Contract No. AID/DSAN-XII-G-0149

INTSORMIL

Trip Report

Khartoum, Sudan and Cairo, Egypt

June - July, 1981

INTRODUCTION

A team consisting of Lawrence Busch and William B. Lacy visited Sudan and Egypt to explore research on improving agricultural research in those two countries. This is a report of that trip.

ITINERARY

June 20, 1981	Team left for Paris
June 22, 1981	Team left for Sudan
June 23-29, 1981	Discussions held in Sudan
June 29, 1981	Team left for Egypt
June 30 - July 3, 1981	Discussions held in Egypt
July 4, 1981	Return to U.S.

TRIP REPORT

The team left the United States on Saturday, June 20, 1981 for Paris. They arrived in Paris on Sunday morning, June 21 at 9:00 a.m. On Sunday afternoon and evening, they met with Dr. Yvon Chatelin of the French Overseas Scientific and Technical Agency, ORSTOM. Dr. Chatelin is a soil scientist with substantial experience in the Sahel countries. He is currently interested in problems associated with conducting successful interdisciplinary research aimed at solving agricultural development problems. His work tends to be more oriented toward methodological and epistemological concerns and thereby complements our work on research organization. The meeting proved fruitful and should result in continued exchange of publications and correspondence in the future.

At 6:00 p.m. on Monday, June 22, we left for Khartoum. We arrived in Khartoum at 3:00 a.m. local time. Later that day, we made arrangements with Dr. Jim Riley of the Western Sudan Agricultural Research Project to see a variety of officials during the coming week.

On Wednesday, June 24, we met with Jim Graham, acting Food and Agricultural Officer for the U.S. Agency for International Development. Graham has replaced Sweet who previously held this position. Moreover, Graham will be leaving fairly soon for a new assignment in Nairobi. Graham requested that we keep him informed of all developments on our project. However, as he had just been given the job of Acting Agricultural Officer, he was unable to provide us with any substantive information.

Later that day we met with Ibrahim Zurgan, a sociologist who works for USAID. He told us that he is interested in preparing a study of Sorghum use changes over the last 50 years. He also noted that kisra was gaining in prestige over bread. He also noted that mechanised farming is now being accomplished to some degree in the private sector in Sudan. Mr. Zurgan expressed

his interest in working with our team anthropologists and a later meeting with them allowed them to work out the details of such cooperation.

Later that afternoon, we met with Mr. Mudge, Director of the USAID mission to Sudan as well as Jim Graham. Mr. Mudge noted that there was a November, 1980 discussion meeting held by the WSARP staff at Kadugli. We later obtained a copy of that report for our information. He noted his concern for a relatively low level of linkage between West African research institutions and those in Sudan. He suggested that, perhaps, INTSORMIL could see to it that information developed in French-speaking West Africa was translated into English as appropriate. We assured him we would relay that issue to the technical committee and director through the medium of this report.

Mr. Mudge was quite supportive of INTSORMIL efforts in Sudan and was pleased that much of it had taken the form of working in conjunction with WSARP. On Thursday, June 25, 1981 we met with Dr. Dafalla Ahmed Dafalla, Director of the Western Sudan Agricultural Research Project. Dr. Dafalla expressed his strong support and interest in our work. He also noted that a National Council for Research was recently formed to coordinate all research, agricultural and otherwise in the Sudan. Moreover, he noted that the president had stated that the research effort will be given particular attention through 1985.

We then met with the acting undersecretary for the Ministry of Agriculture, Mr. Kamal Ali Babikar. Mr. Babikar informed us of the organizational structure of the Ministry and provided us with an organizational chart. He noted that within the Ministry there were sections dealing with plant protection, horticulture, agricultural engineering, extension, veterinary services, economics and statistics, a commercial section that handles the large development schemes, and the research corporation which traditionally had done research on cotton in particular. He noted that research on dura (sorghum) was difficult in that different varieties were preferred in different parts of the country. He

noted that a project was currently under way to make commercial starches from dura. Also, he noted that work was under way on increasing the sorghum content of bread. It appears that the FAO will be organizing a training center at Shambat to provide food technology training for all of East Africa. He noted that Sudan is now not actively exporting sorghum. Sorghum prices tend to be higher than wheat. Moreover, sorghum tends to be preferred over wheat as a food. The agricultural bank buys dura from various schemes and private sector entrepreneurs and stores it in several silos. This is used to stabilize prices as well as to keep reserves for particularly dry cropping seasons.

