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SAHEL REGIONAL AID PLANNING AND COORDINATION

SEMIANNUAL MANAGEMENT REPORT

31 August 1977 - 28 February 1978

and

1 March 1978 - 31 August 1978

Contract No. AID/afr-C-1354

Project No. 625-11-995-091

Advisory Committee on the Sahel

Board on Science and Technology
for International Development

Commission on International Relations

National Academy of Sciences-National Research Council

NATIONAL ACADEMY OF SCIENCES
Washington, D.C.

This report covers two semiannual reporting periods (31 August 1977 - 28 February 1978 and 1 March 1978 - 31 August 1978) under Contract AID/afr-C-1354, Sahel Regional Aid Planning and Coordination. The report has been prepared by the staff of the National Academy of Sciences-National Research Council for the Agency for International Development.

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INTRODUCTORY NOTE

This report covers (i) the historical background of the Sahel program, (ii) initial program activities up to 1 May 1978, (when the program director was hired), and (iii) activities during the period 1 May 1978 through 31 August 1978. The next management report will cover the six month period 1 September 1978-28 February 1979.

HISTORICAL BACKGROUND

The National Academy of Sciences has long been interested in the arid and semi-arid regions of Sub-Saharan Africa. This interest is reflected in the 1959 Academy volume, Recommendations for Strengthening Science and Technology in Selected Areas of Africa South of the Sahara, prepared for the International Cooperation Administration. It is similarly reflected in the involvement of the late Dr. Zgymunt Deutschman of the Academy in various health programs in sub-Saharan Africa, including programs in Senegal and Mali. In 1974, the Academy's Board on Science and Technology for International Development (BOSTID) and Commission on Natural Resources jointly published African Agricultural Research Capabilities, a volume issued in both English and French versions which has been well accepted in the Sahel. In the same year, BOSTID published More Water for Arid Lands: Promising Technologies and Research Opportunities, also issued both in English and French and which has similarly been well received in the Sahel.

In January of 1974, the Academy's Advisory Panel on Arid Lands of Sub-Saharan Africa, chaired by Dr. Thomas F. Malone addressed the topic of drought in the Sahel and the future of the region. In February of the same year, the Advisory Panel on Arid Lands met with individuals from AID and the Massachusetts Institute of Technology to discuss the development of a framework for the evaluation of long-term development strategies for the Sahel. Further, the possibility of organizing a workshop with Africans and Europeans on African agricultural systems was explored.

In March of 1974, Drs. Michael Dow and Roger Revelle of the Panel visited the Republic of Chad at the request of the AID Africa Bureau in connection with the Lake Chad Basin Commission's project to further develop the polders near Bol in the Préfecture du Lac on the northern shores of the Lake. On March 25th, the Panel met to review AID's funding program for the Sahel as well as the interim report on the MIT study, "A Framework for Evaluating Long-Term Strategies for the development of the Sahel-Sudan Region." AID representatives at the meeting felt that the Academy panel could assist (i) by further discussing conceptual models of the changing ecology of the Sahel, (ii) by "brainstorming" on alternative courses of action that AID might take in the region, (iii) by finding additional ways in which the international scientific community can contribute to the solution of Sahelian problems, and (iv) by exploring ways for supporting the AID programming process in the Sahel.

In May of 1974, the Academy's Advisory Panel was approached by AID to consider organizing an international meeting to review and make recommendations for alternative long-term development strategies suited to

the conditions of the Sahel. AID's concern led to the convening of a conference on "International Development Strategies for the Sahel" held at The Rockefeller Foundation's Study and Conference Center at Bellagio, Italy in October 1974. The conference was chaired by Dr. John McKelvey of The Rockefeller Foundation. Among the recommendations of the conference was the establishment of a Sahel research institute--later to take form as the Institut du Sahel located at Bamako in the Republic of Mali.

On 18 December 1974, members of the Advisory Panel on Arid Lands of Sub-Saharan Africa recommended to the Academy's Board on Science and Technology for International Development that it had discharged its responsibilities and should be dissolved. They further recommended (i) that BOSTID should retain an advisory role to AID with regard to arid regions in Africa, (ii) that BOSTID concern itself with follow-up to the Bellagio Conference, and (iii) that there is a need to explore development actions leading beyond immediate responses to the drought. The reports of the Panel were published in three volumes in 1975.

In early 1975, BOSTID staff members participated in two regional meetings held in Senegal, the "Nianing Dialogue" on the Sahel and the Second General Conference of the Association for the Advancement of Agricultural Sciences in Africa. Participation in these meetings afforded opportunity for informal discussions with Senegalese officials regarding possible collaboration with BOSTID. Of particular interest were discussions with the Senegalese Délégation Générale à la Recherche Scientifique et Technique (DGRST) concerning problems of water resource management and the long-term improvement of the fertility of irrigated soils.

In April 1975 BOSTID also collaborated with Clark University in the creation of the DRODAT network of social science research institutions in the Sahel.

In April 1976, Dr. Dow participated in the Conference on West African Development held at the University of Arizona. As a result of the discussions in Tucson with AID officials, the Academy was asked to provide advice to the Agency on long-term development activities in the Sahel. Discussions with AID continued regarding the possibility of a BOSTID contribution to the Sahel Development Program. BOSTID was further asked to assist AID in providing United States representation for two international working groups of the Club des Amis du Sahel: (i) the group on ecology and forestry and (ii) the group on adaptation of technology. It was essentially from these 1976 discussions that the Academy's Sahel Advisory Program emerged.

Consistent with the BOSTID-AID discussions, and at AID's request, Dr. Dow participated in the first full meeting of the Club du Sahel Advisory Group on Adaptive Technology held at Banjul in The Gambia in January of 1977. BOSTID staff members further participated in a conference dealing with the supply of energy for rural African villages organized by the Overseas Development Council in late January 1977. A contract between AID and the Academy in support of the Sahel Advisory Program was signed in late August 1977.

PROGRAM ACTIVITIES: SEPTEMBER 1977 THROUGH APRIL 1978

The early stages of program development were overseen by Dr. Michael Dow and Mr. Augustus Nasmith, Jr. of BOSTID. An intensive search for permanent staff members for the Advisory Committee on the Sahel was initiated and frequent consultations with AID were continued. On 9 February 1978, an Advisory Committee program was tentatively outlined in a joint USAID-Academy meeting. Participants in the meeting included Michael Dow, Charles Hanrahan, Douglas Johnson, Francois Mergen, Augustus Nasmith, Jr., Priscilla Reining, Anilee Rollins, David Shear, Douglas Tinsley, and Carol Ulinski. A memorandum describing this meeting appears as Appendix I of this report.

