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Synoptic

**AN ANNOTATED BIBLIOGRAPHY OF WORKS
RELEVANT TO AGRICULTURAL RESEARCH MANAGEMENT
AND TRAINING IN EGYPT**

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AGRICULTURAL RESEARCH: POLICY

* Arndt, Thomas M., Dana G. Dalrymple and Vernon W. Ruttan (eds.) (1977) Resource Allocation and Productivity in National and International Agricultural Research (Minneapolis: (Minneapolis: University of Minnesota Press)

The 26 papers in this volume are revisions of papers presented at a conference in January 1975. The conference had two main objectives: to examine recent evidence on the returns to investment in national and international agricultural research systems and to explore the relevance of social and economic factors for the organization and management of national and international agricultural research systems. The papers make more headway on the first objective than on the second.

Bennell, Paul (1984) Conditions of Service for Agricultural Research Scientists in Nigeria: What Room for Manoeuvre?, a case study prepared for the International Service for National Agricultural (The Hague, Netherlands: ISNAR, January) a case study prepared for the International Service for National Agricultural (The Hague, Netherlands: ISNAR, January)

Bennell, Paul (1983) "The Nile Valley Project: A Unique Model of International Cooperation?" a case study prepared for the International Service for National Agricultural Research, mimeo (November)

Boyce, James and Robert Evenson (1975) Agricultural Research and Extension Programs, (New York: Agricultural Development Council

This monograph is primarily a compilation of international data on investment in research and extension. It contains little analysis.

Busch, Lawrence and William Tracy (1983) Science, Agriculture, and the Politics of Research, (Boulder: Westview Press)

The authors describe the U.S. Agricultural research system and how it evolved.

* Indicates that the document is of special interest for agricultural management research training

Casas, Joseph (1985) "Cuba: A Small Country, A Large Agricultural Research Potential," in Fred Hoefler, Earl Pray and Vernon W. Ruttan (eds), Agricultural Research Policy Seminar, April 15-25, 1985: Proceeding for Module I and II, (Agricultural Extension Service, International Agricultural Programs, University of Minnesota, July 1)

This paper presents a brief view of the Cuban agricultural research system which includes 2500 scientists, most of whom do not have PhD's. The scientists and institutions in the system are new and inexperienced, so their results are not impressive to date. The system, however, is rapidly improving and soon will be contributing significantly to Cuban agricultural production.

Centre International de Mejoramiento de Maiz y Trigo (CIMMYT) and International Service for National Agricultural Research (ISNAR) (1984) Issues in Organization and Management of Research with a Farming Systems Perspective Aimed at Technology Generation, Proceedings of a Workshop in The Hague, Netherlands, September 27-30, 1983, edited by M. Joseph Chang (The Hague, Netherlands: ISNAR)

The articles in this volume describe farming systems research in general and the programs in CATIE, ICTA, INIAP, Panama and Nigeria. The articles describe what the various research organizations are doing in farming systems research and identify some of the problems. They do not discuss the management of these programs in any depth.

DeLattre, Marie (1983) Budgeting at Ekona, a case study prepared for the International Service for National Agricultural Research and used in its workshop on The Management of Agricultural Research, July 9-August 3, 1984.

De Lattre, Marie (1983) Cashew Nut Research in the Tanzanian Agricultural Research Organization, a case study prepared for the International Service for National Agricultural Research and used in its

workshop on The Management of Agricultural Research, July 9-August 3, 1984.

Development Centre of the Organization for Economic Co-operation and Development (1966) Training and Research in Development, proceedings of the annual meeting of Directors of Development Research and Training Institutes, September 16-21, 1965, Portici, Italy

The emphasis in this volume is on research needs in developing countries, and agricultural research is one of several research areas covered. The analyses are twenty years out of date and do not anticipate the tremendous agricultural changes in developing countries. The discussions of training focus on training for civil service posts.

Felton, Edward Jr. (1967) Seed Corporation of the Philippines, a case study prepared for the Inter-University Program for Graduate Business Education in the Philippines and used by the International Service for National Agricultural Research in its workshop on The Management of Agricultural Research, July 9-August 3, 1984.

Francis, Charles A. "Low-Input Technologies and Farming Systems: The Implications for Research Priorities" in Fred Hoefer, Carl Pray and Vernon W. Ruttan (eds) Agricultural Research Policy Seminar, April 15-25, 1985: Proceedings for Module I and II, (Agricultural Extension Service, International Agricultural Programs, University of Minnesota, July 1)

Farmers in developing countries want to increase their yields and reduce their risks without increasing their costs through purchased inputs. The new on-farm situation requires new research priorities, and possibly different types of researchers, and many changes in research institutions. Regenerative technologies are needed. This article raises many issues; more than it answers.

