

In 1968, the yield estimate in each parcel was made by harvesting all the ears of maize within the 50 lineal meters. From 1969 onward, the yield estimate in each parcel was made using the indirect procedure described above.

Estimation of Yields of Farmers on Credit Lists

The average maize yield of the 103 farmers who used the Project recommendation in 1968 was estimated from yield measurements made on each farm. On farms where a farmer used the recommendations in two or more parcels, one parcel was selected at random for sampling.

In 1969 and 1970, a random sample in three stages was used for estimating the average maize yields. In the first stage, the credit groups were the population, and a sample of these groups was selected. In the second stage, a sample of parcels within groups was drawn from among all the parcels in selected groups for which the farmers had received credit for using the new technology. In the third stage, sites within the parcels were selected according to the scheme illustrated in Fig. 8.1.

In 1971 and 1972, the first step in estimating average maize yields was to divide the Project area into the five work zones described in Chapter 5. Lists were prepared, by zones, of all farmers on credit lists; farmers were randomly selected from the five lists. Among those farmers in the sample who received credit for using the recommendations on only one parcel, this parcel was chosen for sampling. Among farmers who received credit for two or more parcels, one parcel was selected at random. Sites within parcels

were selected as shown in Fig. 8.1. The number of farmers per zone in the sample was determined from variances calculated from estimates of yield made during the previous year for each zone.

After the sites within parcels were selected, the estimation of yield was made using the indirect procedure described on page 76.

Comments on the Evaluation Program

Some deficiencies in the operation of the evaluation program are now apparent. As mentioned, a primary concern of evaluation was to quantify the Project's progress, and primary emphasis was placed on the socioeconomic surveys, the annual estimates of yield, and the use of this information for evaluating change. As a result, much less importance was given to identifying obstacles limiting farmer use of the new technology and in studying means to overcome these barriers. Thus, the Project was sometimes slow in modifying its operational strategies, particularly with respect to farmer organizations and the service institutions.

This deficiency could be overcome by arranging for an evaluation staff to receive assistance from highly trained consultants with a broad understanding of evaluation. It may also be necessary to increase the resources allocated to evaluation and to provide the staff with additional training.

Another evaluation deficiency related to the rate at which the collected and processed data was fed back to the rest of the Project staff. Data on yield and the use of technology collected each year at harvest time were generally

An indirect method was developed in 1968 for estimating the average maize yield in the project area just prior to harvest. Measurements of the lengths, diameters and weights of all ears from a large number of plots were used to calculate a regression equation. Using this relationship, yields were estimated in subsequent years by measuring ear lengths and diameters in a selected area of a random sample of fields.

