

A very important activity of women, and an important source of income and food for rural households, is the rearing of cattle. Livestock management falls into the female domain, and is thus much more recognized than women's involvement in the crop sector. Women are involved in fodder cutting; feeding the animals; cleaning the cattle sheds; and in milking and making ghee. These activities are important to women, since women are permitted to sell small quantities of milk, ghee, gund and grain and keep the income for their own use. For small farmer households the sale of these products is often the only source of cash income, which they use to buy basic necessities.

This survey on women's contributions to Punjab's rural irrigated economy is a very first attempt to look beyond the *chadar* and the *chardiwari*. The report shows that without the contributions of women, irrigated agriculture would be impossible. However, the recognition of their importance at policy and higher decision-making levels is still very low. This report provides a first and strong argument for more research and action to support and enhance the capacity of rural Pakistani women to play an active role in the development of irrigated agriculture.

[From a research report prepared by Kanchan Basnet for IIMI-Pakistan, June 1992]

Women and Irrigation Management in Bangladesh

In Bangladesh, a number of NGOs have initiated innovative programs to enable the landless poor to gain access to and control over irrigation equipment and water. With landless women making up the poorest group in Bangladesh, two national NGOs, BRAC and Proshika, are actively testing and developing programs to support poor women's ownership, operation and management of irrigation assets.

Under BRAC's program, landless groups of 75 to 100 shareholders jointly purchase and operate mainly deep tubewells (DTW). In 1991, 309 DTW groups were operating and about 500 or more were planned for 1992. In theory, each BRAC pump group is composed of shareholders half of whom are males and half females, recruited from 2 to 3 of BRAC's existing village groups. Each subset of 10 pump shareholders has a representative to the management committee from which one person becomes the scheme manager. Each shareholder must contribute an equal share of money to the capital and operating costs of the DTW, which he/she supplies from either an individual BRAC loan or from his/her personal savings. Crop-revenues from the sale of water are divided equally among the shareholders at the end of the harvest. In addition to profits, members

should also benefit from preferential access to scheme wage labor opportunities, such as canal construction and maintenance, and driver, lineman and manager jobs. Crop-share harvesting and threshing tasks, however, are normally performed with group volunteer labor. In theory, within the group structure women should share benefits from the schemes. This is a relatively new program and BRAC has not yet assessed the nature and degree of women's involvement in practice, or how they may differentially contribute and benefit.

In contrast to BRAC's pump groups, Proshika's program works with their existing all-male or all-female groups of 15-25 to take up pump irrigation schemes. These groups have usually operated other economic schemes for some time together. They get help from Proshika to move into irrigation. Currently (1991) 9 all-women's groups are operating and maintaining a variety of irrigation equipment with women members acting as drivers and managers. Seven more women groups will be starting traditional pump schemes, and another 53 all-women's groups will begin pump schemes with a new technology - mini shallow tube wells for irrigating about 5 acres. Though the program is expanding, women managing pump irrigation in Bangladesh have faced special difficulties. Recently, two women's groups were discontinued after a few years' operating. This was at the insistence of their husbands, not because of questions of profitability or mastery of operations, but because of social resistance and constraints on their mobility. Their husbands took over the STW operations, while encouraging their wives to engage in more "appropriate" or "traditional" occupations such as livestock rearing.

Stemming from religion and custom, women in irrigation management and water selling face a variety of problems. Their dependence on male relations to harvest and collect crop-share revenues for water in the farmers' fields, and to help them sell the rice in the market can sometimes undermine women's ability to directly control the financial aspects of the operation. Forbidden to go out in the fields at night, women have to make special arrangements for sleeping at the pump house to guard it or to supervise irrigation at night. They are likely to encounter male farmers' resistance in negotiating water contracts with them and in negotiating the site of the pump.

[From an identification survey, carried out by Mimi Jenkins for IIMI-Dhaka in Bangladesh, August 1991]

Gender and Irrigation: A Manual for Consultants.

SAWA (a Dutch consultancy bureau for integrated rural development, land and water management,