PN-AAR-499
ISN-37160

Centre Regional d'Energie Solaire - CRES

Consultant's Report on Documentation Acitivities

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625-0929.09
Project 625-09229-09E

Contract 688-0000-S-00-3032-00

Generally stated, the primary purpose of the CRES project is to advance the adoption of renewable energy technologies in the nine member countries of the CEAO and CILSS. To support this objective, an information system which can respond to the technical information needs of the region's energy sector should be established by CRES. The CRES ETUDE DE FACTIBILITE (1) cited insufficient global information on renewable energy in the region and the lack of information on projects undertaken in this sector as the problems that should be addressed by CRES information and documentation activities. To establish an information system which addresses these problems, three major documentation activities should be pursued:

I. the creation of a documentation center at CRES;

II. participation of that center in information networks at the regional and international levels;

III. dissemination of information and documentation.

At the current stage of development of the CRES project, a "Bureau d'Etudes de Realisation" (BER) is responsible for a series of activities that will lead to the actual opening of the regional center in 1985. Within this context of progressive development of the CRES project, the BER should begin documentation activities in the three areas cited in order to ensure that a strong framework for documentation is in place for the future regional center.

I. Creation of a documentation center

The functions of the center should be to identify, acquire, process and make available documentation on all aspects of renewable energy that are within the framework of the overall functions of CRES.

Because the collection will support the research, training and program activities of CRES, different levels of information resources should be included in the collection which correspond to these CRES activities. At each stage of development of the CRES project, materials should be acquired for the collection that will support CRES activities at that particular stage.

Identification and acquisition of materials:

There are two types of documentation that should be acquired for the documentaiton center's collection: published resources and "non-conventional" resources. Published resources can be broadly defined as both print and non-print materials that are available through traditional channels, i.e., publishers and document distribution centers of organizations. These kinds of resources can be identified through reference works such as bibliographies, technical journals and publishers' catalogs. "Non-conventional" resources are those materials not available through these traditional publishing outlets. They generally consist of reports and studies carried out by organizations with no information dissemination mechanisms. They are usually reproduced in very limited quantities and their existence known to only a small group directly associated with the report or study.

Annex I of this report contains the acquisition requests for documents and journals ordered for the preliminary refrence collection for the BER. The names and addresses of publishers and document distribution centers should

provide a basis for future acquisitions. Also, the bibliographies and journals ordered should assist the documentation center staff in the identification and acquisition of resources in the future.

Annex II contains a list of data bases searched and people and organizations contacted in the US and France in the preparation of this consultancy. This information should also assist CRES in future acquisition efforts.

The CRES technical affiliates in the US and France will also participate in this effort by keeping CRES informed of current publications and documentation of potential interest. (Note: at this writing, the US technical affiliate has not yet been selected; the French affiliate, ANVAR, is referenced in Annex II of this report.)

At this stage in the development of the CRES project, the BER's acquisition activities should concentrate on: (1) major reference materials, particularly bibliographies and technical journals, which will enable it to play an information clearinghouse role for the national centers (i.e., keep the centers informed of current publications in their particular areas of interest; (2) audio-visual materials to support the BER's public information functions.

When CRES is at a stage where a sizeable number of documents need to be acquired, it is strongly recommended that these materials be acquired in the form of microfiche whenever available. A microfiche reader is a minimal investment which is quickly paid for by the cost-savings achieved in the purchase of microfiche materials. US technical reports in particular are almost always available in microfiche and their cost is often less than one-tenth of printed copies. Microfiche has proven to be the preferred form for preservation and exchange of materials also.

Because the CRES center will have an obvious continuing interest in the acquisition of scientific and technical publications, the center will require an

annual acquisitions budget to purchase such materials. Scientific and technical materials are rarely available free of charge and when they are only available in print, rather than microfiche form, they tend to be highly priced.

Technical processing of materials:

Technical processing of acquired materials is undoubtedly the most misunderstood and, in terms of human effort, most under-estimated of all aspects of documentation center functions. The purpose of all technical processing functions is to provide access, particularly subject access to a collection. It also forms the foundation for information dissemination and participation in information networks.

