matured plants
Potato							Sowing seeds		Collecting crops			
Pulses							Sowing seeds				Collecting crops	
Cauliflower						Sowing seeds			Collecting			
Radish							Sowing seeds		Collecting			
	B	**J**	**A**	**S**	**B**	**A**	**K**	**A**	**P**	**M**	**F**	**C**

(continued)

Cropping Pattern of Bhasiali (continued)

Hot chilies							Sowing seeds			Collecting		
Onion							Sowing seeds			Collecting		
Spinach							Sowing seeds	Collecting spinach				
Data							Sowing seeds		Collecting data			
Garlic							Sowing seeds			Collecting data		
Cabbage							Sowing seeds		Collecting			
Gilakopi							Sowing		Collecting			
Okra							Sowing		Collecting			
Bottle gourd								Sowing	Collecting			
Beans					Sowing						Collecting	
Kahi	Collecting									Sowing		
Cucumber	Collecting									Sowing		
Pulses					Sowing		Collecting					
Jhinga	Collecting									Sowing		
Soyabean							Sowing		Collecting			
Sweet gourd	Collecting						Sowing					
									Collecting			
Pumpkin	Collecting											Sowing
Brinjal						Sowing			Collecting			
	B	**J**	**A**	**S**	**B**	**A**	**K**	**A**	**P**	**M**	**F**	**C**

Participants: Ha_izuddin, Shamsul Hag, Jalil miah, Faza Ali, Md. Ali, Rafiqul Islam, Laljaan, Taramia, Kamal

Facilitators: Liakat, Towheed, Rumel, Siddiq

CROPPING PATTERN OF BARA BHAG

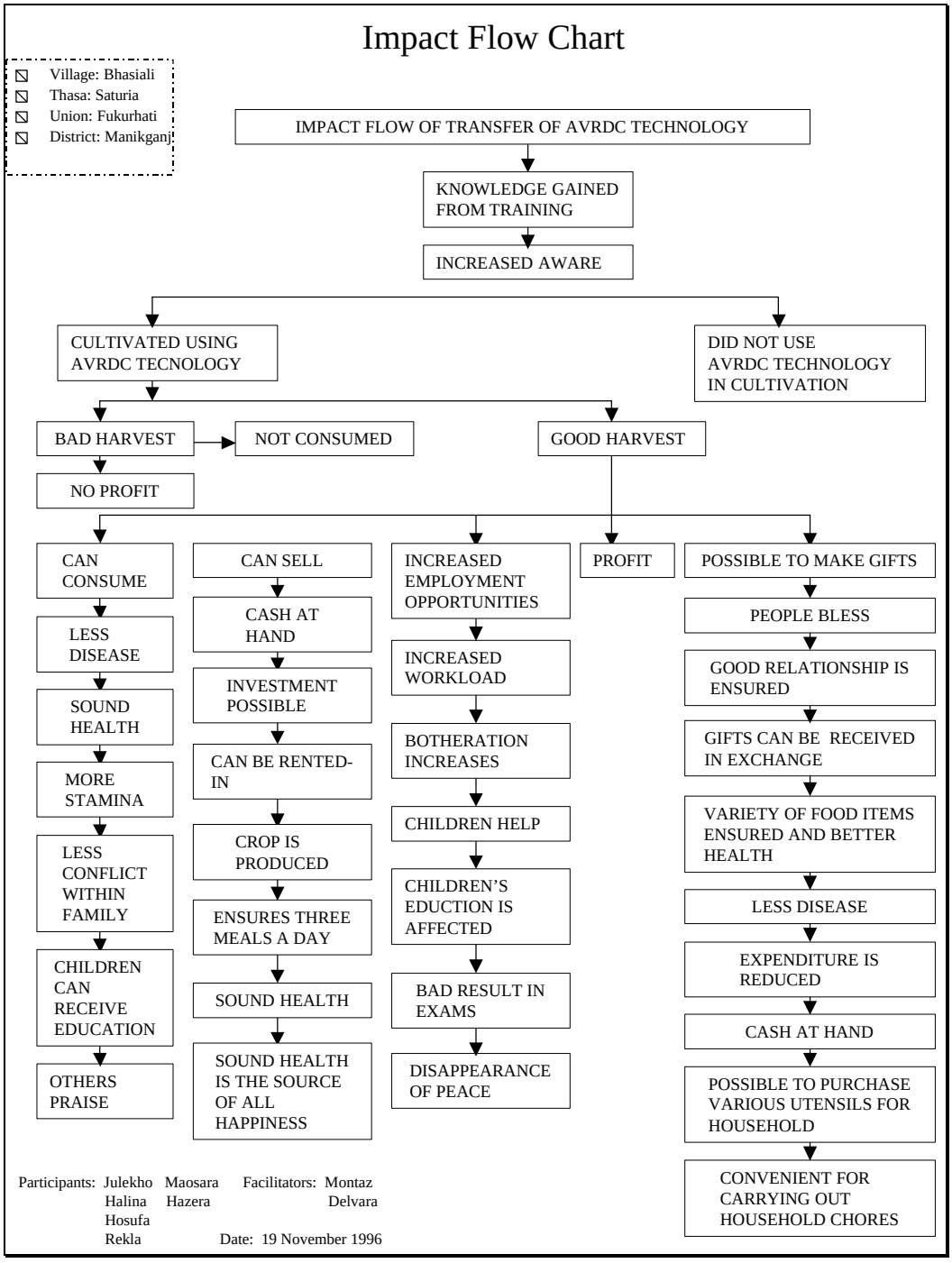
Village: Bara Bhag
Union: Latifabad
Thana: Sadar
District: Kishoregonj
Date: 2 December 1996

