Report of a Workshop

IMPROVING AGRICULTURAL RESEARCH ORGANIZATION AND MANAGEMENT: IMPLICATIONS FOR THE FUTURE

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International Service for National Agricultural Research

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COMPUTERIZED PROGRAM BUDGETING SYSTEM

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A Program Budgeting System (PBS) using a microcomputer is being developed by ISNAR in cooperation with the Institut National de la Recherche Agronomique (INRA) of Morocco. The PBS methodology has been developed through a test run utilizing data of the Saharan Agricultural Research Program of INRA. The test, based on newly designed computer software programs, was successful, and the PBS will be further developed and used by INRA for all of its research program, in cooperation with USAID.

The PBS program accomplishes a number of significant management objectives.

PBS is an essential tool for more efficient use of scarce resources. It is a cost-effective system for managing operational resources through a program of action or a work plan adjusted to available resources. It avoids overprogramming and underprogramming. PBS is a management information tool to better plan, organize, coordinate, and manage human, financial, and physical resources. It helps to better define operational limits in relation to means, concepts, and objectives. PBS makes programs more specific in regard to manpower and cost of expenditures by modules at various levels of implementation (Programs, Projects, Operations, and Experiments) and helps to maintain realistic operational costs, and salary costs. It facilitates making a case for realistic funding of program – elements, guides effective use and disbursement of funds by specific objectives, and makes programs and budgets intelligible to everyone.

PBS procedures forces the formulation of a provisional budget at the beginning of the programming process, helps to build a balanced program of action in line with objectives, targets, and goals given by policy makers, development services, and clients, and includes regular review and periodic adjustements.
PBS is not really new. It is an approach which ensures intensive participation of all those concerned with research implementation, through a project-based management information system, to facilitate budgeting, to measure activities in quantifiable terms, to calculate time spent by researchers, and to cost all required operational and experimental inputs. It is mainly a tool for managers to quantify research objectives and to measure how effectively resources are used, to match resources with objectives, and to apply feedback in the planning and program formulation process.

A Project Data Sheet, an Operation Data Sheet, and other support for recording data were explained during the meeting, together with detailed methodological procedures for feeding the computer software data base through a coding manual.

The computer equipment used is the standard IBM PC, XT, or any similar compatible computer that can readily be purchased by any NARS today.

The basic software is a dBase III system (Ashton Tate) which is a market leader with a wide range of add-ons and upgrades available, and is capable of aggregating or disaggregating different types of data. User-friendly, it is designed so that any individual already familiar with the use of a microcomputer can work after a day of training.

Computer printouts are available for different breakdowns of research activities aggregated by activities, operations, projects, and programs. The use of a microcomputer allows any data (objectives, targets, manpower, costs, etc.) to be tracked and retrieved at different levels of aggregation or disaggregation.

Different cross-sections of data can be provided, depending on the combination of variables requested by users; in particular, policy makers, planners, managers, scientists, and farmers.

Breakdowns of manpower time or cost, as well as direct operational costs, given in real figures, relative percentages, or block-diagrams, can be provided by commodities, thematic or systemic programs, by field of specialization, by discipline, by development or research objectives, by client groups or by research workers. Breakdowns can also be provided for regional stations, geographic or natural regions, by any sort of linkages with other research or development projects, as well as by specific budgetary items.

The PBS is only in its first phase of development. It will be refined by using it in different NARS. The PBS can be tailor-made to fit any specific NARS administrative system.

PBS is a powerful tool for improving planning, program formulation, program review, monitoring and evaluation, and for facilitating program implementation and program resource management. It allows managers and scientists to efficiently use resources and time, to monitor and control financial resources, to quantify research and development objectives, to argue with policy makers and planners, to justify funds and facilitate their disbursement, and to control as well as to use scarce resources in the most cost-effective way. However, PBS is only a method; it will never be a substitute for experienced and dedicated scientists.