As part of the initial Sahel program activities, Mr. Augustus Nasmith, Jr. arranged an eight-day visit to Upper Volta in mid-February (see Appendix II). His visit was timed to coincide with a visit by Carol Ulinski, then a consultant to AID's Sahel Development Program. The visit introduced the Academy's advisory program to officials of the USAID mission in Ouagadougou as well as to officials of the Permanent Interstate Committee for Drought Control in the Sahel (CILSS). Additional meetings were held in Ouagadougou with Fred Weber of International Resources Development and Conservation Services of Boise, Idaho; with Marcel Poussi, Director of the Voltaic Center for Scientific Research (CVRS); and with Brenda McSweeney of the United Nations Development Programme. Upon leaving Upper Volta, additional meetings were held with Mme. Anne de Lattre of the Club du Sahel Secretariat in Paris.

Also in the context of the Sahel program concerns, Dr. Earl Scott Assistant Professor of Geography and Director of the African Studies Program at the University of Minnesota, attended the Eleventh Biennial Conference of the West African Scientific Association (WASA) held at Lomé, Togo in mid-March 1978. (see Appendix III). He was asked to do so in order to provide the Committee with an overview of S&T activities in the WASA member states. Dr. Scott also attended the Post-Conference Seminar on the 1979 United Nations Conference on Science and Technology for Development held in association with the WASA conference. The meetings were most helpful in establishing contact with individual African scientists as well as with various scientific bodies for purposes of future collaboration.

On 1 May 1978, Mr. Kurt Hecht joined the BOSTID staff as Program Director for the Advisory Committee on the Sahel.

PROGRAM ACTIVITIES: MAY THROUGH SEPTEMBER 1978

The principal activities since starting the program on May 1st have been completion of staffing and the planning of program activities in light of AID concerns, the needs of individual Sahelian countries, and the complex problems of the Sahel region as a whole. More than a dozen discussions were held between May 1st and June 15th with the Director and Deputy Director of the AID Sahel Development Program (SDP) as well as with numerous SDP staff members. Further discussions were held with individuals associated with BOSTID panels and activities concerned with the

Sahel. Several discussions were held at the Academy with visiting officials from Sahelian countries and informal contacts were made with staff members of the West African Section of the World Bank, the United States Department of Agriculture, the International and African programs of the National Science Foundation, and the International Development Research Center (IDRC) at Ottawa.

The status of the program as of May 18, 1978 was reported to the Commission on International Relations of the Academy. On May 22nd, the Academy hosted a luncheon in honor of Sir Dawda Kairaba Jawara, President of The Gambia and President of the CILSS, and Gambian and CILSS officials (see Appendix IV). This occasion afforded an opportunity to introduce the Academy's Sahel Program to President Jawara and to Mr. Aly Cissé, the Executive Secretary of the CILSS and a member of President Jawara's party. Several informal discussions were initiated through the luncheon meeting --discussions which were continued during a subsequent staff program development trip to the Sahel in July and August.

It proved to be somewhat difficult to find a professional with the requisite interdisciplinary background, experience in the Sahel countries, scientific and technical expertise, and language competence, and maturity to staff the second position created for the Sahel Program. With the assistance of former panel members, BOSTID was able to locate Mr. Jeffrey Gritzner who brought these qualities to the program with his arrival on June 20th. Mr. Gritzner conducted research in the Sahel, primarily in the Lake Chad basin, in 1964-1965 and 1972-1975 and also has some two and half years field experience in North Africa and south-western Asia--much of

which is relevant to the development problems of the Sahel.

The program is fortunate to have secured the services of Mrs. Colette Simonds as administrative secretary. Mrs. Simonds is French, holds a degree in history, and has worked in arid-zone agriculture.

On July 15th, following briefings by AID officials in Washington, Messrs. Hecht and Gritzner departed on their first visit to the Sahel to introduce the program and its objectives to officials of Sahelian governments and of the AID missions of the region. The trip lasted for approximately one month and involved discussions with officials in four Sahelian countries, as well as with the Secretariat of the Club du Sahel in Paris.

Several potential activities have emerged as a result of these discussions:

- Cooperation with the Senegalese DGRST in the formulation of national research strategies and priorities in the fields of health and energy.
- Cooperation with the Senegalese Institut de Technologie Alimentaire in considering innovative methods of processing Sorghum and Millett, and possible further cooperation in the utilization of Spirulina spp.¹ in protein food supplement programs.

¹ Spirulina spp. are filamentous blue-green alga. Under favorable conditions Spirulina increases at an average rate of 12 g/m² per day. It can thrive in brackish and alkaline waters and yields a crude protein percentage of approximately 72% (dry weight) with a satisfactory balance of essential amino acids. Its relatively large size (250 microns long) greatly simplifies its recovery.

--Collaboration with the Service des Eaux et Forêts/Senegal in the area of agro-sylvo-pastoral planning and program implementation. Initial emphasis would be upon the regulated introduction of exotic species such as jojoba, guar, and guayule which have high commercial, social, and environmental value.

--The Sahel Institute, the Secretariat of the Club du Sahel, and several Sahelian officials have asked BOSTID to assist the Institute in articulating and carrying out its functions in research, training, and providing advisory services to CILSS member countries.

--Possible assistance to The Gambia River Basin Development Authority per request by Mr. Malick John, High Commissioner.

--Involvement in livestock improvement and agricultural projects in the Gambia at the request of President Jawara.

These topics are discussed in full detail in the July-August trip report, attached as Appendix V.

The data and observations of the July-August trip, together with their analysis in discussions with AID, have contributed substantially to structuring the program. The preceding topics and activities will be further developed and defined in the course of the proposed October trip.

A LIST OF FUTURE ACTIVITIES: 31 AUGUST 1978 TO 28 FEBRUARY 1979

1. Cooperation with the Foundation for Microbiology in the further development of Spirulina spp. as an inexpensive source of high-quality protein for the Sahel. The objective of this cooperation is to support Sahelian scientists in the formulation and implementation of Spirulina-related projects which responds to the expressed needs of Sahelian governments.

2. Meetings will be held on September 1st in Washington with Dr. Liberty Mhlanga of the Dakar-based Environment Training Program (ENDA). It has been proposed that BOSTID and ENDA conduct joint workshops in connection with livestock and reforestation projects.

3. Meetings are to be held on October 2nd in Washington with Dr. John W. Bennett, Professor of Anthropology at Washington University. Professor Bennett was a participant in the Science Association's Nairobi Seminar on Desertification. His special interest is in the social aspects of desertification.

4. Mr. Hecht plans to travel to Binghamton, New York on October 6th to meet with Dr. Michael M. Horowitz, Professor of Anthropology at the State University of New York at Binghamton. Professor Horowitz has conducted extensive research in the Sahel and is a candidate for inclusion on the Advisory Committee on the Sahel.