Aus paddy	Sowing seedling			Harvesting								Spraying seeds
Agrani paddy				Sowing seedlings				Harvesting				
Baishakhi paddy	Harvesting						Spraying seeds		Sowing seedlings			
Potato							Sowing					Collecting potato
Tomato	Collecting					Sowing seeds		Tending young tomato				
Pepper	Collecting					Sowing seeds		Tender young pepper				
Radish					Sowing						Collecting	
Banana	Around the season plantation and collection											
Papaya	Around the season plantation and collection											
Brinjal	⟶			Sowing seeds			Collecting----------					
Jute	Harvesting										Sowing seeds	
Pulses/Beans							Spraying seeds					Collecting
Kachu (Arum)				Collecting		Sowing seedlings						
Korola									Sowing			Collecting
Okra									Sowing			Sowing
	B	**J**	**A**	**S**	**B**	**A**	**K**	**A**	**P**	**M**	**F**	**C**

Participants: Nannu Miah, Abdul Hag, Tomizuddin, Abdus Satter Miah, Md. Majid, Nazrul Islam, Badrul Islam, Shajahan, Sahin Mia, Abdul Hai Bhuiyan, Hadis Mia

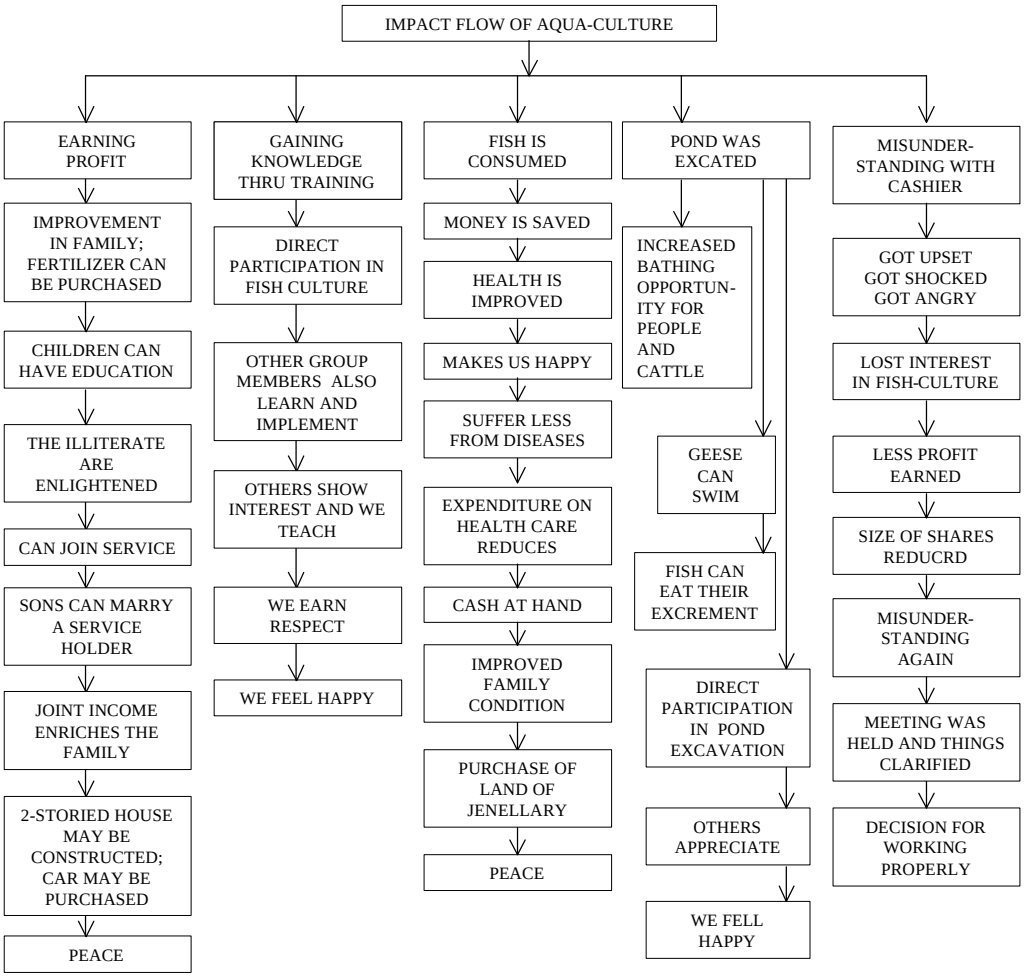
Facilitators: Towheed, Nasir, Appollo

Impact Flow Chart



Village: _____
Union: _____
Thasa: _____
District: Jessore

IMPACT FLOW CHART



Participants:
Halina
Alega
Morzina
Kohinoor
Anhiron
Rahina

Facilitators:
Montay

Date: 5 March, 1997

HISTORICAL PROFILE

Village: ENAYETPUR
Union: ICHHALI
Thana:
District: JESSORE
Date: 4 March 1997

1947
- Informal Records for Land
- Construction of main mud road

1962 Land Settlement

1974
- Foundation of Enayetput main mosque
- Excavation of Sholakur-Enayetpur canal