Froman, Jo (1979) CIAT: The Cassava Program (Columbia), a case study prepared for class discussion at the Harvard Business School and used by the International Service for National Agricultural Research in a workshop on Management of Agricultural Research, July 9-August 3, 1984.

Hadwiger, Don F. (1982) The Politics of Agricultural Research, (Lincoln:

University of Nebraska Press)

The author describes the development of public debate in the U.S. over the effects of current agricultural technology including destroying the environment, reducing human labor in agriculture, threatening the family farm, endangering the health of consumers and depressing rural communities along with the gains in productivity which it has spawned. However, the link of agricultural research to industry needs remains strong.

Hardin, Charles M. (1955) Freedom in Agricultural Education. (Chicago: University of Chicago Press)

The author describes the U.S. system of agricultural research and extension.

Hobbs, S. Huntington (1980) Rice Self-Sufficiency in the Dominican Republic, a case study prepared for the International Service for National Agricultural Research and used in its workshop on The Management of Agricultural Research, July 9-August 3, 1984.

Hobbs, S. Huntington (1980) Sabritas, S.A. a case study prepared for the International Service for National Agricultural Research and used in its workshop on The Management of Agricultural Research, July 9 to August 3, 1984.

Hobbs, S.H., J.A. Lynch and E.B. Tasch (1980) Patronato: The Agricultural Research and Experimentation Board of the State of Sonora, Mexico, a case study prepared at the International Maize and Wheat Improvement Center and used by the International Service for National Agricultural Research in its workshop on The Management of Agricultural Research, July 9 to August 3, 1984.

Idachaba, F.S. (1965) "Agricultural Research Policy in Nigeria" in Fred Hoefer, Carl Pray and Vernon W. Ruttan (eds.) Agricultural Research Policy Seminar, April 15-25, 1985: Proceedings for Modules I and II, (Agricultural Extension Service, International Agricultural Programs, University of Minnesota, July 1)

This paper examines the salient features of agricultural research policy in Nigeria since the turn of the century.

International Service for National Agricultural Research (1985) Serving National Agricultural Research Systems: Lessons from Country Experiences, 1980-84 (The Hague, ISNAR, April)

This report reviews ISNAR's activities over the past four years for strengthening national agricultural research centers. Its major activities are review missions, conferences, training workshops, and consultation.

International Service for National Agricultural Research (1984) Considerations for the Development of National Agricultural Research Capacities in Support of Agricultural Development (The Hague, Netherlands: ISNAR, October)

This pamphlet (20 pages) by the leadership of ISNAR presents the ISNAR view on issues that affect the success of national research systems. It deals more with policy and structure than with management.

International Service for National Agricultural Research, (1983) The National Agricultural System of Rwanda, Report to the Government of the Republic of Rwanda (The Hague: Netherlands: ISNAR)

An ISNAR study mission produced this description and assessment of the Rwanda agricultural systems and made many recommendations. The discussion is at the policy level with few comments on management.

International Service for National Agricultural Research (1982) A Review of the Agricultural Research System of Guyana, Report to the Government of the Cooperative Republic of Guyana (The Hague, Netherlands: ISNAR)

An ISNAR study mission produced this description of the current agricultural research system in Guyana and an assessment of the research, institutions and resources which are needed.

International Service for National Agricultural Research and International Agricultural Development Service (1982), The Role of International Associations in Strengthening National Agricultural Research, Report of a conference in Bellagio, Italy, December 1-4, 1981 (The Hague, Netherlands: ISNAR, May)

This volume briefly summarizes the conference and presents the lead paper (35 pages), "International Associations and National Agricultural Research," by Eduardo Venezian and digests of farm papers summarizing the same topic for four regions.

International Service for National Agricultural Research (1982), Strategies of a Workshop in Bellagio, Italy, November 23-27, 1981 (The Hague, Netherlands: ISNAR, May)

This volume briefly summarizes the conference and appends the 148-page report by Gaston V. Rimlinger to ISNAR which the conference discussed.

International Service for National Agricultural Research (1981) Report of an ISNAR/IITA Mission to the Institute de Recherche Agronomique et Zootechnique of the Communante Economique des Pays des Grands Lacs (Burundi, Rwanda, Zaire) (The Hague, Netherlands: ISNAR, July)

An ISNAR study mission assessed the activities and needs of IRAZ.

McKenzie, John (1983) Financial Constraints at the National Horticultural Institute Nigeria, a case study prepared for the International Service for National Agricultural Research and used in its workshop on The Management of Agricultural Research, July 9 to August 3, 1984.