Technical processing consists basically of establishing records for each document in a collection which provide a means of retrieval by subject, author and title at minimum. Whether these records are maintained in a manual (card catalog) or automated (computer) system affects the manner in which the collection can be searched and its contents shared with other centers. However, the fudamentals of cataloging and indexing are the same in each system and are tasks which should be assigned to a trained documentalist only.

The classification scheme (i.e., a system for physically arranging documents according to subject categories) recommended for the BER colection is the SATIS CLASSIFICATION (2) developed by the member organizations of the international association Socially Appropriate Technology International Information Services. This scheme was used to arrange the two hundred documents presently in the BER collection and proved to be satisfactory. It is being recommended because it was the only one identified by the consultant which contained a

renewable energy focus in considerable detail and that was available in French. While there are a number of thesauri (i.e., indexing languages or controlled vocabularies which display logical relationships between terms and from which terms for subject description of materials are selected) available in French, none identified contained anything beyond the broadest descriptors related to renewable energy. The US Department of Energy's thesaurus used for subject description in its data base, contains the most specific terminology to date for renewable energy technologies. Inquiries to DOE's Technical Information Center indicated that the thesaurus may have been translated into French by the International Atomic Energy Agency but no conclusive answer was found. If the DOE thesaurus is available in French its high level of technical specificity in terms would be useful to the CRES collection only at a much later stage in its development.

Through at least the first few years of the BER and CRES collection, the terminology of the SATIS CLASSIFICATION,(2) supplemented with the OCDE GLOSSAIRE DE L'ENERGIE(3) should provide the basis for a functional indexing language for the collection. For non-energy terms, the LISTE D'AUTORITE DES DESCRIPTEURS RESADOC(4) is the most appropriate indexing tool available.

Note: one addition made by the consultant to the SATIS sceme is the "900" class which has been designated for documentation in the collection produced by and for CRES, CEAO and CILSS. This change has been added to the copy of the SATIS sceme in the BER Department of Information and Documentation.

It should be noted that all types of materials should be catalogued and indexed according to the same system (classification scheme and indexing language). While audio-visual, paper and micro-fiche materials require different physical

storage facilities, it is the subject content of the materials that integrates them into a single information retrieval system.

Because there is no documentalist on the staff of the BER at this time, there is no possibility of establishing a card catalog for the collection. At a minimum, an attempt should be made to assign acquired materials a classification number from the SATIS scheme as well as an accession number within the selected subject category. The materials should be inter-filed with those classified by the consultant. A card file of classification plus accession number assigned has been left by the consultant as well as a sample set of authority/subject/author/title cards.

At such time that a documentalist joins the staff of BER or CRES, technical processing of materials can begin. A card catalog can be developed at this point or consideration may be given to adopting a computerized system. If the overall computerization needs of CRES have been defined at this point and a system selected, the documentation center should be able to utilize that system. Given the ever-advancing state of micro-computer technology, it would appear that CRES computer needs may be satisfied by an internal network of micros. If this is the case, the documentation center would be best advised to take advantage of the considerable experience in this area of the International Development Research Center (IDRC) (5) and the Institut du Sahel's RESADOC project (elaborated upon in the network section of this report). IDRC is adapting its major information retrieval software package MINISIS, to the IBM Micro-computer. The RESADOC project which has designed its technical processing and information networking on the basis of MINISIS, will be using the IBM Micro-computer.

The advantages to CRES of adopting the MINISIS system would be numerous: IDRC provides the software at no cost to Third World institutions; compatibility between the CRES documentation center and the RESADOC project would be ensured; the RESADOC input sheet and MANUEL D'OPERATIONS (6), which are the highest quality products one is likely to find in this domaine, could be easily adapted to the needs of the CRES documentation center. Finally, this route would allow CRES to practically and efficiently pursue its goal of establishing a data base renewable energy.

Human resources and equipment:

The BER will not be in a position to actually create and maintain a documentation center until a permanent post for a trained documentalist has been established and that post is filled. The documentalist will require the assistance of a secretary, preferably bilingual, to type cards and eventually key data into a computer system.

It is only at the point that a documentalist joins the staff and technical processing of materials begins that supplies such as index cards and filing drawers for the cards (assuming an initial manual system) will be necessary. At the stage of computerization, supplies required can only be identified once the system has been selected.

