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# Discussion Paper BRIEFS

Food Consumption and Nutrition division of the International Food Policy Research Institute

*Discussion Paper 85*

## **Intrahousehold Impact of the Transfer of Modern Agricultural Technology: A Gender Perspective**

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**M**icronutrient 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 deficiency impairs cognitive development of young children, retards physical growth, and increases child mortality, and contributes to the problem of maternal death during childbirth.

### ***Need for This Study***

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 costly food is most 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.

### ***Purpose and Methodology of the Study***

This paper is based on a qualitative study of intrahousehold impact of transfer of modern agricultural technology in Bangladesh from a gender perspective. With a goal of obtaining results rapidly and at low cost, the study compared the effects of agricultural programs targeted at improving women's household income. First studied 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 a non-governmental organization (NGO) named Gono Kallyan Trust (GKT) in Satoria. 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 Bachte Shekha (BS), a local NGO.

The 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 additional income generated? (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 are the factors that 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?

### ***Results***

This study found that for most women, income gains from adoption of the improved vegetable seeds were not substantial. Moreover, even though women were targeted for the project, their ability to benefit was limited for several reasons: the land tenure system is not in their favor; and 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 themselves. Thus, their male representatives gain de facto control over the land and its produce. Second, the gender division of workspace between men and women validated by the system of *purdah* does not allow women to grow vegetables in the cultivable land owned by the family. Some women ended up implementing the new technology in their homesteads, which is the traditional domain of female activities. Thus, production of the improved vegetables did not contradict traditional norms nor challenge the existing gender division of labor and workspace. Another implication is that because use of the new technology was limited to the homestead plots, the resulting production and income were both quite small.

The adoption of fish production technology by women's groups appeared to promise better results in challenging the gender division of workspace. (However, internalization of this division by women still hinders use

***Income-generating programs targeting women as individuals must also provide alternative sources of social support in order to achieve their gender-related objectives.***

of this opportunity, which is apparent from the fact that they were reluctant to increase the size of the operation if it would require a substantial increase in their mobility and make them work further away from their houses.)

The improvements, however, depended on how the programs were structured. In one village, ownership of ponds was transferred to individual women, and in another, to groups of women. Though the income earned by an individual woman was by no means greater than that earned by those implementing the improved vegetable technology, the fishpond project had some important advantages. First, it encouraged groups of poor women to actively participate in the production, effectively involving men at different stages but never ceding control to men. This was because the “negotiation” took place at a higher level than the household—men had to negotiate with groups of women who were backed by an NGO. Thus, men they did not have direct access to the income.

Another important dimension of the fish production by groups of women is that it challenged 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 brought in an income that is not negligible for a rural woman. In contrast to the vegetable growers, who tended to spend their small earnings instantly, the women who raised fish usually saved the amount and used it for investment or emergency purposes.

#### ***Analysis and Recommendations***

The success of the fishpond project was 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.

In the projects studied in this paper, when intrahousehold dynamics were disregarded in the design of the program, women were minimally involved, and the projects soon became fully controlled by men. Moreover, at times women were found to be providing labor input into the project without directly gaining any benefits. Greater care is needed to ensure that development interventions do not lead to increased male control of female labor and earnings.

While fish cultivation did have benefits, it also clearly failed to improve the traditional pattern of intrahousehold food distribution, which continued to favor males. The size of fish production was not large enough to allow females to consume this food after the males had had enough. The projects promoting the adoption of improved seeds and vegetables did lead to increases in the intake of micronutrient-rich vegetables by women, but this was mainly due to the intrahousehold dynamics of food distribution whereby women tend to consume the bulk of low-status food. (The vegetables were not perceived to be as tasty or as desirable as more traditional vegetables.) 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, because it earns more income over which women have greater control and it strengthens women’s position and may provide them with greater access to micronutrient-rich food in the future.

**Keywords: Bangladesh, gender, fish ponds, vegetable production**

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