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REPORT OF THE EXECUTIVE SECRETARY ON THE ACTIVITIES OF THE COMMISSION

PROGRESS MADE IN THE IMPLEMENTATION OF THE PROGRAMME OF WORK FOR THE PERIOD 1988-1989

Report on

the results of the Training Workshop in the Use of Personal Computers for Gathering, Storing, Processing and Retrieving Farm Data

89-0105

A. Introduction

The Joint ESCWA/FAO Agriculture Division, as a part of its work programme for 1988-1989, organized the Training Workshop in the Use of Personal Computers for Gathering, Storing, Processing and Retrieving Farm Data. The Training Workshop was held from 24 October to 9 November 1988 at ESCWA headquarters in Baghdad. The Workshop was the result of close co-operation between ESCWA, the Food and Agriculture Organization of the United Nations (FAO) and the Agriculture and Water Resources Research Centre, which comes under the Scientific Research Council in Iraq. The Workshop was attended by 11 trainees.

The objective of the Training Workshop was to develop the capacity of workers in the agricultural sector, especially economists, agricultural extension workers and statisticians, in gathering, processing, storing and retrieving farm data by means of a personal computer programme package called FARMAP (Farm Analysis Package), which had been developed over many years by FAO. This programme package constitutes a well-organized and highly-developed means of establishing a farm data base to be used as a source of information and to provide an input to the quantitive models necessary for policy formulation and planning on the levels of the farm, local administration and the agricultural sector as a whole.

The Executive Secretary of ESCWA gave a speech at the opening ceremony of the Training Workshop, in which he said that the subject of gathering and processing information on all levels and in the various specialized fields had not received the interest it deserved in the developing countries in general, or in the countries of the ESCWA region in particular, and that the levels attained thus far were still unambitious. The Executive Secretary stated that the compilation of data bases and information banks was not the ultimate aim; rather the updating and constant adaptation of those data bases and banks and making them available to authorities concerned must be taken as the basic goals when embarking upon these activities, which required personnel who were highly qualified in the fields of gathering and processing information and who were knowledgeable and experienced in the use of computers for such purposes. The representative of the Agriculture and Water Resources Research Centre also made a speech, in which he said that the Centre showed great interest in organizing specialized training workshops, in view of their importance in developing the capacity of technical and scientific personnel in the country. Therefore, the Training Workshop would be extremely important in developing scientific work and research on agriculture.

The Chief of the Joint ESCWA/FAO Division said in his opening speech that the weak farm data base in the ESCWA countries was basically due to non-utilization of modern computer-based methods of gathering, storing, retrieving and analysing agricultural data. That was why ESCWA had included in its work programme for 1988-1989 a special workshop to train agricultural staff in the use of personal computers. He added that the Training Workshop was only the beginning of long-term co-operation between ESCWA, as represented by the Joint ESCWA/FAO Division, and the Centre, since it had been agreed in principle to select a group of farmers from a number of agricultural regions

in Iraq to help them to prepare farm records and accounts in order to collect and record agricultural data. That would make it possible first to serve farmers in those regions by helping them to draw up their farm plans and secondly to carry out the research necessary to formulate appropriate agricultural policy.

At the closing ceremony on 9 November 1988 at the end of the Training Workshop, the Deputy Executive Secretary of ESCWA offered his thanks to all those involved in organizing the Training Workshop and making it a success. He said that training in the use of personal computer programmes was not the final goal of the Training Workshop, but rather putting these programmes to use. Therefore he urged the participants to continue their efforts after the Workshop to increase trainees' capacity, first by further training with teaching materials, secondly by using the programmes in field studies and thirdly by constantly modernizing and developing programmes so that they were better suited to local conditions. He also stated that the Joint ESCWA/FAO Division would continue to co-operate in the field with FAO to monitor any new developments in personal computer programmes for the processing of farm data. He said that the Division would hold another Training Workshop in the coming year, which would concentrate on field applications of those programmes and their use in farm planning and policy making in a number of agricultural regions of Iraq, according to the agreement of principle concluded with the Agriculture and Water Resources Research Centre. The Director of the Centre expressed his thanks and appreciation to ESCWA and FAO for organizing the Training Workshop and he pointed to the importance of the Workshop in developing the capacity of agricultural personnel in farm data processing and creating farm data banks, both of which were vital in boosting farm productivity, carrying out field research and in farm policy planning. He also expressed his desire to continue co-operation between the Centre and the Joint Agriculture Division, and especially to organize another course on farm data processing and the use of such data in quantitive models such as linear programming and statistical analysis programmes in some of the agricultural areas which fell within the sphere of activities of the Centre.

During the subsidiary meetings that were held during the Training Workshop between the Joint Agriculture Division and the Agriculture and Water Resources Research Centre in which views were exchanged between the trainees and the organizers of the Workshop, a number of conclusions and recommendations were arrived at concerning the Workshop and the future of co-operation in this field between the Joint Agriculture Division and the Centre. These are presented below.

B. Conclusions and recommendations

1. All those involved in the Training Workshop stressed the importance of the Workshop in developing the capacity of staff working in the field of collecting farm data, a necessary step in the creation of farm information banks by means of modern methods such as the FARMAP personal computer programme. Therefore, there was a pressing need to hold similar workshops in other countries of the region.

2. The trainees said that they had benefited greatly from the Workshop and that they hoped to take part in another course on the analysis of data from field surveys by means of quantitive models for operations research and statistical analysis models with the aim of drawing up appropriate farm plans

for the farms of a particular region. The Joint ESCWA/FAO Division and the Agriculture and Water Resources Research Centre of the Scientific Research Council in Iraq agreed in principle to organize the Training Workshop in 1989.

