

households the sale of these products often is the only source of cash income, which they use to buy basic necessities.

This survey about 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 NGO's, BARC and Proshika, are actively testing and developing programs to support poor women's ownership, operation and management of irrigation assets.

Under BARC'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 were initiated in 1992. In theory all BARC pump groups are composed of half male and half female shareholders, recruited from 2 to 3 of BARC's existing village groups. Subsets of 10 pump shareholders each have 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 they supply from either an individual BARC loan or from their 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 also benefit from preferential access to scheme wage labor requirements, such as canal construction and

maintenance, driver, lineman and manager jobs. Crop-share harvesting and threshing tasks however, are normally performed with group volunteer labour. In theory, within the group structure, women share benefits from the schemes. This is a relatively new program and BARC 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 BARC'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 and get help from Proshika to move into irrigation. In 1991, nine all-women's groups operated and maintained a variety of irrigation equipment with women members acting as drivers and managers. Seven more women groups have been planned to start 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 groups were discontinued after a few years operating. This was at the insistence of their husbands, not because 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 paddy 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 any irrigation at night. They are likely to encounter male farmer 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]