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GROUP 12. AGRICULTURAL STATISTICS

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A wide range of statistical experience and practice was represented. Some countries have taken their first census in the past few years and some have taken only a very small sample of population. On the other hand, others have a complex pattern of statistical series which has been evolved over a century or more. However, the less-experienced countries may have certain advantages in starting their work with the powerful sampling tools available to them from the beginning. In their turn, the experienced countries may have something to learn from the critical view which others cast on the figures which they collect. Their critical outlook is essential because the resources available for collecting agricultural statistics are too few to risk using them unwisely. It is at least possible that some countries which have been collecting figures for a long time could, with economy, vary their long-standing habits and collect fewer of some kinds of figures, or collect them less frequently. The resources saved could be used in other ways, perhaps for more detailed analysis. New developments in farming practice also demand new statistical series for proper description.

Collection methods. Where few agricultural statistics have been collected before, the two- or three-stage stratified, random sample is an attractive technique. The 'frame' may consist of the lists of administrative districts. After these are arranged in strata with respect to farming types, for example, a sample of districts may be drawn from each stratum. From within these chosen districts, a sample of villages

may be drawn. A questionnaire may then be sent to the administrative head of the village, or to the village accountant, to be filled in after questioning the villagers. Alternatively—or in addition—enumerators may visit the sample villages and pursue the inquiries with a sub-sample of villagers. India, Nigeria, the Philippines and Vietnam, among others, have experiences along these lines.

Experiences of 'crop cutting' for the estimation of crop yield were exchanged and there was general interest in the attractive features of this technique. Where reporters can make reasonably reliable estimates subjectively it is likely to be cheaper than crop cutting. Circumstances under which the crop-cutting technique can give over-estimates were also reviewed. For certain crops it is possible to obtain quite accurate estimates of production from the quantity marketed. Full use should be made of this for cross-checking estimates made by other methods. Certain countries, for example Poland, have made use of yield data obtained from farms which keep rather complete farm records.

Very careful training of the field staff can play a considerable part in obtaining accurate data from farmers. Good relations between the collectors of statistics and the farming population can also help. The Swedish practice of having a 'contact man', appointed by the farmers of each local association of the Swedish Farmers Union, to provide a link with the Agricultural Economics Research Institute attracted interest. A case of the survey of fisheries in India where the fishermen avoided those fish-marketing centres where the survey teams were working was cited. This underlined both the risk of bias and the need for the survey organizers to be thoroughly acquainted with the whole setting of their inquiry.

A statistical advisory committee can give advice on the best data to obtain for a particular need and the members can also do much to improve the attitude towards the inquiry of those from whom information is sought. To this end an advisory committee may include representatives of trade groups, farmers, farm economists and interested government agencies.

The statistics required. A choice may be open to the statistician or economist between collecting rather full details in a series of case studies or collecting data on fewer items for a fair-sized sample. The non-professional user is usually better satisfied with simple data based on a fair-sized sample than with information based on case studies.

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Of the data most urgently needed in agriculture, estimation of total production for the main crops and of land use were given highest priority. Data for cash crops were considered of special interest for governmental purposes. The list should be extended as soon as resources permit because, with changing conditions, a considerable trade may develop in what were formerly subsistence crops. It is not justifiable to spend limited resources on collecting data respecting certain minor crops such as small-scale vegetable production for home use, or scattered trees in and around fields. If it is practical to indicate the general level of reliability of published statistical series, this would be helpful. Although experience with this is limited, it seems well worth further thought by agricultural economists with international interests. A whole group of statistical data needed for farm-management work, such as use of labour and fertilizers, yield per unit of livestock, and yield of livestock product per unit of feed input cannot be obtained unless the suppliers keep records. These data should be collected by teamwork between experimental workers and agricultural economists.

Presentation of statistics to best advantage. Basically, statistical details can be presented only in tables. Graphs may be valuable for popularization. The method of conveying information depends on the type of use to which it is to be put. Individuals vary greatly in the form of presentation which appeals to them. Beyond making publications outwardly rather more attractive, few changes have occurred in recent years in countries with the most experience in presenting statistics.

Governmental agencies are amongst the most frequent users of agricultural statistics, though traders, farmers' organizations and the press use them too. Farmers themselves sometimes may seem to make little use of them but in fact they base many of their decisions on them. They do not obtain these from primary sources, however, but through their organizations and the farming newspapers and magazines. Consequently, we should not under-estimate the importance of this work to the farming population. This fact, if repeatedly brought to farmers' attention, should make easier the collection of the basic data.

Conclusion. The work of the agricultural statistician will go forward most effectively if he has a full appreciation of the whole setting of the problem on which he is working. Furthermore, he will be better able to carry out his job if he and representatives of the suppliers of data, and of the users, can be kept in very close touch with each other.