1981 Initiative taken for introduction of DTW

1982 Formal introduction of DTW operating on diesel

1986 Widening of main mud road

1994
- Initiation of BS programs
- BRAC school opened

1996 Access to power connection for running DTW

1997 Foundation of 'Maktab'

Participants:
Milon
Rezaul
Zindar
Mannan
Amzad
Hossain

Facilitators:
Tawheed
Suman

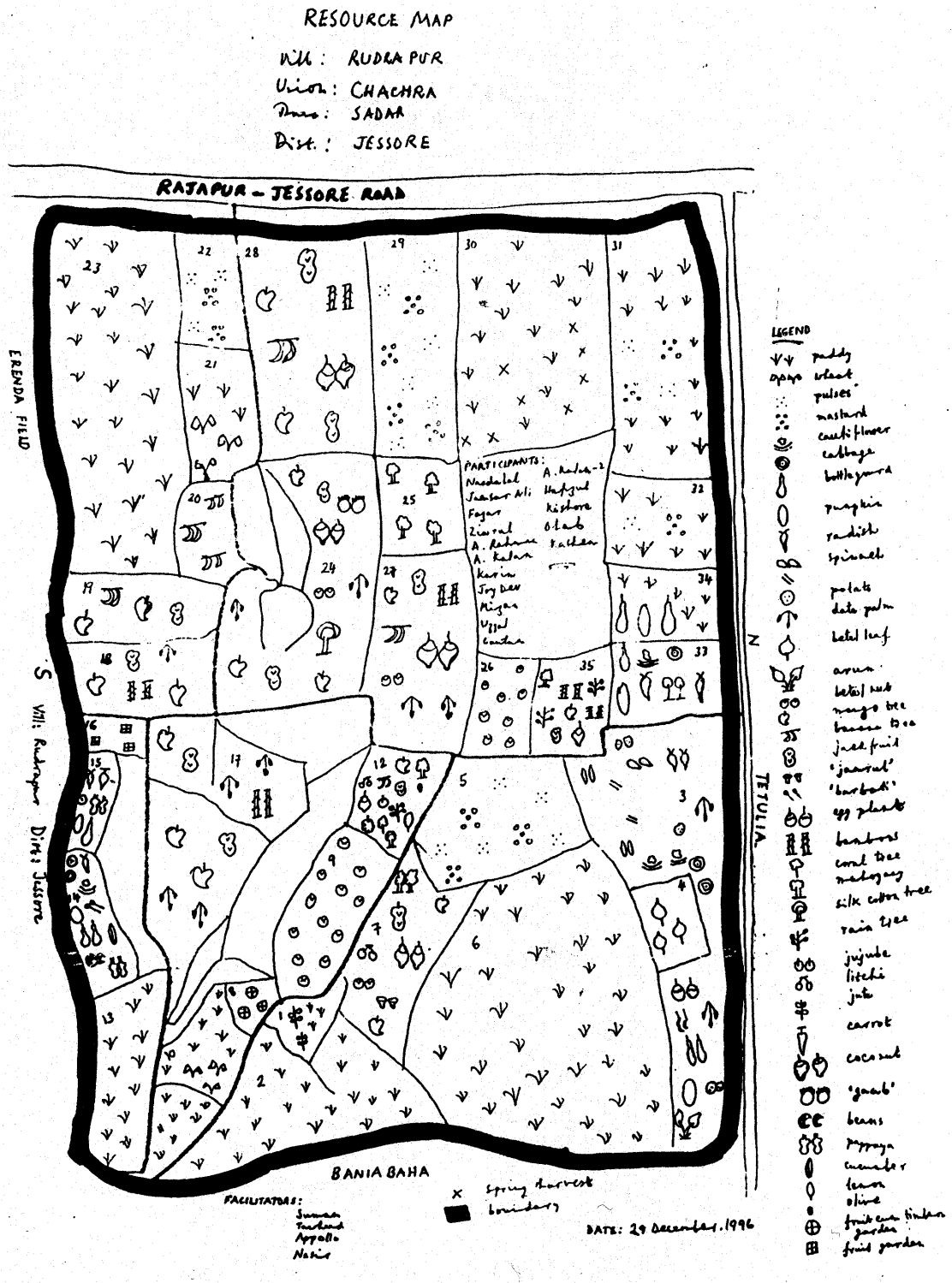
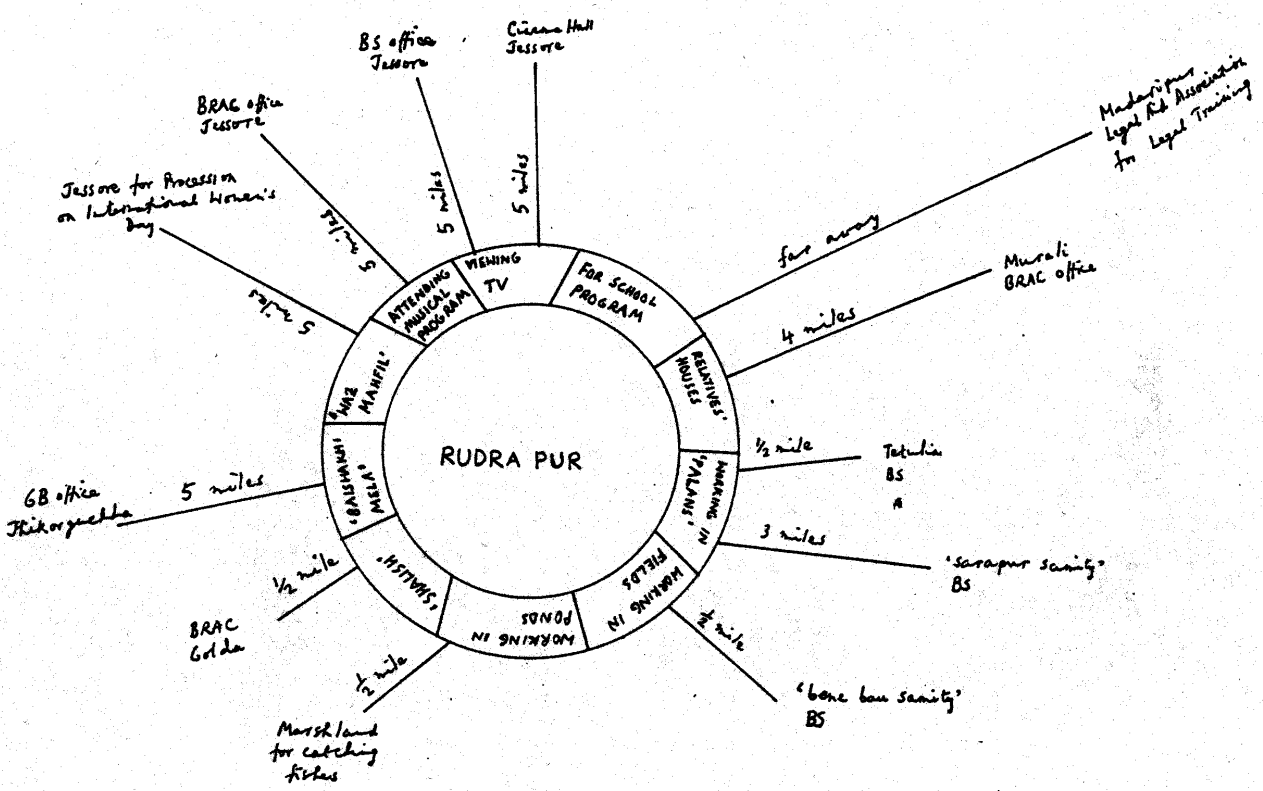