The various forms of materials acquired by the center will require separate storage facilities: for documents, shelving, preferably enclosed, that allows documents of various sizes to be interfiled plus document cartons and file folders that allow interfiling of softcover materials; for microfiche and

audio-visual materials, file drawers and shelving designed specifically for these types of materials. At least one microfiche reader should be purchased for the documentation center as well as an illuminated slide board or viewer and a cassette tape player to allow processing and use of these types of materials.

II. Participation of the documentation center in information networks at the regional and international levels

There are two aspects to the potential information network activities of the documentation center: its relationship with existing regional and international information networks and, its relationship with national renewable energy centers linked to CRES.

There are two regional information networks of particular relevance to CRES: the RESADOC project which began in 1978, and the recently launched UNESCO/ECOWAS energy information network. The Réseau Sahélien de Documentation Scientifique et Technique - RESADOC - is coordinated by the Institut du Sahel, a research affiliate of CILSS in Bamako. The network project is developing a data base on a broad range of topics concerning the development of the Sahelian region with the participation of documentation centers in the eight member countries of CILSS. Discussions between the RESADOC Coordinator (7), the Head of the BER Department of Information and Documentation and the consultant resulted in the suggestion that the CRES documentation center become the focal point for renewable energy information in the RESADOC project. This is a role which the consultant strongly recommends the CRES documentation center to assume. The fact that CRES is a regional

project of the CEAO with the participation of CILSS places the CRES center in a position of responsibility to actively participate in the RESADOC project. Because the project has been operational for a number of years and the technical framework for the network is well advanced (as referred to in the section on technical processing), the participation of CRES should be achieved smoothly. Beyond the technical processing tools which RESADOC has available, it also offers training seminars for documentalists in the use of these tools. Finally, the sheer proximity of RESADOC to CRES should allow for frequent and regular contact between the two projects.

The second regional information network with specific relevance to CRES is a pilot project recently lauched by UNESCO and ECOWAS. In August 1983 the UNESCO Energy Information Division and ECOWAS signed an agreement to launch a "Sub-Regional Pilot Project on New and Renewable Sources of Energy Information for West Africa." This pilot project is one of several being established (in Latin America, East Africa, West Africa, Asia and the Pacific and the Arab States) by the UNESCO Energy Information Division pursuant to its overall objective of "establishing a worldwide network of institutions co-operating to share and use energy information."(8) The inaugural meeting for the project was held in Dakar, Senegal, November 2-4, 1983 at which time the Centre National de Documentation Scientifique et Technique of Senegal was named the co-ordinating center for the West Africa network.(9)

Because the UNESCO/ECOWAS project is so recent, it is not possible to ascertain at this time exactly what type of cooperative links the CRES center will be able to establish with the project. However, as a general statement

at this stage the head of the BER Department of Information and Documentation is strongly urged to maintain close and frequent contact with the project and to pursue all potential avenues of cooperation as the project develops in order to avoid potential duplication of effort on the part of CRES and the UNESCO/ECOWAS project in the future.

There are undoubtedly a number of documentation centers in the region which contain significant collections on renewable energy without that topic being the exclusive focus of the collections. Identification of these centers and subsequent contact with them should be able to be achieved through CRES participation in both the RESADOC and UNESCO/ECOWAS networks.