5. Mr. Hecht is scheduled to travel in the Sahel from October 10th to November 9th in order to follow-up on the earlier activities in Senegal, Mali and Upper Volta and to hold initial discussions in Mauritania and Niger.

6. Mr. Gritzner will participate in a meeting of the African Environmental Training Project (AID Project No. 698-0135) to be held at Chapel Hill, North Carolina on October 23rd. The Project is being undertaken by the Program for International Development of Clark University, by the South-East Consortium for International Development (SECID), and by the University of North Carolina's School of Public Health.

7. On December 5th, Mr. Hecht is to travel to New Haven, Connecticut to meet with Dr. Francois Mergen, Dean of the Yale University School of Forestry and Environmental Studies. Dr. Mergen has been nominated to serve as the chairman of the Advisory Committee on the Sahel.

8. Preparations for a joint workshop with Eaux et Forêts/Senegal dealing with agro-sylvo-pastoral systems will begin in early December, contingent upon the outcome of Mr. Hecht's October meetings with El Hadji Sene, Director, Eaux et Forêts/Senegal and AID support for the proposal.

9. Similar preparations will be undertaken in early December for other activities generated by the BOSTID Sahel Program. The scheduling is necessitated by the duration of the present AID-Academy contract.

10. Meetings with Dr. Nalla Kane, Director of the Sahel Institute, will be held in Washington in mid-January.

11. The first formal meeting of the Advisory Committee on the Sahel is expected to take place early in February.

12. Health consultants recruited for the DGRST/Senegal are scheduled to enter the field in February, following briefings in Washington (and Dakar).

13. The DGRST-BOSTID health and energy panels are expected to meet with representatives of the DGRST and concerned ministries in early March.

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23 February 1978

MEMORANDUM

TO: Participants in February 9 meeting on the Sahel

FROM: Michael Dow 

RE: NAS Sahel Program

Programmatic Environmental Assessment

At the meeting David Shear indicated his Office's interest in having the Academy examine the problem of environmental assessment of projects and programs in the Sahel. The Agency is being requested by public interest groups to provide information on the environmental impact of projects it is funding, or proposing to fund, and is also concerned that development objectives in the Sahel are achieved within an ecologically balanced resource base. Can programmatic assessment be undertaken over the entire area, or on a national or other regional basis?

There was discussion on what is meant by "programmatic environmental assessment" and "ecological stability," particularly in terms of the time frame; higher levels of productivity which are achieved in the short run may not be possible to sustain over a longer period. The ecology of the area involves more than the environment--people as well as trees--and change is inevitable; it has occurred, is occurring, and will occur. An integrated program for the development of the area, and assessment of its environmental consequences, must encompass a broad definition. As a result, it was agreed, environmental assessment for the area as a whole would be costly and the results not commensurate with the level of effort required.

Mauritania, as a possible example of a national focus for environmental assessment, displays a series of tiers of land utilization--a riparian tier, an oasis tier, and a tier based on nomadic livestock husbandry. The area has suffered severely from the consequences of the drought, and in terms of development strategies, from a system of traditional beliefs and relationships and a shortage of trained manpower, perhaps greater than any other country in the Sahel, all of which present particular problems in planning organized changes in the society.

It was felt that while Mauritania was not perhaps the most representative of the Sahel states, and the experience of developing a national environmental assessment framework might not be representative, the need for this framework is urgent since AID officials do not yet agree on the nature of the development investment. There is a variety of project mechanisms available, but overall objectives have not yet been clearly articulated and await completion of the Rural Sector Assessment and Manpower Employment (RAMS) study of the southern third of the country. While there are very limited numbers of Mauritanian personnel available to staff the necessary planning, analysis and monitoring capability, they could be assisted by the Sahel Institute, the CILSS National Committee for Mauritania, and OSEA in Dakar. It was agreed that the IAS would convene a committee to develop a work plan for environmental assessment in Mauritania; the work of this committee will include meetings in Dakar and Nouakchott, preferably held in connection with the RAMS seminars for technical and planning personnel in the Mauritanian Government. A schedule for the committee's work will be organized following consultation with Robert Klein, AID's Country Development Officer for Mauritania, and among Augustus Nasmith, Carol Ulinchi, and officials in Ouagadougou mid-February.

Sector Evaluation

A second topic raised by David Shear was the evaluation of the aggregate of a number of projects within a given sector--for example, assessment of the environmental impact of the livestock development projects across the Sahelian zone--their impact on the perennial grasses and the native ungulates, and among the 4-5 different peoples involved. In spite of considerable experience both in the U.S. and among African countries involved, there is still a problem of defining a strategy for pasture management. AID has invested a large amount in the Mali livestock project, and would like to assess its impact; other donors are investing, or considering investment, in the livestock sector. The result to date should provide material for looking at the biological productivity of the area, and at possibilities for better management of pastures. This kind of study would also be helpful in linking environmental issues to the production sector and has direct relationship to the work of the CILSS livestock group.

Integrated Development Activities

A third area of concern to AID is evaluation of the impact of managing and exploiting resources which lie both within and without a given ecological zone. An example cited is the experience with a variety of projects in the Eastern ORD of Upper Volta, where there is need to look at the overall impact of rural development, education, rural road and water resource development activities and interventions on the quality of life of the people, and on their animals and crops.

Forestation

A fourth topic discussed is the need to develop policy for integrated, small-scale land-use management including forestry.

A number of projects have been developed, or are in the process of development, concerning reforestation and resource management in the Sahel. David Shear indicated that one such project--on integrated resource management including reforestation and control of bush fires--had encountered difficulties in both Washington and Dakar. The area of forest resource management, integrated with other uses of land, was agreed to be an appropriate focus for Academy study.

Recapitulating the discussions, the four areas which AID indicated have high priority for attention by the NAS committee include:

1. Environmental assessment framework for AID project planning in Mauritania
2. Integrated rural development evaluation in Upper Volta
3. Assessment of the impact of livestock development projects
4. Integrated resource management including forestry.

NAS staff are developing projects "1." and "4." initially, in consultation with AID officials and specialists in the subject matter.

Participants:

David Shear
Francis Mergon
Douglas Johnson
Priscilla Reining
Douglas Tinsler

Carol Ulinski
Anilee Rollins
✓ Augustus Harrold
Charles Kuranhan

cc: John Flurgent
Gordon Evans
Steven Klein
Bill Robertson IV
Victor Rabinowitch

dm

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BOARD ON SCIENCE AND TECHNOLOGY FOR INTERNATIONAL DEVELOPMENT

TRIP REPORT

TRAVEL TO: Upper Volta, February 14-22, 1978

BY: Augustus Hasmith, Jr.