RESOURCE MAP
Vill: RUDRA PUR
Union: CHACHRA
Thana: SADAR
Dist.: JESSORE
RAJAPUR – JESSORE ROAD
ERENDA FILD
TETULIA
BANIA BAHA
N
S
Vill: Rudrapur Dist: Jessore
PARTICIPANTS:
Nasalal
Jastar Ali
Fagur
Ziaul
A. Rahman
A. Kalam
Kasim
Joy Deb
Nigar
Ujjal
Kashem
A. Kalam-2
Hafizul
Kishore
Olab
Kalam
FACILITATORS:
Suman
Tushar
Appollo
Nasir
spring harvest
boundary
DATE: 29 December. 1996
LEGEND
paddy
wheat
pulses
mustard
cauliflower
cabbage
bottlegourd
pumpkin
radish
spinach
potato
date palm
betel leaf
arum
betel nut
mango tree
banana tree
jack fruit
'jaarul'
'barbati'
egg plant
bamboos
coral tree
mahogany
silk cotton tree
rain tree
jujube
litchi
jute
carrot
coconut
'gaab'
beans
papaya
cucumber
lemon
olive
fruit tree timber garden
fruit garden

Fig: 4

WOMEN MOBILITY FOR WORK, SOCIAL WORK AND RECREATION



Village : RUDRAPUR
Union : CHACHRA
Thana: SADAR
Dist : JESSORE

Participants : ROKEYA SAJEDA SHONA BHAN JULEKHA DELJAAN
Facilitators : DELWARA HASINA
Date : 28 December, 1996

Figure 5

APPENDIX 22
COMPARISON OF PROGRAM VILLAGES, PROGRAMS, AND THEIR IMPACTS

GKT in Bhashiali	BS in Enayetpur	MAEP in Barabhag and Gafargaon
Road side village	Road side village	Road side village
Four large national NGOs	Only one large national NGO	Only one large national NGO
One strong local NGO	One strong local NGO	No strong local NGO
No primary school	No primary school	One Primary school
One BRAC and one PROSHIKA school	One BRAC school	Four BRAC schools
Adult literacy program for men	Adult literacy program for women	None
No "madrasa"	No "madrasa"	One "madrasa"
Not very conservative	Not very conservative	Highly conservative
Women do not notice strangers either male or female	Women do not shy away from male outsiders	Women do not talk with male outsiders
Program participants' mobility is comparatively high	Program participants' mobility is moderate	(Female) Program participants' mobility is very limited
Girls are married off around puberty	Girls are married off a little later	Girls are married off around puberty
Girls' education is low	Girls' education is low	Girls' education is comparatively higher in Gafargaon
Purdah is defined by members more in terms of state of mind	*Purdah* is defined by members more in terms of state of mind	*Purdah* is defined by members and their spouses literally
Program participants come from households with high variation in the level of poverty	Program participants are poor	Program participants are not quite poor
Poor group dynamics	Strong group dynamics	Not applicable
Gender awareness is not promoted actively	Gender awareness is strongly promoted	Gender awareness is not promoted
Individual women are targeted in this particular project	Group based project	Individual men and women are targeted
Income earned varies largely from adopter to adopter	Same level of income accrues to all adopting group members	Income earned varies by adopter
The size of income earned at a time is negligible	The size of income earned at a time is not negligible for a rural woman	Each time the income earned is substantial
The income is not quite visible to the women and their household members	The income is visible to the women and their household members and even to the community	Not applicable
Women are mostly absent at the point when the produce is sold	Women themselves sell the fish	Women are absent at the point when the produce is sold
Most women do not know exactly how much is earned	Every member knows how much is earned	Women "beneficiaries" do not know how much is earned
Usually women do not get the total amount	The group receives the total income	Not applicable
Usually the income is spent immediately	The income is saved and then used for investment or emergency purposes	The income is saved
Women have larger share of AVRDC vegetables as these low-status and less tasty foods are not favored by men	Women hardly have micronutrient-rich fish as it is high-status food and preferred by men	Not applicable
Involvement in the project does not improve women's position within the household	Involvement in the project improves women's position within the household	Involvement in the project does not improve women's position within the household