McKenzie, John (1983) Organizational Change at Samara, Nigeria, a case study prepared for the International Service for National Agricultural Research and used in its workshop on The Management of Agricultural Research, July 9 to August 3, 1984.

* Moseman, Albert H. (1970) Building Agricultural Research Systems in the Developing Nations (New York: The Agricultural Development Council)

Moseman argues that developing nations cannot sustain agricultural growth and development unless they develop agricultural research competence. The U.S. case supports this point and demonstrates some effective organizational patterns in agricultural research and extension, including the autonomy of the state experiment stations. In contrast, Third World research systems are small, have few well-trained researchers, are unduly centralized and are focused on export crops. Moseman's recommendations for strengthening national agricultural research systems is for a three-tier system involving: "1. a strong national center for background research and for conceptual and coordinating leadership for national and regional projects; 2. regional centers for adaptive research and specialized attention to the agricultural requirements of the major cropping regions of the country; and 3. localized research and/or verification and testing stations designed to fit innovations to specific soil and climatic conditions." (pg. 102) He also emphasizes the need for protective research as monocultures are expanding geographically and recommends problem-oriented, multidisciplinary research.

Mosher, A.T. 1982) Some Critical Requirements for Productive Agricultural Research (The Hague Netherlands: ISNAR)

This 22-page pamphlet briefly describes 15 critical requirements for productive agricultural research.

Nestel, Barry (ed.) (1983) Agricultural Research for Development: Potentials and Challenges in Asia, Report of a Conference in Jakarta, Indonesia, October 24-29, 1982 (The Hague, Netherlands: ISNAR, March)

This volume includes six papers on a variety of topics and three addresses. They are general discussions on the policy level.

Oram, Peter A. and Vishua Bindlish (1981) Resource Allocations to National Agricultural Research: Trends in the 1970's: A Review of Third World Systems, International Service for National Agricultural Research, The Hague, Netherlands (November)

Both in terms of budgets and scientists, national agricultural research greatly expanded (more than doubled) between 1971 and 1980. This report identifies sound management and administration as increasingly the main determinant of successful research, especially as other critical shortages are taken care of. Four particularly important facets of effective research management are: effective communication with national policy-makers and coordination among ministries and organizations involved in agricultural research; overcoming location-specificity in research, ie. overcoming the inefficiencies of excessive dispersion of stations and staff; obtaining adequate technical, capital and labor support for the scientist and achieving a good fit between research efforts and national needs.

Organization for Economic Co-operation and Development (1981) "Workshop on Linkages between Agricultural Research and Farmers in Developing Countries," mimeo.

This paper summarizes the workshop and includes a background paper on the topic by Ralph W. Cummings, Jr.

Pinstrup-Anderson, Per (1982) Agricultural Research and Technology in Economic Development (London: Longman)

This book presents a strong argument for increasing the amount of national and international agricultural research in developing countries.

Publications on International Agricultural Research and Development (Manila: International Rice Research Institute, 1984)

This is an annotated bibliography of selected publications of the centers supported by the Consultative group on International Agricultural Research and nine other centers.

* Ruttan, Vernon (1985) "Agricultural Research in Africa in a Global System Context," Proceedings of a Forum on Agricultural Research Strategy for Africa convened, by the Board for International Food and Agricultural Development and the Joint Committee on Agricultural Research and Development, Washington, DC (December 4, 1984) pp. 3-10.

Since future increases in food production will come largely from improving yields, each agroclimatic region in the world will need an agricultural research capacity for each significant crop or animal. The international system has been effective and the major need is for better national systems. Some major problems of many national systems are: excessive investment in research facilities relative to staff; stifling administration practices; poor location decisions for research facilities; the lack of congruence between research budgets and the economic importance of major commodities; conducting research without scientists; system collapse when donors withdraw support and the failure to set research priorities on the basis of both the scientists' knowledge of what can be done and the planners and economists' knowledge of what is worth doing. In addition small countries (under 2 million) probably cannot support the 250 specialists required for a minimum national system.

Ruttan, Vernon W. (1982) Agricultural Research Policy. (Minneapolis: University of Minnesota Press)

This is a thorough textbook coverage of agricultural research systems, programs and policies. It is mainly focused on the U.S. but briefly reviews other national systems and the international research system. This is a useful reference.

Sawyer, Richard L. (1985) Changing Roles in World Agriculture. International Agricultural and Food Program Working Paper Series Publication No.6, Rutgers University.