FUNDING: Contract No. AID/afr-C-1345

Purpose

Since I was to be in West Africa on other business, a visit to Ouagadougou was suggested as a means to familiarize the AID Mission and the staff at the Permanent Inter-State Committee for Drought Control in the Sahel (CILSS) with the anticipated role of the NAS Advisory Committee on the Sahel. The visit would provide an opportunity to gain first-hand impressions from CILSS and an indication of the potential for interaction by Sahelian scientists and institutions with the NAS undertaking. Because priority has been given to advice which the NAS might give AID relative to the strategy being developed by the CILSS Ecology and Forestry working group, interaction with that group's rapporteur and the CILSS ecologist was the particular focus.

Highlights

My visit was timed to coincide with that of Carol Ulinski, consultant to the Sahel Development Program (SDP) Washington office. This was extremely beneficial since I was able to join Ulinski on many of her activities, especially those relating to reforestation. Ulinski and I met with Mission Director John Hoskins on February 15 to brief him and program officer Donald Clark (a former Peace Corps volunteer with five years experience in Upper Volta) on the Academy's role. The Mission staff were extremely helpful throughout my stay. There were a number of

occasions in succeeding days to keep Hoskins and Clark informed of the visit's progress. Fred R. Weber (International Resources Development and Conservation Services, Boise, Idaho) was also visiting Ouagadougou on AID business at the time. Weber's experience in forestry and ecological evaluations, and his field knowledge of the region and its people, have made him a key advisor to AID and to CILSS.

Vito Stagliano, attached to the CILSS Secretariat (through AID funding) is extremely knowledgeable about the CILSS situation, the relations with CILSS national committees, Club du Sahel and donor interactions. Stagliano should be kept abreast of the Academy activity as it develops, and will provide useful advice on mechanisms for cooperations with communities in the donor countries as well as the CILSS. Stagliano has some insights which allow him to feel that environmental considerations (and assessment) can be effected quite reasonably as requirements by the donor at the stage of project funding in cases where the relevant CILSS strategies have not completely dealt with the matter. My discussions with Stagliano occurred by chance at AID on February 17, and at lunch at his home on February 21. He can be reached via AID as well as at CILSS.

CILSS

The morning of February 16, I joined Ulinski, Clark and Weber for a meeting at CILSS with Jacques D. Stebler, rapporteur for the Ecology and Forestry working group and Robert Winterbottom (a former student of Francois Mergen at Yale) the CILSS ecologist (a post created at AID's suggestion and funded by AID). Also at the meeting were Mr. de Smet who, I believe, is rapporteur for the fisheries working group (and due to leave Ouagadougou in a relatively short time) and Dr. Rudolf Reichelt, whose precise responsibilities were not made clear to me.

While Ulinski and I assumed that the meeting would focus on her interests in the Ecology and Forestry group, and that discussion of the Academy effort would be peripheral, Stebler began with a focus on the Academy. Ulinski and I attempted to explain the nature of the NAS role vis à vis AID, the needs of AID and the capabilities of the NAS, etc. I indicated that we hoped our effort would develop in as cooperative a mode as possible with Sahelian involvement, and what we thought could be mutually beneficial interchange within the Club du Sahel and relevant institutions in donor countries as well. We outlined the tentative initial areas of NAS focus which had been formulated in Washington at the February 2 meeting with SDP and NAS participants:

1. Environmental assessment framework for AID project planning in Mauritania,
2. Integrated rural development evaluation in Upper Volta,
3. Assessment of the impact of livestock development projects,
4. Integrated resources management including forestry.

The ensuing response did not focus on what NAS endeavors would make sense from the CILSS point of view but did reveal some basic questions and frustrations of the CILSS staff present as to what the NAS role implied:

- (1) What problem was AID having with CILSS strategies which necessitated calling upon the NAS?
- (2) There are already too many studies and the NAS effort for AID would delay U.S. project funding,
- (3) There are too many advisory bodies in the CILSS/Club network,
- (4) The U.S. should acknowledge what has been researched and experienced by others with longer experience in the Sahel and not send experts whose experience is not transferable to do replicative studies,
- (5) The key Sahelian scientists, policy makers, and those involved with CILSS are already overcommitted and could not be called upon to participate in NAS activities.

Ulinski and I explained (from our respective positions) that AID had needs in its assistance planning which might be aided by the NAS. The call for advice was not a backhanded way of holding up funding because of "problems" with what has been prepared by CILSS, but in certain areas advice is needed.

Further discussion revealed a degree of frustration by the CILSS participants that underscored the points they raised -- in effect that what is needed is more donor funding of the agreed upon programs and not more studies and visiting experts.

Discussions I had with Stebler the following day and with Winterbottom on a number of occasions hopefully cleared the air somewhat. I reiterated that we are in the formative stage of our activity, that we would be relying upon experts with relevant experience and that our interest in involving Sahelians (and other non U.S. individuals and institutions with Sahelian experience) was planned to avoid the duplication of effort which the CILSS staff feared. Stebler and Winterbottom impressed me as highly qualified and dedicated and did offer future cooperation and assistance to the extent possible. Winterbottom offered to outline some ecological concerns which might tie in to the types of NAS focuses which correspond to AID's interest in environmental analysis for long range planning.

In retrospect, I should have made a formal communication from the Academy to CILSS prior to my visit to outline our intent and to arrange courtesy calls upon Aly Cisse, the Executive Secretary and Ya Ya Idrissa, Director of Programs and Projects. As it turned out, the meeting with Cisse to which I was to accompany Ulinski was advanced at the last minute, and I could not attend. Idrissa was not in Ouagadougou at the time of our stay. A meeting with Cisse and/or Idrissa before that I had with the Ecology and Forestry staff might have set a better introductory tone. At any rate, I did not further pursue at CILSS the question of identifying Sahelians who might cooperate with the NAS effort. Such contacts will develop as the NAS Advisory Committee begins its undertakings, and the Sahelians themselves should have the opportunity to decide to what degree they can afford to be involved.

Field Visits

An AID vehicle and driver at our disposal, the afternoon of February 17, Clark, Ulinski, Weber, Winterbottom and I went south as far as the Po National Park, (approximately 70 miles) stopping at planting sites along the way. On February 18, Ulinski, Weber and I went north to Kongoussi (approximately 80 miles) on a similar trip, visiting Peace Corp volunteers Mary Young and Alan Johnson at Kongoussi.