Communication with researchers is accomplished through both formal reports and technical committees on particular areas. For example, committees exits in the areas of pests and diseases, husbandry, and varieties. These technical committees meet twice a year. The extension service, in contrast, is only 10 years old and not very efficient.

The agriculture ministry is responsible for control of national pests: birds, rats, locusts, and hyacinth. Local pest control is left to the regional governments. Bird control is an important African regional problem as birds appear to be migratory. Birds feed on grass seed and when grasses are not sufficient attack cropped areas. The birds tend to move to the riversides during dry seasons. FAO is now working on the bird problem.

Approximately 30 thousand people are employed by the Agricultural Ministry, of whom approximately 1/4 are technically trained. Only 10 percent of the Ministry staff is located in Khartoum. According to Mr. Babikar, agricultural research in Sudan is not functioning adequately. There has been a major drop in cotton production over the last 3 years. No one is quite sure exactly why this has happened. However, there is a serious lack of research facilities within the ARC.

On Saturday, June 27 we visited with Dr. Saad Abaadi, Secretary General of the National Council for Research. He noted that the President has decreed

that over the next decade there is a need to improve all scientific research in the country. The National Council of Research is to do this with the help of scientists. The theme of science is to be "back to the countryside." The National Council for Research was established in 1970 to coordinate research in Sudan. Its objective is to promote scientific research to improve the welfare of the general population. The Council has a chair with ministerial status and a cabinet of 23 persons most of whom are ministers. Others include the Vice Chancellors of the universities, and the chairman of the Chamber of Commerce. The Board of Directors meets once every 3 months. Within the National Research Council there are 4 specialized councils; agriculture, science and technology, medicine, and economic and social sciences. Each council is headed by a leading figure in that field. Other members are mostly scientists. The National Council also has a National Documentation Center, a statistics center, a National Atomic Energy Commission, and an Environmental Commission. It has recently started preparing a national research plan. Currently, 0.28 percent of the national budget goes for research. The President has stated that he would like this figure to move to 0.5 percent in the near future with an eventual target of 1.0 percent. As a first step in this direction, there will soon be a unified budget for all research conducted in Sudan.

Our next stop was the National Documentation Center. There we met with Dr. Cecil Wesley. The Documentation Center is currently in the process of creating a new publication entitled "Sudan Science Abstracts." This service will attempt to abstract all work done by Sudanese and about Sudan in all fields. The Documentation Center is part of an international environmental information network and will soon implement a Pan-african information system. They expect to have funds available soon to buy a mini-computer and microfiche equipment and collect everything available on development in Sudan. They also have a current awareness service to inform scientists of recent literature.

The problem here, however, is with a lack of staff due to substantial resignations to take jobs in the Arab countries.

We next met briefly with Dr. Babiker Besher Mohamed, Director of the Food Research Center. He stressed his interest in finding out when INTSORMIL work in food technology would start with the Food Research Center. He noted that the Center was established in 1965 with aid from FAO. They are responsible for research, extension, and training activities in the area of food technology. The primary concern is with processing. New decortication processes have been developed by FRC, and are widely used industrially. The big problem now, however, is that sorghum is more expensive than wheat. He saw his major problems as the availability and quality of raw materials as well as industrial quality control.

We next met with Dr. Sit Bati, a scientist at the Food Research Center. She has been working with Dr. Alan Kirleis of Purdue University. She noted that replacement samples of kisra would be sent to the United States in September. She sees financial limitations as a severe problem in research. What comes out is not always what was originally proposed. Moreover, the lack of facilities encourages scientists to do what they are interested in rather than respond to national needs. She also noted that technicians salaries frequently run as much as 8 weeks late. Projects tend to be tied to people rather than organizations. Moreover, since no money is specifically tied to projects, accountability is difficult to achieve. She saw the commodity research base, to which Sudanese researchers are now moving as desirable as a means of eliminating duplicative work.

Dr. Bati noted that the writing of papers was difficult due to the lack of literature for review. Moreover, access to foreign journals was a long, slow process. Similarly, the food technology journal for Sudan tended to be 9 to 10 months behind schedule. Appropriations for the journal had to be approved in Wad Medani. She suggested there was a need to speed up publication procedures.