This paper discusses the changing roles of developed countries' agricultural research systems, developing countries' agricultural research systems and the international research centers. A major portion of the backlog of basic research knowledge accumulated in developed countries has been exploited, and developing countries have greatly expanded their research capacity. The international research centers utilized the knowledge in developed countries and tended to be controlled by representatives from developed countries. The old relationships must change as the role of the developing countries' research systems increases.

* Schuh, G Edward and Helio Tollini (1979) Costs and Benefits of Agricultural Research: The State of the Arts The World Bank, Staff Working

This paper provides a thorough review of the issues to be faced in allocating funds between projects or between institutions involved in agricultural research. It discussed the multiple goals of agricultural research and the methods and procedures for evaluating agricultural research.

* Trigo, Eduardo J. (1985) "Agricultural Research Organizations in the Developing World: Diversity and Evolution," in Fred Hofer, Carl Pray and Vernon Ruttan (eds.) Agricultural Research Policy Seminar, April 15-25, 1985: Proceedings for Modules I and II, (Agricultural Extension Service, International Agricultural Programs, University of Minnesota, July 1)

The author develops five models of agricultural research: the ministry model; the autonomous or semi-autonomous institute; the university model; the agricultural research council; and private-sector research organizations. He then discusses at length the Asian Agricultural Research Councils, the Latin American National Agricultural Research Institutes and the Ministry model in post-colonial Africa.

Tripp, Robert (1982) Farming Systems Research in Ecuador, a case study prepared for the International Service for National Agricultural Research and used in its workshop on The Management of Agricultural Research, July 9 to August 3, 1984.

The World Bank (1983) Strengthening Agricultural Research and Extension: The World Bank Experience (Washington DC; World Bank)

Reports on an analysis of 128 World Bank projects with research and/or extension components (35% of each project) in ten member countries. This report focuses on the institutional design and policy problems and not on the management of research and extension. It identifies six factors which are common to the more successful research organizations: 1. a strong organization responsible for national research. 2. with some degree of autonomy from the Ministry of Agriculture, 3. with good links to national policy-makers, 4. with service units which can plan, monitor and evaluate, 5. a planned decentralization of regional research, and 6. researchers participate in translating results into recommendations for users.

* Yeganiantz, Levon (ed.) (1984) Brazilian Agriculture and Agricultural Research. (Brazilia, EMBRAPA-DDT)

This volume contains 13 articles on agriculture and agricultural research in Brazil and proposes improvements in structures and practices. It includes two articles by E.R. de A. Alves on management training: "Management and Development of an Agricultural Research Institution," and "Brazils' Program for Development of Agricultural Researchers."

AGRICULTURAL RESEARCH: MANAGEMENT

* Ampuero, Enrique (1981) "Organization and Administration of Experiment Stations in Developing Countries," mimeo distributed by the Program in International Agriculture, Cornell University, Ithaca, New York (May)

This article discusses the purpose of experiment stations, the issue of size and location, alternative structural models, committees, administrative support for operating budget, institutional coordination, training, communication, incentives and technology transfer. It provides sage words from an old pro.

* Arndt, Thomas M., Dana G. Dalrymple and Vernon W. Ruttan (eds.) (1977) Resource Allocation and Productivity in National and International Agricultural Research, (Minneapolis: University of Minnesota Press)

This volume contains 29 articles in 600 pages dealing with the organization, management and productivity of national and international research systems.

Daines, Samuel R., et al (1979) Agribusiness and Rural Enterprise: Project Analysis Manual, report for Agribusiness Division, Agency for International Development, Washington, DC (March)

This manual begins with four chapters on policy issues including income and employment potential of agribusiness and rural enterprise projects, the policy context, reaching the poor, and appropriate technology. The next six chapters describe project analysis techniques for profiling the system, constraint analysis, profiling target groups, estimating project potential, examining project feasibility, and cost-benefit analysis. The last three chapters present and assess data gathering techniques.

* Ely, Dieter (ed.) (1984) The Planning and Management of Agricultural Research, (Washington, DC: The World Bank)

This book contains papers presented at a seminar held at the Hague, October 31 to November 10, 1983, sponsored by the World Bank and the International Service for National Agricultural Development. It focuses on policy issues and not on management practices; and on what research centers should do, not on how to do it. It also discusses the forces operating on research centers and constraints on their functioning.

One section deals with priorities for research and advocates more applied research which will affect large areas in a short time, until the research center becomes well established. Shoot for the short-term high payoff as in adaptive research. Another section deals with the organizational issues of research-extension linkages and the strengths and weaknesses of agricultural research councils. The next section provides a general discussion of financial management and program evaluation for agricultural research. The last section deals with manpower issues. Discussions of all papers are also included.

This is an important report which involves leaders in the field. It is useful for indicating current thinking on policy issues. Despite the title, it provides little information on how to manage agricultural research organizations.