BIBLIOGRAPHY

Adnan, S. No date. Birds in Cage: Institutional Change and Women's Position in Bangladesh. *The Bangladesh Development Studies* (14): 285–318.

Agarwal, B. 1989. Patriarchy and the 'Modernizing' State: An Introduction. In *Structures of Patriarchy: The State, the Community and the Household,* ed. B. Agarwal. London and New Jersey: Zed Books Ltd.

Ahmad, A. and J. Morduch. 1993. *Identifying Sex Bias in the Allocation of Household Resources: Evidence from Linked Household Surveys from Bangladesh*. Discussion Paper 1636. Cambridge: Harvard Institute of Economic Research, Harvard University.

Ahmed, A. U. 1993. Patterns of Food Consumption and Nutrition in Rural Bangladesh. Bangladesh Food Policy Project report, Dhaka. International Food Policy Research Institute, Washington, D.C.

Amin, S. 1995. *The Poverty-Purdah Trap in Rural Bangladesh: Implications for Women's Roles in the Family*. Population Council Research Division Working Paper 75. New York: The Population Council.

Amin, S. and M. Cain. 1996. The Rise of Dowry in Bangladesh. In *The Continuing Demographic Transition*, ed. W. J. Gavin, J. C. Caldwell, R. M. Douglas, and R. M. D'Souza. Oxford: Oxford University Press.

Cain, M., S. R. Khanam, and S. Nahar. 1979. Class, Patriarchy and the Structure of Women's Work in Rural Bangladesh. *Population Studies* 40: 375–88.

Cernea, M. M. 1990. Re-tooling in Applied Social Investigation for Development Planning: Some Methodological Issues. In *Rapid Assessment Procedures: Qualitative Methodologies for Planning and Evaluation of Health-Related Programmes. ,* ed. N. S. Scrimshaw and G. R. Gleason. International Nutrition Foundation for Developing Countries.

Chambers, R. 1993. *Rural Development: Putting the Last First.* Longman Scientific & Technical Working Papers.

Chen, L. C., E. Huq, and S. D'Souza. 1981. Sex Bias in the Family Allocation of Food and Health Care in Rural Bangladesh. *Population and Development Review* 7 (1): 55–70.

Dey, J. 1992. Gender Asymmetries in Intrahousehold Resources Allocation in Sub-Saharan Africa: Policy Implications for Land and Labor Productivity. In *Understanding How Resources Are Allocated Within Households*. Policy Brief 8. Washington, D.C.: International Food Policy Research Institute/World Bank.

Garcia, M. 1990. *Resource Allocation and Household Welfare: A Study of Personal Sources of Income on Food Consumption, Nutrition, and Health in the Philippines.* Ph.D. thesis. Institute of Social Studies, The Hague.

GKT (Gono Kallyan Trust). 1996. *Activities Report, 1995*. Saturia.

Haddad, L., J. Hoddinott, and C. Pena. 1992. Intrahousehold Resource Allocation: Policy Issues and Research Methods. Washington, D.C.: International Food Policy Research Institute.

Hossain, M. 1996. Grameen Orthonitir Shamprotik Probonota o Agami Diner Koroniyo. [Current Trends in Rural Economy and Future Tasks.] *Bangladesh Unnoyon Shomikkha* 13: 131–55.

IFPRI/BIDS/INFS (International Food Policy Research Institute/Bangladesh Institute of Development Studies/Institute of Nutrition and Food Science). 1997. *Adoption of Commercial Vegetable and Polyculture Fish Production in Bangladesh: Impact on Income, Household Resource Allocation, and Nutrition.* A progress report on sample selection and a discussion of preliminary tables from the first of four survey rounds of household surveys. Washington, D.C., and Dhaka.

IFPRI (International Food Policy Research Institute). 1996. *Strengthening Food Policy Through Intrahousehold Analysis: Issues and Methodology*. Washington, DC.

Kabeer, N. 1988. Subordination and Struggle: Women in Bangladesh. *New Left Review* 168: 95–121.

Kabeer, N. 1992. Beyond the Threshold: Intrahousehold Relations and Policy Perspectives. In *Understanding How Resources Are Allocated Within Households*. Policy Brief No. 8. Washington, D.C.: International Food Policy Research Institute.

Kabeer, N. 1995. *Necessary, Sufficient or Irrelevant? Women, Wages and Intrahousehold Power Relations in Urban Bangladesh*. Working Paper 25. Sussex: Institute of Development Studies.

Katz, E. 1992. Household Resource Allocation When Income Is Not Pooled: A Reciprocal Claims Model of the Household Economy. In *Understanding How Resources Are Allocated Within Households*. Policy Brief 8. Washington, D.C.: International Food Policy Research Institute.

Kibria, N. 1995. Culture, Social Class and Income Control in the Lives of Women Garment Workers in Bangladesh. *Gender and Society* 9 (3): 289–309.

