

with ecological conditions similar to the Project area. Varietal testing continued and became a part of the agronomic research program.

Results obtained in preliminary studies of the maize-pole bean association in 1970 and 1971 indicated that net income might be greater with the combination of crops than with either maize or bush beans alone. Research was intensified on management practices for this association, to develop recommendations for its use.

The effort to achieve a closer coordination of the activities of the farmers, agricultural institutions, and Project staff in previous years had disclosed problems that required changes in the operating procedures of institutions. At times, through a careful exposition of the problem to the indicated institution, it had been possible to reach a satisfactory solution. In other cases, however, little or no progress had been made. It became clear from these experiences that a more detailed study was needed of the operating procedures of the agricultural institutions and of the reasons farmers have difficulty in using their services. Such a study was undertaken in mid-1972.

Another increasing concern of the Project staff was how to develop the capacity of the farmer organizations to participate more actively in seeking solutions to their production problems. In mid-1972, arrangements were made to contract the services of a sociologist with years of experience with farmer organizations, who would provide technical assistance to the Project staff in searching for a more effective way of working with the farmer groups.

CIMMYT decided in early 1972 to terminate its participation in the Puebla Project at the end of 1973. The Project had begun in 1967 as an experiment to learn how to rapidly increase maize production among small, low-income farmers. As the Project evolved, however, it became clear that the Project's objectives would shift to more efficient strategies for increasing production, net income, and the general welfare of small farmers in rainfed areas. CIMMYT felt that its mandate was not broad enough to encompass all the activities that clearly should be incorporated in so extensive an undertaking. This position was made known to the Governor of Puebla and the Secretary of Agriculture, making clear CIMMYT's reasons for withdrawing support, as well as the conviction that the Project should continue.

A seminar on rural development was held in Bogota, Colombia, in September 1972, with the participation of representatives of the Puebla Project and similar programs in Colombia, Honduras, Peru, and Mexico. The International Development Research Center (IDRC) of Canada took the initiative in organizing the seminar and provided financial support.

The Sixth Annual Meeting was held in Puebla in March 1973.

### **Project Operations: 1973**

The program of technical assistance to farmers was broadened in 1973 to include promotion of the use of: (a) a new technology for the maize-pole bean association, and (b) agua ammonia as a source of nitrogen for maize. The

national fertilizer agency, Guanos y Fertilizantes, introduced the idea of finding a way to enable small, traditional farmers to use agua ammonia. The agency provided the agua ammonia, a source of phosphorus, applicators, credit, and technical assistance. The Project technical assistance agents informed the farmers of the availability of credit for these fertilizers and assisted interested farmers in organizing and in arranging for and applying the materials.

During the second half of 1973, the technical assistance agents, after months of discussions about how to work more effectively with farmer organizations, began to work more intensively with selected groups. A series of meetings was held in which the farmers and the technical assistance agent explored operations that could increase net income of the farmers. From these discussions, it could usually be agreed that one activity should be given priority. A committee was elected by the farmers to study how to proceed on the priority undertaking. The technical assistance agent provided information and guidance to these groups, but responsibility for group action remained with the farmers.

A second seminar on rural development, with financial support from IDRC, was held at Chapingo, Mexico, in September 1973. The staff and advisors of the Puebla Project participated in the organization of the seminar and in the conferences and work sessions.

In early 1973, the Project staff and advisors began to explore, with political leaders of the state and federal governments, means for continuing the Puebla Project after CIMMYT had terminated its participation. Discussions and study at several levels proceeded during the year, and shortly before the end of 1973, the Ministry of Agriculture decided to continue the Project as an activity of the Graduate College at Chapingo. Present expectations are that the Project will become a part of a new national program to increase agricultural production in rainfed areas of the country.