These trips gave a real feel for the region. Weber's knowledge of the ecology, the forestation possibilities and constraints, the attitudes and understanding of the farmers and herdsman regarding their environments were instructive. Weber suggested that a potentially useful role that the Academy could play would be to coordinate a meeting to allow forestry field technicians from Sahelian countries to exchange experience. The technicians have a wealth of knowledge which is not codified and which could greatly benefit the planning of forestation and integrated resource programs. For example, fast growing exotic species (eucalyptus, neem and cassia siamea) being introduced into the region are being regarded with great hope, but with little comparative analysis to assist in long range strategies. An apparently flourishing two year growth of eucalyptus might prompt decisions for extensive eucalyptus forestation. The problem (illustrated by some plantings we observed) was that a two year growth might be deceptive. At the end of five years, unless the groundwater table was adequate, growth might well be arrested. Another need for exchange of experience (and providing mechanism to synthesize such data) is the degree to which appropriate attention is being given to the slower growing indigenous species. In the Kongoussi nursery where Peace Corps volunteer Mary Young works, for example, the nursery manager is reluctant to give any real attention to the indigenous species. Weber's paper "Economic and Ecological Criteria for the proposed Club des Amis du Sahel, Forestry/Anti-Desertification Program" (May 1977) gives valuable insight to the consequences and impacts of forestry activities in the region.

Other

Centre Voltaique de la Recherche Scientifique (CVRS)

The afternoon of February 21, I met with Marcel Poussi, Director of the Voltan Center for Scientific Research. The CVRS is a specialized service of the Ministry of National Education and partially financed by agreement with the French government. Poussi is a social scientist/administrator; and while the center is small, his abilities and efforts were highly regarded by other people with whom I spoke in Ouagadougou. The center is stronger in social sciences (sociology, ethnology, geography) than the natural sciences (botany, zoology) and has approximately 15-20 scientific personnel (researchers). Poussi is coordinating interesting research relating to women and development in Upper Volta. I explained BOSTID's experience to Poussi, who welcomed our publications (especially those in French). The possibility of some form of future collaboration was raised and, interestingly, Poussi mentioned the problems of urbanization as a

possible focus. From another source, I understand that the CVRS is to conduct a socio-economic study of the experimentation with 250 solar cookers (provided through Danish assistance) in conjunction with its women and development efforts. Ouétian Bognounou, whom I did not meet, heads the Center's botany section and has done work regarding ecological concerns and Sahel development. Bognounou is Upper Volta's correspondent with UNESCO's Man and Biosphere Program (MAB). Puissi and Bognounou might be considered for appropriate involvement in the efforts of the IAS Advisory Committee.

Brenda McSweeney

On February 20, Ulinski and I met with Brenda McSweeney, a dynamic American who has been with the U.N. Development Programme (UNDP) in Upper Volta for six years. McSweeney is particularly known for her work with women and development. She is to be posted to New York by June, and should be kept in mind as a resource for the IAS Advisory Committee.

Club du Sahel

During a stop over in Paris on my return to Washington, I met (February 23) with Mme. Anne de Lattre, of the Club du Sahel Secretariat at OECD. De Lattre offered to be of assistance in linking the Academy to relevant individuals and institutions in France and other donor countries. She could prove a great help and should be kept informed as our work progresses. De Lattre provided an interesting paper "Scientific and Technical Cooperation with the Countries of the Sahel", prepared by consultant Jacques Giri.

NATIONAL ACADEMY OF SCIENCES

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BOARD ON SCIENCE AND TECHNOLOGY FOR

INTERNATIONAL DEVELOPMENT

TRIP REPORT

TRAVEL TO: Eleventh Biennial Conference of the West African Scientific Association, March 13-18, 1978; and the Postconference Seminar on the 1979 U.N. Conference on Science and Technology for Development, March 24, 1978, Lome, Togo

BY: Dr. Earl P. Scott, Assistant Professor of Geography and Director, African Studies Program, University of Minnesota.

FUNDING: Contract AID/afr-C-1354 (Sahel Regional Aid Planning and Coordination)

The Report.

This report reflects my observations and discussions with delegates to the WASA Conference, chats with special guest speakers, and formal meetings with individual council members of the West African Scientific Association (WASA). In most cases, the scientists I spoke to were nationals of the country they represented. Three scientists were from Southeast Asian countries. One of them was from India, but was trained in the U.S. Most of the scientists were from institutions in the Forest Zone and expressed little interest in the Savanna and Sahel Zones. In addition, they were all trained in the "precise" or "hard" sciences --physics, mathematics,

meteorology and the biological sciences including agriculture-- and they seldom referred to issues of "development". The social sciences were represented by Mr. K. Sossah in his talk on "Sociological Aspects of African Development".

My questions were broad, but focused. I tried to gain some understanding of what West African scientists were teaching and researching, their general feelings about WASA, the importance of the biennial conference to their careers and the conditions under which they worked. When I talked to individual council members of WASA, I tried to assess its organizational structure, its budgetary situations and its decision making procedure. This latter section of the report consists of my observations and comments on the "informal discussion" and my recommendations. The recommendations represent my assessment of the result of our informal discussion and my subsequent meetings with individual council members.

In general I am encouraged by my discussions with WASA Council members regarding the prospects of convening a seminar on the U.N. Conference in 1979, and the collaborative activity of particular interest to the American Association for the Advancement of Science (AAAS). The key to developing meaningful cooperative projects with WASA is the development of a long term plan that involves a commitment to a regional development philosophy, that encourages continuity over time and among scientists, and that centers on the formation of a reputable outlet for progress reports and research findings on issues related to development in West Africa.

WASA the Organization

A copy of WASA's Constitution is being provided for BOSTID's files. For our purposes it is important to know that:

- 1 - WASA is a regional organization. Its major functions are:
 - a) to promote scientific and technical development in West Africa,
 - b) to organize a scientific conference, and
 - c) to publish a journal.(The application of science and technology to problems of regional development is not explicitly stated in the constitution.)
- 2 - WASA is governed by a General Council and an Executive Council.
 - a) Council members are selected by the individual national association members.
 - b) The General Council meets once per year, but the Executive Council, which consists of the past president and the officers of WASA, meets more often on an ad hoc basis.
- 3 - The member associations in WASA are:
 - a) Senegal, Ivory Coast, Togo, Nigeria, Ghana, Sierra Leone and Niger.
 - b) Niger was awarded membership at this biennial conference.
- 4 - The operating budget of WASA is derived from three main sources:

- a) subscription fees of scientists paid to their national scientific associations,
- b) contributions from national associations,
- c) the sale of its biannual journal, and
- d) grants from world organizations (UNESCO, COSTED) and foreign associations (AAAS, NSF).

Even though WASA's past president has made efforts to obtain funds from world agencies and foreign associations, every aspect of the organization is constrained by its inability to raise needed operating funds.