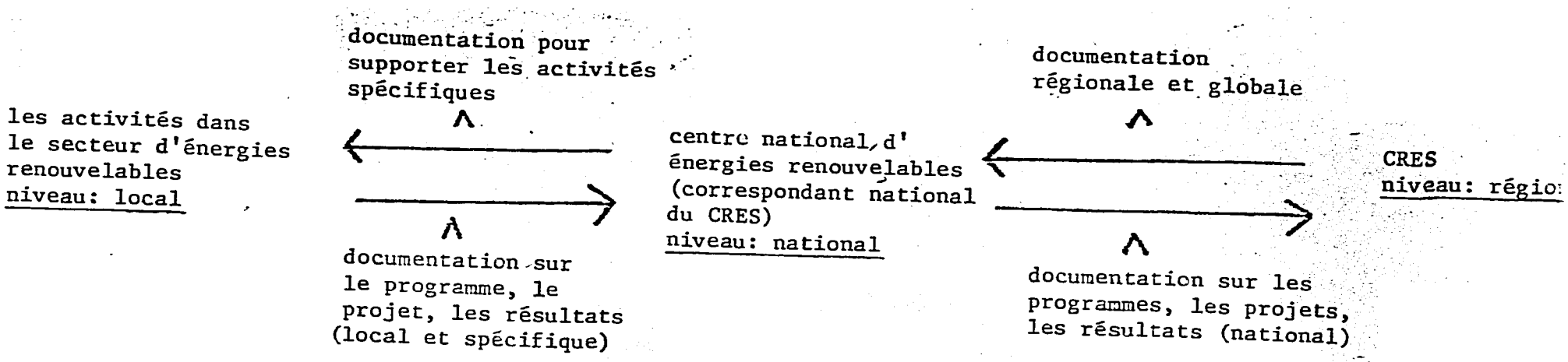
With regard to international energy information networks, CRES involvement in the UNESCO/ECOWAS project should ensure that it will be part of the global network that UNESCO aims to establish. It should be noted that the first step taken to establish such a network was the compilation of the INTERNATIONAL DIRECTORY OF NEW AND RENEWABLE ENERGY INFORMATION SOURCES AND RESEARCH CENTRES,[10] a joint effort by UNESCO and the Solar Energy Research Institute (SERI) of the United States. The directory, which was published in 1982, is also available as a computerized data base which is being updated. A second edition of the directory is scheduled for publication in 1983. The directory is an extremely valuable resource for CRES in its pursuit of international linkages with renewable energy institutions.

At this interim stage in the development of an international renewable energy information network, CRES would be well advised to utilize its technical affiliates in the US and France as access points to relevant international data bases. (See Annex II for a list of data bases searched in preparation of this consultancy.)

A relationship in terms of an information network between CRES and national renewable energy centers linked to it has yet to be defined. The first step toward defining that relationship should be a survey of information and documentation capacities (both existing and planned) of the national centers and identification, to the extent possible, of their information and documentation needs. This survey, which should be undertaken by the Head of the BER Department of Information and Documentation, should rely on the assistance of the CRES national correspondents and should utilize the contacts established during earlier BER missions, notably those listed in the report APPUI AUX CENTRES NATIONAUX.(11) It will only be after the completion of such a survey that BER will be in a position to concretely plan an information network between the centers. The development of the UNESCO/ECOWAS project should be taken into consideration during the planning phase of the CRES information network with national centers in order to avoid potential duplication of effort. Figure 1 represents a potential information flow between CRES, national centers and specific projects.

It is assumed that the renewable energy data base which CRES intends to create will form the basis for a CRES information network. Two fundamental question that must be addressed by CRES are: how will national centers participate in the creation of the data base and how will they be able to access it. To a large extent the quality of the data base will depend on the establishment of agreements between CRES and the national centers to supply either documentation itself or references to documentation, particularly non-conventional resources procuced by the national centers and specific projects.

FIGURE 1.


les activités dans
le secteur d'énergies
renouvelables
niveau: local
documentation pour
supporter les activités
spécifiques
documentation sur
le programme, le
projet, les résultats
(local et spécifique)
centre national d'
énergies renouvelables
(correspondant national
du CRES)
niveau: national
documentation
régionale et globale
documentation sur les
programmes, les projets,
les résultats (national)
CRES
niveau: régio

III. Dissemination of information and documentation

It is assumed that in the course of development of the CRES project, audiences or target groups will become well-defined and information dissemination techniques and products will be designed according to those groups. At this point it is only possible to propose a few general techniques and projects.

When CRES has established its renewable energy data base, it will be possible to generate specialized bibliographies and bibliographic bulletins. At the stage of computerization, it would be possible to exchange computer diskettes (assuming a micro-computer is being used) with organizations and centers which have compatible equipment. These forms of information dissemination provide references to a collection of materials and can be expected to generate requests for actual copies of matrials. CRES should be prepared to respond to those requests by having reprographic facilities in place which would be capable of providing both photocopies and microfiche copies of materials. When CRES is ready to establish its reprographic facilities, it would be highly advisable to consult the RESADOC project which has had substantial experience in assembling a reprographic unit.