Lundberg, S., and R. A. Pollak. 1992. Separate Spheres Bargaining and the Marriage Market. In *Understanding How Resources Are Allocated Within Households*. Policy Brief No. 8. Washington, D.C.: International Food Policy Research Institute.

Marshall, C. and G.B. Rossman. 1989. *Designing Qualitative Research.* Sage Publications.

Naved, R. T. 1994. Empowerment of Women: Listening to the Voices of Women. *Bangladesh Development Studies* 22 (2–3): 155–178.

Naved, R. T. 1996. *RTI/STD and Risky Sexual Behavior in a "Conservative" Society*. Working Paper. Dhaka: The Bangladesh Field Office; Westport, Conn., U.S.A.: Save the Children/USA.

Naved, R. T., A. A. Masud, and K. Kar. *Onshogrohonmulak Porjalochona Shohayika.* Dhaka: The Bangladesh Field Office; Westport, Conn., U.S.A.: Save the Children/USA.

Pelto, P. J. 1994. Unpublished manuscript on Focused Ethnographic Studies on AIDS/STDs.

Quisumbing, A., and L. Brown. 1996. Trip Report. Unpublished official document. International Food Policy Research Institute, Washington, D.C.

Safilios-Rothschild, C., and S. Mahmud. 1989. Women's Roles in Agriculture: Present Trends and Potential for Growth. *Bangladesh Agricultural Sector Review*. United Nations Development Program and UNIFEM.

Sen, A. 1987. *Gender and Cooperative Conflicts*. Discussion Paper 1342. Cambridge: Harvard Institute of Economic Research, Harvard University.

Sen, A. 1990. Gender and Cooperative Conflicts. In *Persistent Inequalities: Women and World Development*, ed. I. Tinker. New York: Oxford University Press.

Theis, J., and H. M. Grady. 1991. *Participatory Rapid Appraisal for Community Development.* International Institute for Environment and Development; Westport, Conn., U.S.A.: Save the Children/USA.

Thomas, D. 1992. The Distribution of Income Within the Household and Household Expenditure Patterns. In *Understanding How Resources Are Allocated Within Households*. Policy Brief No. 8. Washington, D.C.: International Food Policy Research Institute.

FCND DISCUSSION PAPERS

01 *Agricultural Technology and Food Policy to Combat Iron Deficiency in Developing Countries*, Howarth E. Bouis, August 1994

02 *Determinants of Credit Rationing: A Study of Informal Lenders and Formal Credit Groups in Madagascar*, Manfred Zeller, October 1994

03 *The Extended Family and Intrahousehold Allocation: Inheritance and Investments in Children in the Rural Philippines*, Agnes R. Quisumbing, March 1995

04 *Market Development and Food Demand in Rural China*, Jikun Huang and Scott Rozelle, June 1995

05 *Gender Differences in Agricultural Productivity: A Survey of Empirical Evidence*, Agnes R. Quisumbing, July 1995

06 *Gender Differentials in Farm Productivity: Implications for Household Efficiency and Agricultural Policy*, Harold Alderman, John Hoddinott, Lawrence Haddad, and Christopher Udry, August 1995

07 *A Food Demand System Based on Demand for Characteristics: If There Is "Curvature" in the Slutsky Matrix, What Do the Curves Look Like and Why?*, Howarth E. Bouis, December 1995

08 *Measuring Food Insecurity: The Frequency and Severity of "Coping Strategies,"* Daniel G. Maxwell, December 1995

09 *Gender and Poverty: New Evidence from 10 Developing Countries*, Agnes R. Quisumbing, Lawrence Haddad, and Christine Peña, December 1995

10 *Women's Economic Advancement Through Agricultural Change: A Review of Donor Experience*, Christine Peña, Patrick Webb, and Lawrence Haddad, February 1996

11 *Rural Financial Policies for Food Security of the Poor: Methodologies for a Multicountry Research Project*, Manfred Zeller, Akhter Ahmed, Suresh Babu, Sumiter Broca, Aliou Diagne, and Manohar Sharma, April 1996

12 *Child Development: Vulnerability and Resilience*, Patrice L. Engle, Sarah Castle, and Purnima Menon, April 1996

13 *Determinants of Repayment Performance in Credit Groups: The Role of Program Design, Intra-Group Risk Pooling, and Social Cohesion in Madagascar*, Manfred Zeller, May 1996

14 *Demand for High-Value Secondary Crops in Developing Countries: The Case of Potatoes in Bangladesh and Pakistan*, Howarth E. Bouis and Gregory Scott, May 1996

15 *Repayment Performance in Group-Based credit Programs in Bangladesh: An Empirical Analysis*, Manohar Sharma and Manfred Zeller, July 1996

16 *How Can Safety Nets Do More with Less? General Issues with Some Evidence from Southern Africa*, Lawrence Haddad and Manfred Zeller, July 1996

17 *Remittances, Income Distribution, and Rural Asset Accumulation*, Richard H. Adams, Jr., August 1996

18 *Care and Nutrition: Concepts and Measurement*, Patrice L. Engle, Purnima Menon, and Lawrence Haddad, August 1996

FCND DISCUSSION PAPERS

19 *Food Security and Nutrition Implications of Intrahousehold Bias: A Review of Literature*, Lawrence Haddad, Christine Peña, Chizuru Nishida, Agnes Quisumbing, and Alison Slack, September 1996

20 *Macroeconomic Crises and Poverty Monitoring: A Case Study for India*, Gaurav Datt and Martin Ravallion, November 1996