* Mosher, Arthur T. (1981) Three Ways to Spur Agricultural Growth (New York: International Agricultural Development Service)

The third way to improve agricultural growth according to Mosher is to improve the efficiency of regular agricultural agencies. In 16 pages Mosher simply, intelligently and helpfully explains how to improve efficiency in the following six ways: promoting professional growth; providing incentives for more efficient staff performance; creating more appropriate patterns of organization; improving agricultural planning; adopting more efficient operating procedures and using appropriate styles of administration.

* Murphy, Josette (1985) Using Evaluations for Planning and Management: An Introduction, International Service for National Agricultural Research, Working Paper No. 2, (The Hague, Netherlands: ISNAR, April)

This article presents a brief but useful introduction to evaluation research as it applies to agricultural research. It explains how to do the evaluation research but is rather

sketchy in discussing how to use the research as a management tool.

* Organization for Economic Cooperation and Development (1970) The Management of Agricultural Research (Paris)

This report presents a summary of the working conference and its recommendations and includes the eight papers presented to the conference. The papers emphasize the unique aspects of agricultural research which require modifications in management practices which were typically developed for business or government organizations. For example, Bergmann points out the difficulty of estimating the output from research activities which makes rational allocation of resources to competing projects very difficult.

Rutgers University and the International Service for National Agricultural Research (1985) Proposal Research Design for a Study of the Agricultural Research Management System in Panama, mimeographed draft of a proposal, (January)

This proposal presents a useful conceptual framework for studying agricultural technology management systems in Latin America which identifies the important components of the technology generation, transfer and adoption process. It details the policy environment, both economic and political, and includes other sources of constraints. This proposal also outlines a methodology for reviewing and describing the distinguishing features of an agricultural technology management system.

MANAGEMENT: GENERAL

Bennet, Roger (1983) Management Research: Guide for Institutions and Professionals, Management Development Series No. 20, (Geneva: International Labour Office)

This work provides a comprehensive guide to research on management. It is not a summary of findings, but a guide to how to manage research effectively. It includes 27 pages of annotated bibliography. Since this work is written at an unsophisticated level, however, it is not of much help to practicing management researchers.

* Black, Joseph E., James S. Coleman and Lawrence D. Stifel (eds.) (1977) Education and Training for Public Sector Management in Developing Countries, selections from background papers discussed at a conference held by the Rockefeller Foundation at its Bellagio Study and Conference Center, Italy, August 11-15, 1976 (New York: The Rockefeller Foundation)

Nine papers by distinguished management experts discuss a wide range of issues in management in developing countries. Articles tend to be general essays but often include incisive comments on specific problems in specific cases. They do not, however, provide nuts and bolts insights. These articles focus more on management administration problems and approaches and on management education and training.

* Castrinovo, Alfonso C. (1984) "The Organization and Management of human Resources" in Barry Nestel and Edwardo J. Trigo (eds), Selected Issues in Agricultural Research in Latin America, Report on a Conference in Madrid Spain, September 26-October 1, 1982 (International Services for National Agricultural Research: The Hague, Netherlands) pp. 11-48.

The author identifies increasing the productivity of the scientists as the major indicator of effective management of research organizations. This objective infuses his analysis of five management issues dealing with human resources: planning, recruitment, education, salaries and evaluation. Planning in the area of human resources involves ascertaining personnel

needs, retaining needed personnel, and dealing with shortages of qualified personnel. The goal of recruitment is the recruitment of productive personnel, and the goal of training is to maintain and increase their productivity. Salaries are used to motivate researchers productivity, but salaries are low in Latin America. Other rewards such as the opportunity to gain prestige are needed. Finally, evaluation is critical to maintaining productivity and directing the research at the needs of the country.

Gettinger, J. Price (1972) Economic Analysis of Agricultural Projects (Baltimore: The Johns Hopkins University Press)

This is a textbook for decision-makers in developing countries on the design analysis tools for allocating resources to agricultural projects.

Ingle, Marcus D., Noel Berge and Marcia Teisan (1983) Acquiring and Using Microcomputers in Agricultural Development: A Managers Guide (Washington DC: Development Project Management Center, U.S. Department of Agriculture, April)

The title describes this volume. It assesses the potential for the microcomputer, describes software and hardware, instructs in how to choose, install, use and maintain a microcomputer, and describes representative application in agricultural development projects and institutions. It is oriented to the United States context.

Murphy, Josette (1984) "Assessing the Past to Plan the Future," paper presented at the Regional Workshop in Research Program Evaluation, Dhaka, Bangladesh, October 1-3, 1984.

