

8 EVALUATION PROCEDURES

INTRODUCTION

The Puebla Project was conceived as an experimental approach to develop and test strategies for rapidly increasing yields on small land holdings of subsistence farmers. Its operational strategies were designed to be flexible and subject to modification as new information was generated. Thus, provision was made for an evaluation unit with two main objectives: (a) to measure the progress made by the Project over time, and (b) to identify obstacles and collect the information needed for modifying strategies. Immediate feedback of this information to Project staff was a crucial step in developing remedial actions.

Consideration was given to contracting an independent agency to make the evaluation. There were two principal arguments in favor of this approach: (a) greater objectivity could be expected, as those involved in evaluation would have no direct personal interest in the success or failure of the Project, and (b) these more objective findings would probably carry more weight with policy makers.

There were also two important reasons for including evaluation as an integral part of the Project: (a) it would assure a continuous feedback of information to the other members of the Project team, and (b) obstacles limiting farmer participation could be identified and studied most effectively by an evaluation team working side by side with the members of the field staff.

After discussion of alternatives by Project members and advisors, evaluation was included as an integral part of the Project. In regard to the question of objectivity, it was felt that the essential conditions were objective criteria and adequate methodology, as in any research.

After the harvest of the fertilizer experiments in 1967, it became evident that the Project would begin promoting the use of revised maize technology in 1968. Thus, it was necessary to begin immediately to: (a) establish benchmarks on yield, technology of the farmers, level of living, etc. for future comparisons; (b) obtain information about the farmers and their present level of technology for use in planning the action program; and (c) obtain information on the infrastructure of the region—fertilizer distribution, agricultural credit, crop insurance, and price support programs.

COLLECTION OF EXISTING INFORMATION

Unpublished data for 1960 were obtained from the Census Bureau for the municipios in the Project area. These

data provided a general idea of the area, the number of families living there, the total area planted to maize and the amount produced, and the size of the holdings.

Yearly data on area, production, and yield were available by municipios from the Dirección General de Economía Agrícola. The methods of data collection and yield estimation used by this agency were studied to determine whether such data would provide an adequate estimation of yield changes. This analysis suggested that a more precise measure of yield was needed to detect minor year-to-year changes.

To obtain the necessary kinds of estimates of both yield and characteristics of the farming population, a probability sample was chosen. This sample was used both for personal interview surveys and for yearly estimates of maize yields.

PERSONAL INTERVIEW SURVEYS

Survey: 1967

Farm operators of the Project area were the population of interest in this study. Because the Census lists were 8 years old, it seemed advisable to look for an alternative sampling frame. An area sampling technique turned out to be feasible because of the availability of aerial photos taken just 6 months earlier.

To keep costs at a reasonable level, a two-stage sample was drawn. The sample was selected as follows. Using a map of the region provided by the Mexican Defense Department, the Project area or was delineated. Next, 25 points were identified by locating coordinates with a list of random numbers. These points were then transferred to the aerial photos and a square 5 x 5 cm was drawn with the point as the center. This 25 cm² area was equal to 100 ha. These squares were then photographed and enlarged to a size which simplified identification of individual parcels and permitted more precise measurements of area.

The first stage of the field work involved locating the 25 segments and finding reference points—trees, roads, gulleys—that would help to identify individual parcels. Once the segment boundaries were established, the next step was to obtain the names of those who had operated each piece of land in 1967. The list of names of persons farming any land within the segment constituted the sampling frame for the second stage.