5 - WASA is a nongovernmental organization and it is not constrained in any way by government. (Nevertheless, it is impossible to draw a line between science and politics in West Africa. They overlap, and the scientists I spoke to expressed a strong responsibility to their government. They identify with national goals and they do not view West Africa's problems as being solely of a scientific or resource nature. They are quick to point out that many of West Africa's problems stem from political decisions. This is a view we must reckon with, but it is not insurmountable.)

6 - The President and the Secretary of WASA are the most important officers. (Professor John Hyde is the current Secretary, but I believe he will be President in the next four years.)

Current Officers of WASA (1977-78)

President - Professor Kossi Kehoh, Togo.
Vice-President - Professor A. Maduemezia, Nigeria.
Secretary - Professor John Hyde, Ghana.
Treasurer - Professor Amosu, Nigeria.
Editor - Professor F.M.A. Ukoli, Nigeria.

Future Officers of WASA (1978-79)

President - Professor A.W.A. Edwards, Chairman of S.A.N., or
Professor A. Maduemezia, Nigeria (probably Professor
Maduemezia).
Vice-President - Professor P. Assemien, Ivory Coast.
Secretary - Professor John Hyde, Ghana.
Assistant Secretary - Professor Dingo (?), Niger.
Editor - Professor M. Adjangba, Togo.

The Conference

Some comments:

1 - Delegates from all the member associations were present. Attendance at conferences is important to scholars' careers. It is equivalent to the publication of an article to U.S. scholars. There was no general business meeting in which the delegates had an opportunity to vote.

2 - The conference was well attended. Between 250 and 300 scientists were there: approximately 85 of them from Ghana; 23 from Nigeria; 18 from Sierra Leone; 8 from Senegal; 3 from Niger. The remainder came from Benin and Togo.

3 - The conference was long and packed with talks and events (a copy of the "Program" has been provided to BOSTID). Most days were broken with "10 minute coffee breaks", but on Thursday talks and events were scheduled for the entire day without recognized breaks for lunch or dinner.

4 - Papers were presented in English and French with simultaneous translations. For the most part the translations were adequate. But this is a very expensive and often confusing necessity. The translators were African and they made frequent and embarrassing errors. Speakers made minor corrections in names and titles, but major errors were made in the translations of the text of papers --usually when translating from French to English.

On the last day of the conference, papers presented to the general assembly were distributed in French and English. This too represents an expensive and exhaustive effort on the part of the organizers.

5 - The papers presented in the Great Hall of the Headquarters of the People's Republic of Togo (R.P.T.) were usually general and a bit dated, but they appealed to the delegates. They always evoked heated debate or affirmation of African scientists' skills and willingness to identify and solve Africa's development problems. Delegates in the audience expressed this view more forcefully than the speaker. Nevertheless, the speakers seldom disagreed with the delegates. This expression of nationalism is a force that must be considered because it does influence the decisions of individual scientists.

Abstracts of papers presented during the specialized communications have been made available to BOSTID.

6 - It was difficult to make contacts during the conference. We were constantly on the go and the "10 minute coffee breaks" seemed shorter than they were. There was simply no time for informal discussions. Two scholars who are engaged in research in the Sahel are: 1) Mr. Mansour Seck, Director of Meteorological Science, Ministry of Public Works, P.O. Box 4014, Dakar, Senegal; and 2) Professor Abdou Moumauni Dioffo, Director of ONERSOL (The Office of Solar Energy), Niamey, Niger. Professor Dioffo will be in the U.S. in May. Mr. Seck expressed an interest in coming to the U.S. (He could probably be helpful in identifying Sahelian scientists of interest to the NAS Advisory Committee on the Sahel.)

Professor Kekeh did say that he would construct a list of scientists doing research in the Sahel.

7 - The conference closed on Friday, March 17, 1978.

The Postconference Seminar on the U.N. Conference on Science and Technology for Development (1979).

The comment I heard most frequently from Council members of WASA was: "This is the way we do things, you must be aware of that".

I was initially disappointed with the results of the seminar. But after talking informally with several Council members I now feel that all is not lost. (Probably my famous last words.) What follows is a brief chronology of the way things developed, what I think was achieved and my recommendations.

The seminar was originally scheduled to be held on the 18th and 20th. Before I arrived the Council decided to compress the seminar into one day, the 20th. When I announced that I would be leaving Lome that afternoon, the decision was made to hold the seminar on the 18th. I was informed of this decision on Wednesday. On Thursday I was told that the Council had decided to have an "informal discussion" on Friday morning --the last day of the conference.

I later learned that of the representatives of associations from outside West Africa, I was the only one who was present. I was assured that since I was "physically" present the seminar would be held. I also learned later, the meaning of "informal discussion" (English translation, the seminar will not be held at this time, but it could be held at a later date, if time permits, and after we will have consulted with our national associations).

Seminar participants

Professor Kekoh, President of the Togo Association for Scientific Research.
Professor Edward, President of the Scientific Association of Nigeria.
Professor Hyde, Member of the Ghana Scientific Association.
Professor Amosu, Member of the Scientific Association of Nigeria.
Professor Morgan, Member of the Sierra Leone Scientific Association.
Professor Chaytor, Member of the Sierra Leone Scientific Association.
Professor Osafo, Member of the Ghana Scientific Association.
Mr. Ata, Member of the Ghana Scientific Association.
Professor Ukoli, Member of the Scientific Association of Nigeria.
Professor Assemien, Member of the Scientific Association of Ivory Coast.
Professor Libaas Diop, Member of the Scientific Association of Ivory Coast.

Three things happened that spoiled any hope for a meaningful seminar:

- 1 - The beginning of the seminar was delayed. It was scheduled to begin at 8:30, but we did not get started until about 9:45. This aggravated several of the Council members because they were scheduled to be at the Great Hall for one reason or another.

- 2 - Professor Kekeh could not chair the seminar. He was involved with coordinating all the events of the last day of the conference. Consequently, he decided to ask Professor Edwards to chair the meeting. He reluctantly agreed, but it is now clear that he was not aware of the events that led up to this meeting or the contents of the proposal we were to discuss. More importantly, he did not know the purpose of the "informal discussion".
- 3 - We proceeded without a proper summary of the purpose of our "informal discussion". I was asked to make a statement and since I had not been privileged to any of the deliberations leading up to the decision to hold an informal discussion, I proceeded as if we had convened the seminars.

During the course of the discussion, the purpose of our informal discussion became clear. The Council had decided to discuss with me the desirability of having a seminar at this time or whether it should be scheduled for some time in the future.