Wheat and groundnuts are now being grown on a large scale within the scheme. No fallow is used now in the new half of the Gezira. Instead cotton, wheat, and groundnuts and dura are grown successfully over a three year period. He noted that prices and infrastructure are such as to make buying fertilizer unprofitable.

The technical committees negotiate differences between the Gezira Scheme and the ARC.

During the 1979-80 season, production costs per feddan of dura was 19 Sudanese pounds; yield was .3 tons per feddan. In contrast, wheat had a production cost of 30 pounds per feddan and fertilizer was used to some extent in wheat production. Wheat production is currently declining and at most only 2/3 of all wheat is being collected from farmers. (Black market prices for wheat appear substantially higher than those obtained by farmers through the scheme.)

After leaving the scheme we returned to ARC headquarters where we had lunch with Dr. El. Ahmadi and the Director of the Gezira research station.

On Sunday afternoon, we met with Dr. Bakheit, acting Secretary General for the ARC. He noted that the technical committees serve in a feedback role in that the Gezira serves as a farm for large scale experiments. In addition, multidisciplinary conferences are held at the end of each season to discuss problems. Tenents attend these conferences. He noted that the IADS team had already complied one study while the World Bank had a specialized study of the Western Sudan. We noted our familiarity with both these documents. Dr. Bakheit also noted that there have been several studies done so far in the Sudan but that most have not resulted in any practical consequences. He strongly emphasized his concern that our study not add to those already on the shelf. He also suggested that our study should focus on traditional farming areas and those areas where sorghum and millet tend to be grown. Dr. Bakheit signed the annex to the agreement with the understanding that it would

be attached as a memo pointing out the areas of emphasis. This document is attached as Appendix A.

On Monday morning, June 29, we met briefly with Dr. Reilly to clear up last minute details. He stressed the importance of maintaining continuing contact with ARC personnel. We thanked him for his enormous help in making our trip successful. We then went with Ed Reeves and Tim Frankenburger to meet several members of the Geography Department at the University of Khartoum. We left Monday evening by Sudan Airways for Cairo.

On Tuesday, June 30, we met with Mark Winters, Assistant Food and Agriculture Officer and John Foster of the Cairo USAID mission. Winters expressed his concern for a greater understanding of the relationship between research and extension in Eqypt. He suggested that it would be useful for us to speak with Dr. Said Dessouki, Director of the Agricultural Research Center for Egypt. The Agricultural Research Center is the agency responsible for conducting agricultural research in Egypt.

A team will visit Egypt from the United States in the fall to have a look at extension problems in Egypt. Another team visit is being discussed to update the 1977 foreign agriculture service report on constraints to agricultural production in Egypt.

A serious problem in the operation of agricultural research in Egypt is that the ministry pays people who work on AID projects more money. Salaries are currently so low that people are forced to have a number of jobs in order to make ends meet. For example, a new graduate will receive 30 to 40 Egyptian pounds per month plus allowances for housing. Pay differentials between project people and non-project people produce situations in which project drivers are paid more than scientists in non-project positions. Currently, AID is working up a proposal on how incentives work in Egyptian society and whether non-monetary incentives can be effective in the Egyptian context.

The top people in the Egyptian agricultural research system appear to be well qualified. However, the qualifications of those lower in the system is not as clear. One area of deficiency is agricultural engineering; the private sector pays substantially higher salaries and tends to drain off most engineering graduates.

As much agricultural education is conducted in English, most senior researchers and many junior researchers speak some English.

A number of possible modes might be employed for providing financial support to a study of agricultural research in Egypt. The university linkages projects allow American universities to directly link up with Egyptian universities at either the project, scientist, or university level. In addition, the University of California is working on an agricultural development systems project which includes money for small sub-projects. John Stewart and John Hafenrichter are responsible for the university linkage projects.

We also discussed the center pivot irrigation systems currently being established in Eqypt. Winters pointed out that they have been in operation for approximately one year and that most are not yet profit making. Osman-Osman is establishing two hundred center pivots. Osman is a building contractor and a relative of President Sadat. Center pivots may be uneconomical but may work due to the particular subsidies for food crops, energy, and other products within the Egyptian economy. Winters felt that it was highly unlikely that sorghum was the right crop to grow under center pivot technology. He referred us to two reports on land reclamation recently prepared for AID. These are: New lands productivity in Egypt: Technical and economic fesibility. Pacific consultants, January, 1980, AID contract NE-C 1645, Project #263-0042. Also see, Cropping patterns, irrigation technology, energy costs and identification of reclamation projects in Egypt. This is a follow-up study done on the same Pacific Consultants contract and published in June, 1980.

animal feed than for the grain which has a very, very low price due to PL-480 importation.