This paper presents some general principles of program evaluation, discusses the uses of program evaluation, argues for clear objectives and measurable indicators of achievement and details the information which should be included in a scope of work for program evaluation.

* Paul, Samuel (1983) Strategic Management of Development Programmes, Management Development Series No. 19, (Geneva: International Labour Office)

The author utilizes the framework and lessons which were developed in his earlier work, Managing development Programs, in a manual for program managers.

* Paul, Samuel (1982) Managing Development Programs: The Lessons of Success (Boulder: Westview Press)

An excellent general analysis of successful management of development programs for developing countries. After chapter-length descriptions of six successful projects, Paul presents an analytical framework of the factors contributing to high performance. The factors are classified under environment, strategy, structure and processes, and Paul defines strategic management as the orchestration of congruence among these factors.

Roman, David D. (1968) Research and Development Management: The Economics and Administration of Technology (Englewood Cliffs, New Jersey: Prentice Hall)

A textbook in Research and Development Management in the United States.

* Rondinelli, Dennis A. (1984) Development Management in AID: A Baseline Review of Project and Program Management Assistance in the U.S. Agency for International Development, draft report for the Technical Cooperation Project, National Association of Schools of Public Affairs and Administration, Washington DC

The author provides a very useful review of the literature on development management and describes the evolution of ideas and perspectives both in the literature and in AID's policies and experiences in providing development administration and management assistance. The changes have been dramatic.

* Smith, Peter (1984) Agricultural Project Management: Monitoring and Control of Implementation, (Tandum: Elsevier, Applied Science Publishers)

The author provides a textbook-type discussion of a selected set of management issues. Its focus is on scheduling and

controlling activities, and it proposes the critical path method.

AGRICULTURAL RESEARCH: MANAGEMENT TRAINING

* Brothers, Dwight S. (1977) "Management Requirements of National Agricultural Development Programs" in Joseph Black, et al (eds.) Education Training for Public Sector Management in Developing Countries (New York: The Rockefeller Foundation) pp. 31-41.

The requirements for effective management of national agricultural development programs are identified to determine the implications for the education and training of the managers.

International Service for National Agricultural Research (1984) The Management of Agricultural Research. Notebook of materials for this workshop at the Manenga Agricultural Management Center, July 9-August 3, 1984.

The materials in this workbook are idiosyncratic to the course presentation, though they could be suggestive to other trainers.

International Service for National Agricultural Research (1984) Report on the Seminar on Agricultural Research Management held at Nkolbissom, Cameroon September 24-October 6, 1984. Draft report. (The Hague, Netherlands, December)

This report contains a thorough description and evaluation of the management workshop. The seminar materials are included.

International Service for National Research (1983) "Training Requirements for Agricultural Research Management in Africa: A Case Study of the Department of Research and Specialist Services in Zimbabwe," Working Paper No. 1, mimeo (The Hague, Netherlands: ISNAR, August)

The agricultural research system in Zimbabwe and its management function is described, and management training needs are

estimated.

ISNAR (1982) ISNAR Colloquium on Training Needs in National Agricultural Research, Planning and Management, Provisional draft, The Hague, Netherlands (September 14-17)

The colloquium of 27 experts identified six components of research management and 19 training course subjects which are within those components. The components are: program identification and planning; financial management or budgeting and accounting; operations management, including transportation, technical support, office management, and on-farm management; personnel management, including recruitment; information management and linkages; and relating research to users.

* Isman, Pat (1984) Caribbean Agricultural Research and Development Institute: Farming Systems Research and Development Project, Project Management Implementation Consultancy Report, Workshop Phase I: January 30 - February 3, 1984, Phase II: February 6-8, 1984, (Development Project Management Center, U.S. Department of Agriculture and International Development Management Center, University of Maryland, May)

This report presents a detailed description of the workshop with summaries of the presentations and brief descriptions of the exercises. It contains 103 pages of attachments which contain 42 items covering workshop products, activities and materials.

* Odell Jr, Malcolm J. (ed) (1985), Getting Started: Diagnosis in Farming Systems Research and Extension: Training Manual, TMS 602, Farming Systems Support Project, University of Florida, Gainesville, Florida (April)

This is a nuts and bolts training manual for diagnosing farming systems and developing on-farm research.

Professional Papers Presented at the First Annual Meeting of the Association for International Agricultural Education, Chevy Chase, Maryland, April 24-26, 1985.

The paper mainly addresses issues in agricultural education and extension education.

Spears, Donald E. and Robert Z. Callahan (1984) Management of Agricultural Research Organizations: Report on a Training Course at the Institute of Post Graduate Studies in Agriculture, Salina Bangladesh, December 1-19, 1984. Office of International Cooperation and Development, U.S. Department of Agriculture.