Their reasoning:

- a) The decision to hold the postconference seminar was a unilateral decision on the part of the President, Professor Kekeh. Mr. Ukoli objected and argued that before such a decision could be made, he and the other Council members had to consult with their national associations. Professor Ukoli maintained his position even though it was shown that the proposal had been fully discussed and modified at the Executive Council meeting in Lagos. A letter to that effect was to be sent out to all member associations by the Nigerian Council member, Professor A. Maduemezia, but he failed to do so. This meant that Professor Kekeh had to decide whether to hold the seminar or not. He decided to go ahead with the seminar.
 - b) There was not enough time before the biennial conference for scholars to make the necessary preparation to hold a proper seminar on the proposed agenda items. Everyone agreed on this point. In fact, most people believed that several of the deadlines set by the U.N. had passed.
- 4 - The proposal called for cooperation between nongovernmental organizations. WASA is in fact a nongovernmental organization, but the separation of politics and science is not clear cut in West Africa. Several people, especially those from French speaking countries, said they were subsidized by the government and a few admitted their research had to be approved by their governments. In addition, several people expressed a strong desire to represent their government under conditions like a seminar or conference.

- 5 - The delegations to the U.N. Conference will probably consist of governmental and ministerial level people, not scientists. What is the role of scientists at the U.N. Conference? They agreed that they may be called upon to help write position papers, but none of them intended to go to the Conference. They did not know what would result from their effort or how they would be involved after the U.N. Conference.

In essence, the Council agreed in principle that it was desirable to have a seminar at a specified place and time and on a topic related to the U.N. Conference.

The major reservation was related to the amount of time left to organize a proper seminar with commissioned papers on specific topics. They wanted a timetable of possible events as soon as possible (send to John Hyde). I am providing the AAAS with a list of major issues and recommendations regarding its interest in cooperation with WASA.

Luncheon in Honor of Sir Dawda Kairaba Jawara
President of The Gambia
and

President of the Permanent Interstate
Committee for Drought Control in the Sahel

- Alhajy Sir Dawda Kairaba Jawara, President of The Gambia
- Hon. Lamin Kiti Jalang, Minister of External Affairs, The Gambia
- Hon. Adrien Senghor, Minister of Equipment, Senegal & CILSS (Permanent
Interstate Committee for Drought Control in the Sahel)
- Mr. Francis M'Boye, Secretary General-Designate, Ministry of Agriculture
and Natural Resources, The Gambia
- Mr. Ebou Taal, Permanent Secretary, Ministry of External Affairs, The Gambia
- Mr. Ali Cisse, CILSS Executive Secretary, Mali
- Dr. Wally N'Dow, CILSS National Coordinator, The Gambia
- Mr. Momodou Bobb, Protocol Officer, The Gambia
- Assistant Commander N'Dow N'Jie, Aide de Camp, The Gambia
- Mrs. Mary Ann Briggs, Confidential Secretary to the President
- Mr. Gordon Evans, Office of Sahel & Francophone West Africa Affairs, AID
- Ms. Anilee Rollins, Office of Eastern Africa Affairs, AID
- Ms. Mary King, Deputy Director, ACTION
- Mr. Richard Harden, Special Assistant to the President for Budget & Organization,
The White House
- Ms. Gayleatha Cobb, Bureau for Africa, AID
- Ms. Carol Ulinski, Office of Sahel & Francophone West Africa Affairs, AID
- Mr. Jeffrey Gritzner, Geography Department, Trinidad St. College, Colorado
- Dr. Victor Rabinowitch, Director, BOSTID, NAS
- Dr. Michael Dow, Deputy Director, BOSTID, NAS
- Mr. Kurt Hecht, Director, Sahel Program, BOSTID, NAS
- Mr. Augustus Nasmith, Professional Associate, BOSTID, NAS

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BOARD ON SCIENCE AND TECHNOLOGY FOR INTERNATIONAL DEVELOPMENT

ADVISORY COMMITTEE ON THE SAHEL

TRIP REPORT

TRAVEL TO: CILSS* Member Countries, July 15th to August 11th, 1978
BY: Kurt Hecht, Professional Associate, and Jeffrey Gritzner,
Staff Associate
FUNDING: Contract AID/afr-C-1354

* Comite Permanent Interetats de Lutte Contre la Secheresse dans
le Sahel (Permanent Interstate Committee for Drought Control in
the Sahel)

TRAVEL SCHEDULE

Departure from Washington	15 July 1978
Dakar, Senegal (via Paris)	16-20 July
Banjul, The Gambia	20-25 July
Dakar	25-26 July
Bamako, Mali	26 July
Ouagadougou and environs, Upper Volta	2-8 August
Paris, France	9-11 August

OVERVIEW

This trip was undertaken in order to introduce the BOSTID/Sahel Program to Sahelian and USAID mission officials, and to define an appropriate role for the National Academy of Sciences in contributing to the development of the economies of CILSS member countries after several years of severe drought. The tour included visits to Senegal, The Gambia, Mali, and Upper Volta, as well as to Paris for discussions with the Secretariat of the Club du Sahel.

SENEGAL

In Senegal, we were briefed by officials of the USAID mission, including Mr. Norman Schoonover, Mission Director; Mr. James Procopis; Mr. Joseph Guardiano; and Mr. James Livingston. The mission's briefings and generous logistical support contributed greatly to the productivity of our visit.

Our discussions with Senegalese officials were most fruitful:

-- At the Délégation Générale à la Recherche Scientifique et Technique (DGRST), we continued discussions with Mr. Jacques Diouf, Délégué Général, which had been initiated a month earlier in Washington. Mr. Diouf requested the assistance of two BOSTID/Sahel Program panels for the formulation of Senegal's national research strategies and priorities in the fields of health and energy.

-- Discussions with Mme. Basse of the Institut de Technologie Alimentaire encouraged a Sahel Program interest in exploring innovative methods of processing Sorghum and millet. This interest is in response both to acknowledged dietary shifts toward less nutritious, non-traditional staples and to the foreign exchange problems generated by the importation of such staples.

-- From our discussions with El Hadji Sene, Director of: Eaux et Forets, emerged three areas of particular interest:

- (i) the urgent need for a greater involvement of the populace in the design and management of forestry projects;
- (ii) difficulties of obtaining seeds for experimentation and for seed multiplication, particularly those of exotic species such as jojoba; and
- (iii) fisheries development in relation to oxygen-deficient inland lakes.

The BOSTID/Sahel Program's initial response to the problems of the forestry sector has been the proposed organization of a workshop emphasizing versatile, drought-resistant plant species of economic value. Seed would be provided for the exotic species considered and emphasis would be placed upon the compatibility of the plants with the evolving requirements of the agro-sylvo-pastoral systems of Senegal. Later discussions in The Gambia, in Mali, and in Upper Volta suggest that the experience of the proposed Senegal workshop would find ready application elsewhere within the Sahel.