The farming systems budget is also paying for a survey of the demonstration farms before, during, and after the demonstration project is completed.

Labor is in short supply on farms due to the availability of work in various Arab countries. Currently only 45 percent of the labor force in Egypt is employed in agriculture.

All data accumulated in agricultural research projects around the country are analyzed at the Giza (Cairo) Experiment Station. Therefore, the researcher in another part of the country will normally complete his research and send the data for analysis to Cairo. If Cairo finds the analysis sufficiently interesting, they will release publications to that effect.

Until the major cereals project was started, extension service in Egypt served mainly as a regulatory and spraying agency for cotton. Recently, however, Egyptians have decentralized their government and the governors of various regions or governorates now control local extension services. The level of competency in extension is high. As a result, it is now being recommended that EMCIP look into the existing regional extension systems rather than setting up its own extension services. In any case, the regionalization of extension services has tended to divorce it from the still centralized agricultural research system.

On Saturday, July 4, we returned to the United States.

Persons Contacted

Dr. Yvon Chatelin, ORSTOM, Paris

Dr. Jim Riley, WSARP, Khartoum

Mr. Jim Graham, Acting Food and Agricultural Officer, USAID, Khartoum

Mr. Ibrahim Zurgan, USAID, Khartoum

Mr. Jim Mudge, Director, USAID, Khartoum

Dr. Dafalla Ahmed Dafalla, Director, WSARP, Khartoum

Mr. Kamil Ali Babikar, Acting Undersecretary, Ministry of Agriculture, Khartoum

Dr. Saad Abati, Secretary General, National Council for Research, Khartoum

Dr. Cecil Wesley, National Documentation Center, Khartoum

Dr. Babiker Besher Mohamed, Director, Food Research Center, Khartoum

Dr. Sit Bati, Food Research Center, Khartoum

Dr. Mohamed Bakheit, Acting Director, ARC, Wad Medani

Dr. Abdel Meneim Beshir El Ahmadi, Plants Breeder, ARC, Wad Medani

Dr. Gebisa, Breeder, ICRISAT, Wad Medani

Dr. Jain, Breeder, ICRISAT, Wad Medani

Mr. Abdulah Mohamed Lelzubeir, Dupty Director, Gezira Scheme, Wad Medani

Mr. Mark Winters, Assistant Food and Agriculture Officer, USAID, Cairo

Mr. John Foster, USAID, Cairo

Dr. Everett Everson, EMCIP, Cairo

Dr. Richard Foote, EMCIP, Cairo

Dr. Clarence Huntington, EMCIP, Cairo

7 June 1981

MEMORANDUM

TO: Dr. Mohamed Bakeit

FROM: Lawrence Busch and William B. Lacy, University of Kentucky

We enjoyed our visit yesterday to Wad Medani and look forward to our work with the ARC. Per our conversation regarding the attached amendment to the INTSORMIL-ARC agreement, our work will examine the processes and products of the ARC research system with particular focus on traditional agriculture and sorghum and millet. The final report will include suggestions and recommendations to improve the efficiency and effectiveness of the research program when appropriate.

As soon as possible we shall forward to you several of our publications and a draft interview schedule. Once again, we look forward to a mutually beneficial endeavor.

Memorandum of Agreement for Cooperative Work

Annex 3: Amendment to Work Plan

The University of Kentucky agrees to carry out a study of the research system in the Agricultural Research Corporation, (ARC). Specific areas of focus will include the identification of research questions and goals, record structures and patterns of scientific communication. Data will be collected from some combination of official documents, indepth interviews with scientists, research administrators and other interested parties and mail questionnaire. The research will be conducted during the 1981-1982 years with interviews tentatively scheduled for January 1982. Close collaboration with Western Sudan Agricultural Research Project (WSARP) and ARC is foreseen in order to ensure that the results are useful to those interested parties.

Signed at Wad Madani

Date 28 June 1981

Director General ARC

Program Director, UNESCO/SHC

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