The course is not described in any detail, but it is evaluated.

Werge, Robert W. (1982) Final Report on Administration of Agricultural Research: A Training Course Presented by USDA/EMBRAPA in Washington, DC and Selected State Universities, August 23-September 17, 1982 Office of International Cooperation and Development, U.S. Department of Agriculture, Washington, DC

The course was adapted from the USDA course, Management of Agricultural Research (TC 140-24), by shortening it to 4 weeks. The course featured small workgroups and fundamental management skills. Specific techniques were presented and then utilized in the work groups and field trips. Finally, the course was modeled after the structure of an agricultural research organization. This report explains and evaluates the course.

Werge, Robert W. and J. McCorry (1984) Evaluation Report: USDA Course: Management of Agricultural Research (Islamabad, Pakistan)

The course material is appended to a brief evaluation of the presentation of this course in a three-week period in Islamabad, Pakistan. The participants rated the course highly. The authors/trainers recommend that future presentations of this course should target "natural" work groups.

MANAGEMENT TRAINING: GENERAL

* Ingle, Marcus, Thyra Riley and Claire Wheatley (1981) "Improving Performance of the Tanzania Rural Development Bank: Training of Trainers in Management" paper prepared for USDA/AID Workshop, "Evolving Technologies for Project Management Improvement," January 15-16, 1981, Washington DC (Washington DC: Practical Concepts Incorporated)

This paper presents a description and evaluation of the management training program conducted for managers in the Tanzania Rural Development Bank. The framework and concepts are explained and issues are raised. The training materials, however, are not included.

* Ingle, Marcus D., et al (1983) Management Development in Agriculture: Program Review and Workshop. Report by Development Project Management Center for U.S. Department of Agriculture, Office of International Cooperation and Development (June)

Reports on the results of a two-day conference of 34 experts on management development in agriculture. The workshop considered six successful management development programs, noting that they: focused on mid-level officers but involved some senior and junior personnel; used small group work activities; and common learning techniques including team building, personal action plans and imitating the behavior of successful trainers. All programs had some discretion to change the approach in the field. The workshop concluded that successful management development and training programs have clear objectives and plans for fulfilling these objectives; use task-oriented teams; and work on real management problems. The last feature is normally identified with "learning-by-doing" or "action-training." Formalized lecture formats were not effective but structure (with flexibility) was. Participation by key actors at several levels helped to sustain the management improvement, a potential problem for all programs.

* International Development Management Center (1984) International Development Program and Project Implementation: A

Management Perspective, (produced jointly by IDMC, University of Maryland, College Park, and International Program Development Office, Washington State University, Pullman, March)

This booklet describes eight very useful tools or techniques for project/program implementation management. It would serve well as curriculum material for management training workshops. It presents the program implementation management system (PIMS).

* International Labour Office (1972) An Introductory Course in Teaching and Training Methods for Management Development, authorship credit is given to H.E. Frank, M. Kubr and J.D. Hornsell (Geneva: ILO)

This manual is presented as a five-day introductory course on teaching and training methods for management development. It is a nuts and bolts manual which includes many materials, handouts, readings, lecture procedures, exhibits, session guides, etc. It goes into minute detail, eg. "Take along a piece of chalk and an eraser if you plan to use the blackboard" (pp. 4-9). It is extremely helpful to the beginner and yet has a richness of ideas which would help the experienced trainer.

* Kerrigan John E. and Jeff S. Luke (1985) Management Training Strategies for Less Developed Countries, mimeo manuscript (June)

The authors describe and assess four approaches to management training for Third World managers. The four approaches are: formal training (both old and new methods); on-the-job training; action-training; and non-formal training. The assessment of each approach includes the application of learning and behavioral change theories, comparisons on eleven objectives, and effectiveness comparisons for three contexts of overseas training, third country training, and in-country training. This volume provides a thorough review and evaluation of the four management training approaches.

Page, William J. (1984) Executive Development Seminars, Report to the Center for Agricultural Management Development of the Ministry of Agriculture of the Arab Republic of Egypt (August 14)

This report briefly describes a five-day management training course but does not present the materials or content of the course. The evaluations of the course by participants were very favorable.

* Paul, Samuel (1983) Training for Public Administration and Management in Developing Countries: A Review, World Bank Staff Working Papers, No. 584, Management and Development Series, N-11 (Washington DC: The World Bank)

This study reports on the trends, developments and problems in public administration and management training in developing countries. It is based on a review of published information. It is critical of the level of effectiveness of the training in developing countries. The sources of problems are "inadequate training policies of governments, weaknesses in the design and management of training institutions, and the failure to match faculty (trainers) resources, curricula, training materials and methodologies relevant to the emerging needs of developing countries." (abstract) the author recommends action-training and action-learning approaches for many current training programs and includes in an appendix a description of INTAN of Malaysia as a successful training strategy.