21 *Livestock Income, Male/Female Animals, and Inequality in Rural Pakistan*, Richard H. Adams, Jr., November 1996

22 *Alternative Approaches to Locating the Food Insecure: Qualitative and Quantitative Evidence from South India*, Kimberly Chung, Lawrence Haddad, Jayashree Ramakrishna, and Frank Riely, January 1997

23 *Better Rich, or Better There? Grandparent Wealth, Coresidence, and Intrahousehold Allocation*, Agnes R. Quisumbing, January 1997

24 *Child Care Practices Associated with Positive and Negative Nutritional Outcomes for Children in Bangladesh: A Descriptive Analysis*, Shubh K. Kumar Range, Ruchira Naved, and Saroj Bhattarai, February 1997

25 *Water, Health, and Income: A Review*, John Hoddinott, February 1997

26 *Why Have Some Indian States Performed Better Than Others at Reducing Rural Poverty?*, Gaurav Datt and Martin Ravallion, March 1997

27 *"Bargaining" and Gender Relations: Within and Beyond the Household*, Bina Agarwal, March 1997

28 *Developing a Research and Action Agenda for Examining Urbanization and Caregiving: Examples from Southern and Eastern Africa*, Patrice L. Engle, Purnima Menon, James L. Garrett, and Alison Slack, April 1997

29 *Gender, Property Rights, and Natural Resources*, Ruth Meinzen-Dick, Lynn R. Brown, Hilary Sims Feldstein, and Agnes R. Quisumbing, May 1997

30 *Plant Breeding: A Long-Term Strategy for the Control of Zinc Deficiency in Vulnerable Populations*, Marie T. Ruel and Howarth E. Bouis, July 1997

31 *Is There an Intrahousehold 'Flypaper Effect'? Evidence from a School Feeding Program*, Hanan Jacoby, August 1997

32 *The Determinants of Demand for Micronutrients: An Analysis of Rural Households in Bangladesh*, Howarth E. Bouis and Mary Jane G. Novenario-Reese, August 1997

33 *Human Milk—An Invisible Food Resource*, Anne Hatløy and Arne Oshaug, August 1997

34 *The Impact of Changes in Common Property Resource Management on Intrahousehold Allocation*, Philip Maggs and John Hoddinott, September 1997

35 *Market Access by Smallholder Farmers in Malawi: Implications for Technology Adoption, Agricultural Productivity, and Crop Income*, Manfred Zeller, Aliou Diagne, and Charles Mataya, September 1997

36 *The GAPVU Cash Transfer Program in Mozambique: An assessment*, Gaurav Datt, Ellen Payongayong, James L. Garrett, and Marie Ruel, October 1997

FCND DISCUSSION PAPERS

37 *Why Do Migrants Remit? An Analysis for the Dominican Sierra*, Bénédicte de la Brière, Alain de Janvry, Sylvie Lambert, and Elisabeth Sadoulet, October 1997

38 *Systematic Client Consultation in Development: The Case of Food Policy Research in Ghana, India, Kenya, and Mali*, Suresh Chandra Babu, Lynn R. Brown, and Bonnie McClafferty, November 1997

39 *Whose Education Matters in the Determination of Household Income: Evidence from a Developing Country*, Dean Jolliffe, November 1997

40 *Can Qualitative and Quantitative Methods Serve Complementary Purposes for Policy Research? Evidence from Accra*, Dan Maxwell, January 1998

41 *The Political Economy of Urban Food Security in Sub-Saharan Africa*, Dan Maxwell, February 1998

42 *Farm Productivity and Rural Poverty in India*, Gaurav Datt and Martin Ravallion, March 1998

43 *How Reliable Are Group Informant Ratings? A Test of Food Security Rating in Honduras*, Gilles Bergeron, Saul Sutkover Morris, and Juan Manuel Medina Banegas, April 1998

44 *Can FAO's Measure of Chronic Undernourishment Be Strengthened?*, Lisa C. Smith, with a *Response* by Logan Naiken, May 1998

45 *Does Urban Agriculture Help Prevent Malnutrition? Evidence from Kampala*, Daniel Maxwell, Carol Levin, and Joanne Csete, June 1998

46 *Impact of Access to Credit on Income and Food Security in Malawi*, Aliou Diagne, July 1998

47 *Poverty in India and Indian States: An Update*, Gaurav Datt, July 1998

48 *Human Capital, Productivity, and Labor Allocation in Rural Pakistan*, Marcel Fafchamps and Agnes R. Quisumbing, July 1998

49 *A Profile of Poverty in Egypt: 1997*, Gaurav Datt, Dean Jolliffe, and Manohar Sharma, August 1998.