3. The Joint ESCWA/FAO Division and the Agriculture and Water Resources Research Centre also agreed in principle to make use of staff who had received training on the current Workshop in preparing field studies to improve farm policies and planning through the use of the FARMAP programme in the regions covered by the Centre's activities in Iraq. It was also agreed to make a study of the means of implementation and co-ordination between the Joint Division and the Centre for the first quarter of 1989.

4. It became apparent to the Joint ESCWA/FAO Division that there was a need to prepare a special programme to aid ESCWA countries in creating farm information banks for use in the following areas:

(a) The drawing up of farm plans and the improvement of farm productivity on the local levels within the country, with the aim of making optimum use of available resources on the one hand and providing for local needs in foodstuffs on the other hand;

(b) The drawing up of pricing, subsidization and protection policies for agricultural produce;

(c) The making of agricultural economic studies to improve agricultural planning.

5. In view of the fact that the financing for these activities might not be available from the ESCWA regular budget, it was suggested that an integrated programme for those activities should be set up, for which ESCWA should look for other sources of finance.

C. Contents of the farm data processing, storage and retrieval programmes

The teaching materials for the Training Workshop were based on the FARMAP computer program package developed by FAO. The package had already been used in a number of training workshops in many developing countries. The teaching materials consisted of three parts:

(a) A coding system for recording farm data, including housekeeping data;

(b) Computer programmes on magnetic disks for the processing of those data;

(c) Technical publications and documents concerning the uses of the programmes.

The coding system is comprehensive and covers all data connected with farm and family production and consumption. It allows a high degree of flexibility in the classification of these data. It also contains information concerning the area and environment surrounding the farm.

The programmes are designed to be used on personal computers and modified designs allow them to be used on mainframe computers.

The technical documents give detailed and comprehensive explanations of the processing of the data, from storage and classification to retrieval, and contain ample instructions for these programmes.

Processing begins by entering data which have been coded by a special system. These data may be either displayed on the computer screen or printed out, if so desired. It is also possible to make any necessary corrections and modifications, and data may be transferred from one place to another. The data may be examined to ensure they are correct and in the right place. Calculations may be made on all or some of the data to obtain aggregate or disaggregate values, according to needs. These tables are most often used as an input to other programmes such as models for operations research or statistical analysis. These programmes also contain a special programme which allows interfacing and integration with those models. The annex lists the programmes and functions of the FARMAP package. These programmes are important for their versatility in three different areas:

1. Farms, with the following users:

(a) Farmers and housekeepers: the programmes provide them with detailed information on farm production and consumption and farm household consumption.

(b) Agricultural extension workers: the programmes are an effective means of increasing their ability to analyse various factors affecting the farm and consequently of guiding farmers in how best to exploit their farm resources.

(c) Research workers in agricultural economy and farm management: the programmes provide them with comprehensive data and information which enable them to employ the various scientific methods necessary for carrying out their research.

2. Local administration, with the following users:

(a) Authorities concerned with planning and implementation of projects: the programmes enable them to prepare aggregate data for farms located in their area, in order to obtain overall estimates of the economic and social variables necessary for the planning and preparation of projects on the local level.

(b) Authorities concerned with natural resources management: the programmes enable them to obtain data on water, pasture and livestock resources, and to monitor the environment and land use.

(c) Authorities concerned with rural development: the data provided help in the planning and implementation of various rural development activities.

3. National administration: users responsible for carrying out the formulation and implementation of agricultural policies and plans, such as the Ministries of Agriculture and Planning and statistical bureaux.

ANNEX

MENU Menu-driven selection of FARMAP programmes through a main menu also allowing calls to MS-DOS utilities and other programmes/packages as well as to the SORT menu.

ENTDATA Interactive data entry and point-of-entry checks (within fields).

PRINTB Display or print or output to disk file of binary data records under optimal selection conditions.

CORREC Interactive data correction on individual records.

MOVEDA Transfers contents of selected fields from selected records to any other record.

DECHECK Checks presence of identical binary records (suspected double entries).

TRANSB Transfers groups of contiguous records, from up to 10 binary input files, into one binary output file.

STRATB Calculates number or records/observations in upper, middle and lower strata, or groups of observations. This is based on the value of one variable. Boundaries between strata are user-defined.

MODCON Systematic within-record arithmetic operations on data fields (including corrections), under specified logical conditions. Within-record checks (within and between fields of same record).

EXTRAC Under user-specified logical conditions, produces one record per observation, i.e. a farm, an activity (one record per activity of each farm) or a plot (one record per plot per farm). Can be used to interface with other packages requiring a single record per observation, or to aggregate data prior to tabulation. Limited report generating capability.

CROSST Report generator. Data first flow into a matrix according to logical conditions set for rows and/or columns, manipulated by row, column or cell and finally printed. Produces output for all farms, for each farm, for each activity for all farms or for each activity of each farm.

INTERFACES Description of interfacing procedures between FARMAP and some well-known commercial packages, namely spread-sheet/data and statistical analysis packages.

BINASC Converts binary FARMAP files into ASCII (text) files under default or user-defined output format. Used for displaying binary files and interfacing FARMAP and other packages.

ASCBIN Converts ASCII files into binary into FARMAP files, using default or user-defined input format. Used for interfacing FARMAP and other packages.