* Schmidt, Terry D. (1983) Guidelines for Action-Trainers: Improving the Management Effectiveness of Development Project Teams, Draft report prepared for Development Project Management Center, Office of International Cooperation and Development, U.S. Department of Agriculture, Washington DC (August)

This manual is a training guide to "Action-Training." Action training combines management concepts with applications to on-going projects in management training workshops. Action training is described and then the reader is told how to do it. Many management training tools are included. This volume provides nuts and bolts advice.

Swerdlow, Irving and Marcus Ingle (eds) (1974) Public Administration Training for the Less Developed Countries, Maxwell School Conference Proceedings, (Syracuse, NY: The Maxwell School)

This volume discusses administration training in agricultural administration, general public administration, public enterprise, and urban and rural work programs. The discussions tend to be at the general rather than specific level and focus on policy rather than nuts and bolts issues.

WORKS ON EGYPTIAN AGRICULTURE OR MANAGEMENT

Al-Jafary, Abubrahman and A.T. Hollingsworth (1983), "An Exploratory Study of Managerial Practices in the Arabian Gulf Region," *Journal of International Business Studies*, (Fall), pp 143-151.

This article reports the findings of a survey study of a sample of 381 managers in the top two levels of ten multinational organizations in the Arabian Gulf region. These managers perceive their organizations as operating in a "consultative" mode rather than in "explorative authoritative," "benevolent authoritative," or "participative groups" modes but they were less participative than desired by managers and than is common among their American counterparts. The study also reports on eleven correlates of effectiveness.

Creedon, Daniel F., et al (1983) Interior Evaluation: Egyptian Agricultural Management Development Project, (U.S. Agency for International Development, Cairo)

The purpose of the project is to develop an institutional capacity in management development within the Ministry of Agriculture and to improve the skills of middle and upper management. The evaluation details accomplishments and problems.

* Hage, Jerald (1985) "Organizational Theory and the Role of Agricultural Research Centers," mimeo, Center for Innovation, University of Maryland.

The author uses organizational theory as the basis for a number of recommendations on how the Egyptian Agricultural Research Centers should be structured and operate. They should emphasize innovation over productivity and therefore develop a complex division of labor and utilize multidisciplinary teams. These specialists must be taught to work together. Horizontal linkages and communications should be developed including linkages with farmers. Finally systematic organizational research on the system of Agricultural Research Centers is needed to help

structure and manage the Agricultural Research Center to improve the type of performance which is needed under the changing conditions of Egyptian agriculture.

* International Agriculture Development Service (1984) Increasing Egyptian Agricultural Production through Strengthened Research and Extension Programs, A Report to the Ministry of Agriculture of the Arab Republic of Egypt (Arlington, Virginia: ADS)

This lengthy report describes the agricultural research and extension system in Egypt and recommends ways to improve this system. Specifically it "recommends that much of the agricultural research of the country be organized into comprehensive, multidisciplinary programs that are truly national in scope and character" (p. 75)

* Ministry of Agriculture of the Arab Republic of Egypt and U.S. Agency for International Development (1982) Strategies for Accelerating Agricultural Development, A Report of the Presidential Mission on Agricultural Development in Egypt.

The mission recommends vertical expansion (increasing productivity on available lands) but also acknowledges a potential for horizontal expansion (land reclamation). The report recommends ways to deal with the many problems and constraints.

Murrell, Kenneth L. (1981) "Understanding the Egyptian Manager: A Third World Management Development Experience," LODJ, 2, 3 pp. 12-16.

The skills and needs of Egyptian managers are assessed and the very difficult conditions within which they operate are outlined.

Pacific Consultants (1980) Egypt: New Lands Productivity Study, Report for AID, (January)

This report evaluates the economic feasibility of land reclamation.

U.S. Agency for International Development (1984) Country Development Strategy Statement: Egypt, Annex C, Agricultural Sector Strategy, (Washington D.C.: AID, April)

The emphasis is to be on improving the productivity of old agricultural lands rather than land reclamation of new lands. The evaluation details which crops and products should be increased or decreased.

* Wally, Youssef (m.d.) Strategy of Agricultural Development in the Eighties, mimeo, Ministry of Agriculture and Food Security, Arab Republic of Egypt

The Ministry of Agriculture and Food Security assess the current food and agricultural situation in Egypt and the current efforts to improve the agricultural system to meet the present and future needs.