50 *Computational Tools for Poverty Measurement and Analysis*, Gaurav Datt, October 1998

51 *Urban Challenges to Food and Nutrition Security: A Review of Food Security, Health, and Caregiving in the Cities*, Marie T. Ruel, James L. Garrett, Saul S. Morris, Daniel Maxwell, Arne Oshaug, Patrice Engle, Purnima Menon, Alison Slack, and Lawrence Haddad, October 1998

52 *Testing Nash Bargaining Household Models With Time-Series Data*, John Hoddinott and Christopher Adam, November 1998

53 *Agricultural Wages and Food Prices in Egypt: A Governorate-Level Analysis for 1976-1993*, Gaurav Datt and Jennifer Olmsted, November 1998

54 *Endogeneity of Schooling in the Wage Function: Evidence from the Rural Philippines*, John Maluccio, November 1998

55 *Efficiency in Intrahousehold Resource Allocation*, Marcel Fafchamps, December 1998

56 *How Does the Human Rights Perspective Help to Shape the Food and Nutrition Policy Research Agenda?*, Lawrence Haddad and Arne Oshaug, February 1999

FCND DISCUSSION PAPERS

57 *The Structure of Wages During the Economic Transition in Romania*, Emmanuel Skoufias, February 1999

58 *Women's Land Rights in the Transition to Individualized Ownership: Implications for the Management of Tree Resources in Western Ghana*, Agnes Quisumbing, Ellen Payongayong, J. B. Aidoo, and Keijiro Otsuka, February 1999

59 *Placement and Outreach of Group-Based Credit Organizations: The Cases of ASA, BRAC, and PROSHIKA in Bangladesh*, Manohar Sharma and Manfred Zeller, March 1999

60 *Explaining Child Malnutrition in Developing Countries: A Cross-Country Analysis*, Lisa C. Smith and Lawrence Haddad, April 1999

61 *Does Geographic Targeting of Nutrition Interventions Make Sense in Cities? Evidence from Abidjan and Accra*, Saul S. Morris, Carol Levin, Margaret Armar-Klemesu, Daniel Maxwell, and Marie T. Ruel, April 1999

62 *Good Care Practices Can Mitigate the Negative Effects of Poverty and Low Maternal Schooling on Children's Nutritional Status: Evidence from Accra*, Marie T. Ruel, Carol E. Levin, Margaret Armar-Klemesu, Daniel Maxwell, and Saul S. Morris, April 1999

63 *Are Urban Poverty and Undernutrition Growing? Some Newly Assembled Evidence*, Lawrence Haddad, Marie T. Ruel, and James L. Garrett, April 1999

64 *Some Urban Facts of Life: Implications for Research and Policy*, Marie T. Ruel, Lawrence Haddad, and James L. Garrett, April 1999

65 *Are Determinants of Rural and Urban Food Security and Nutritional Status Different? Some Insights from Mozambique*, James L. Garrett and Marie T. Ruel, April 1999

66 *Working Women in an Urban Setting: Traders, Vendors, and Food Security in Accra*, Carol E. Levin, Daniel G. Maxwell, Margaret Armar-Klemesu, Marie T. Ruel, Saul S. Morris, and Clement Ahiadeke, April 1999

67 *Determinants of Household Access to and Participation in Formal and Informal Credit Markets in Malawi*, Aliou Diagne, April 1999

68 *Early Childhood Nutrition and Academic Achievement: A Longitudinal Analysis*, Paul Glewwe, Hanan Jacoby, and Elizabeth King, May 1999

69 *Supply Response of West African Agricultural Households: Implications of Intrahousehold Preference Heterogeneity*, Lisa C. Smith and Jean-Paul Chavas, July 1999

70 *Child Health Care Demand in a Developing Country: Unconditional Estimates from the Philippines*, Kelly Hallman, August 1999

71 *Social Capital and Income Generation in South Africa, 1993-98*, John Maluccio, Lawrence Haddad, and Julian May, September 1999

72 *Validity of Rapid Estimates of Household Wealth and Income for Health Surveys in Rural Africa*, Saul S. Morris, Calogero Carletto, John Hoddinott, and Luc J. M. Christiaensen, October 1999

FCND DISCUSSION PAPERS

73 *Social Roles, Human Capital, and the Intrahousehold Division of Labor: Evidence from Pakistan*, Marcel Fafchamps and Agnes R. Quisumbing, October 1999

74 *Can Cash Transfer Programs Work in Resource-Poor Countries? The Experience in Mozambique*, Jan W. Low, James L. Garrett, and Vitória Ginja, October 1999

75 *Determinants of Poverty in Egypt, 1997*, Gaurav *Datt* and Dean Jolliffe, October 1999

76 *Raising Primary School Enrolment in Developing Countries: The Relative Importance of Supply and Demand*, Sudhanshu Handa, November 1999

77 *The Political Economy of Food Subsidy Reform in Egypt*, Tammi Gutner, November 1999.

78 *Determinants of Poverty in Mozambique: 1996-97*, Gaurav Datt, Kenneth Simler, Sanjukta Mukherjee, and Gabriel Dava, January 2000

79 *Adult Health in the Time of Drought*, John Hoddinott and Bill Kinsey, January 2000

80 *Nontraditional Crops and Land Accumulation Among Guatemalan Smallholders: Is the Impact Sustainable?* Calogero Carletto, February 2000

81 *The Constraints to Good Child Care Practices in Accra: Implications for Programs*, Margaret Armar-Klemesu, Marie T. Ruel, Daniel G. Maxwell, Carol E. Levin, and Saul S. Morris, February 2000

82 *Pathways of Rural Development in Madagascar: An Empirical Investigation of the Critical Triangle of Environmental Sustainability, Economic Growth, and Poverty Alleviation*, Manfred Zeller, Cécile Lapenu, Bart Minten, Eliane Ralison, Désiré Randrianaivo, and Claude Randrianarisoa, March 2000

83 *Quality or Quantity? The Supply-Side Determinants of Primary Schooling in Rural Mozambique*, Sudhanshu Handa and Kenneth R. Simler, March 2000

84 *Intrahousehold Allocation and Gender Relations: New Empirical Evidence from Four Developing Countries*, Agnes R. Quisumbing and John A. Maluccio, April 2000