The problems of the inland fisheries might best be resolved through broadened collaboration amongst research bodies already established within the region, such as the Lake Chad Research Station at Malamfatori.

Additional discussions were held with Mr. Frederic Jondot of the Senegal River Basin Development Organization (OMVS); with Mr. Francis Kane and Miss Aminata Mbengue of Animation Rurale et Urbaine; with Mr. Louis Sauger of the Institut Senegalais de Recherches Agricoles; and with Dr. Mansour Seck of the meteorological service of the Ministry of Public Works. Several highly productive meetings were also held with Dr. Liberty Mhlanga, Deputy Director of the Dakar-based Environment Training Program (ENDA). The philosophical affinities of the Sahel Program and ENDA virtually assure a continuing relationship with that body.

THE GAMBIA

In The Gambia we were briefed by Mr. Douglas Broome of the USAID mission and, as had been the case in Senegal, the mission supported our activities most generously.

We were especially pleased to have had a far-ranging discussion with Sir Dawda Jawara, President of The Gambia and of the CILSS. President Jawara was particularly interested in the questions of forestry (including rural participation), animal

husbandry, and nutrition. Perhaps most importantly, his personal insights have contributed to the emergence of program priorities attuned to the felt needs of Sahelian governments.

Further meetings were held with Mr. Alieu Jaigne, Permanent Secretary of Agriculture; with Secretary General Francis M'Boge; and with Mr. Malick John, High Commissioner of The Gambia River Basin Development Authority. Mr. John strongly encouraged Sahel Program involvement in river-basin development activities within his project area.

MALI

The USAID mission in Bamako was most helpful in expediting our stay in Mali. Briefings and extended discussions were held with Mr. Ronald Levin, Mission Director; Mr. Myron Golden; Mr. Tom Parks; Mr. Myron Smith, and with Dr. Bjorn Nielsen of the Harvard University health team.

With reference to non-USAID contacts, particular importance is attached to our discussion with Dr. Nalla Kane, Director of the Sahel Institute, and former Director, Dr. Oumar Ba. It is expected that collaborative mechanisms will be established which will allow a substantive NAS contribution to the program objectives and substance of the Institute.

Further meetings were held with Mr. Robert Fanfant of the UNDP/FAO mission; with Dr. Amadou Kone, Directeur Adjoint, Eaux et Forets; Mr. Robert N'Daw of the Ministere du Plan;

Mr. J. P. Sasmayoux of the Direction de l'Hydraulique; and with Dr. Boubacar Sy and Mr. Moriba Sissoko of the Institut d'Economie Rurale. Contact was established with N'Golo Traoré, Director of the Institut d'Economie Rurale, but conflicts of scheduling precluded meeting with him personally. The Institut d'Economie Rurale is of particular importance to our program as it perhaps represents the most direct and most widely accepted vehicle for addressing the needs of Mali's rural majority.

UPPER VOLTA

Dr. Abraham Hirsch of the USAID mission in Ouagadougou welcomed us to Upper Volta and provided most detailed and useful introductory orientations. Two meetings were held with Mission Director John Hoskins.

Our discussions with Mr. Yaya Idrissa, Director of Programs and Projects of CILSS, complemented that held earlier with President Jawara, and defined areas of possible Sahel Program participation within the context of CILSS objectives and "first-generation" responsibilities. Additional discussions were held with Mr. Robert Winterbottom, staff forester/ecologist of the CILSS. Efforts to meet with Mr. Aly Cissé, Executive Secretary of the CILSS, were frustrated by difficulties of scheduling.

Finally, a meeting was held with Mr. Amadou Guiao of the Direction Services Elevage. Mr. Guiao, presently a student at the New Mexico State University, described the status of the Projet Elevage Villageois with which he is connected.

Our visit to Upper Volta further afforded an opportunity to travel in rural areas and thereby, to an admittedly limited extent, better relate our program efforts to observable rural conditions. Particularly informative were the upcountry excursion to Kayo and Bani undertaken by Mr. Gritzner in the company of Dr. Hirsch and the visit to the onchocerciasis-freed areas of the Volta Valley Authority undertaken by Mr. Gritzner in the company of Academy member Dr. Robert Kates and Dr. Philip Porter of the University of Minnesota. Mr. Hecht joined MM. Kates, Porter, and Gritzner on an inspection southward to Pô.

FRANCE

The trip concluded with meetings in Paris with Mme. Anne de Lattre, Secretary General of the Club du Sahel, and with Mr. Arthur Fell, USAID representative. The meetings contributed important insights into the mechanisms of donor support to development projects in the Sahel and further defined possible roles of the Academy in meeting the development objectives of the Sahel.

CONCLUSION

Among the important objectives achieved by the trip was the establishment of a professional dialogue between the BOSTID/Sahel Program staff and officials and scientists of the countries visited. Further, the identity of the Program was established--particularly in relation to USAID activities in Sahelian Africa and with respect to BOSTID approaches to problem resolution.

Our discussions with USAID and with Sahelian officials have allowed us to delineate realistic program priorities which relate both to evident need and to the capabilities of the BOSTID/Sahel Program. An example would be our proposed assistance to the DGRST, the body responsible for science and technology policy in Senegal.

Not surprisingly, there are difficulties associated with the introduction of a collaborative program which offers neither substantial financial support for projects nor the services of resident technical advisors. It is often difficult for our Sahelian colleagues to weigh the benefits of such collaborative efforts vis-à-vis those of more conventional forms of assistance. Further, it is sometimes difficult for Sahelian administrators to relate our mode of cooperation to existing administrative structures and requirements. For example, the Sahel Institute

is in the process of formulating its own program objectives and is occupied with initial administrative concerns. Hence, while the Director of the Institute was receptive to collaboration with the National Academy of Sciences, the establishment of an appropriate and mutually acceptable mode of collaboration must await a future visit. We are currently responding to the issues that were raised in our discussions with officials, and we will initiate new contacts during our forthcoming visit to the Sahel in October. In addition to following up on previous contacts, we plan to visit Mauritania and Niger in order to discuss our program with officials in those countries.

On the whole, the trip was a productive undertaking, representing the first of a series of actions which are expected to combine scientific and technical knowledge with a continuing dialogue and collaboration. It has been demonstrated in previous NAS/BOSTID activities that this working mode not only permits the identification of problem areas that are obstructing successful actions but provides a basis from which to develop effective action.

Sahel Regional Aid Planning and Coordination

Contract AID/afr-C-1354

Expenditures, August 31, 1977 - August 31, 1978

Personal Services

Professional \$21,921

Secretarial 6,809

Fringe Benefits 5,307

Travel

Domestic 687

International 6,221

Communications/Shipping 672

Materials/Services 1,171

Indirect Costs 18,944

TOTAL \$61,732