Strong consideration should be given to the establishment of a question/answer service in the documentation center. Its linkages with regional and international networks as well as the resources of its own collection and the expertise of the CRES staff can all be utilized to assist regional users with specific questions on various aspects of renewable energy. The CRES reprographic unit would support this service so that users could be provided with documentation itself whenever necessary and not just references to resources.

If the CRES center is able to establish a mechanism for collecting non-conventional resources on renewable energy in the region, CRES should consider publishing an "occasional papers" series which could serve to disseminate the work of a particular project or center. Groups of papers from various centers on a similar topic could also be disseminated through such a series.

The information dissemination techniques and products suggested thus far are most useful to researchers, technicians, students, teachers and, to some extent, decision makers in government and industry. For public information dissemination in the region, audio-visual materials should be emphasized. These include slide presentations, films, radio and television broadcasts, produced either by CRES or, when appropriate, acquired from other sources.

At this stage in the development of the CRES project, the BER should consider launching an information bulletin that is concise, current and regular (possibly bi-monthly). A well produced information bulletin can be an extremely effective method of information dissemination as it provides its audience with information that can be quickly and easily "digested". The bulletin would have the potential for providing information on renewable energy research, applications, installations, training, public education, meetings, information resources (documents,publications, audio-visuals), national center activities and BER/CRES activities. Such a bulletin would provide the basis for expanded information networking and dissemination activities at a later stage in CRES development.

REFERENCES

(1)FGU-KRONBERG/AHT; ORGATEC; SEMA-METRA. Centre Régional d'Energie Solaire -CRES - Etude de Factibilite. CEAO, CILSS, Ouagadougou, Septembre 1981, 300p. (English language version available)

(2)SOCIALLY APPROPRIATE TECHNOLOGY INTERNATIONAL INFORMATION SERVICES. SATIS Classification/SATIS Index. SATIS, Amsterdam, 1983, 57p./48p. (English language version available)

(3)ORGANISATION POUR LA COOPERATION ET DEVELOPPEMENT ECONOMIQUE. Glossaire de l'Energie. OCDE, Paris, 1982, 351p.

(4)RESADOC. Liste d'Autorite des Descripteurs RESADOC. Institut du Sahel, Bamako, Juillet 1983 (mise a jour no.2) 113p.

(5)INTERNATIONAL DEVELOPMENT RESEARCH CENTRE/CENTRE DE RECHERCHES POUR LE DEVELOPPEMENT INTERNATIONAL (IDRC/CRDI). Information Sciences Division, P.O. Box 8500, Ottawa K1G 3H9, Canada. Telephone: 613-996-2321.

(6)RESADOC; CRDI. RESADOC Manuel d'Operations. Institut du Sahel, Bamako, CRDI, Ottawa, 1983, 332p.

(7)Alioune B. CAMARA, Coordonnateur RESADOC, Institut du Sahel, B.P. 1530, Bamako, Mali. Telephone: 22-21-78.

(8)UNESCO. Brief on the UNESCO Sub-Regional Pilot Project on New and Renewable Sources of Energy Information for West Africa. UNESCO SC/TER/EI, Paris, June 1983, 4p.

(9)Omar DIOP, Directeur, Centre National de Documentation Scientifique et Technique (CNDST), 12 rue Calmette, Dakar, Senegal. Telephone: 22-44-75.

(10)UNSECO; SERI. International Directory of New and Renewable Energy Information Sources and Research Centres. UNESCO, Paris, 1982 (1st edition) 469p.

(11)ORGATEC. Appui aux Centres Nationaux. Rapport de la Mission de Lancement. CRES Bureau d'Etudes de Realisation, Bamako, Aout 1983, 262p.

ANNEX I: PUBLICATIONS ORDERED FOR THE BER COLLECTION

DOCUMENT ACQUISITION ORDER FORM FOR CRES

Date: 1November83

TO: MGMT
THRU: SDPT/AID
FROM: CRES - AID Project Number 625-0929.09E

Please order the following items:

Publisher: ALTERNATIVE SOURCES OF ENERGY, INC.
Address: Circulation Department
107 South Central Ave.
Milaca, Minnesota 56353 USA

Quantity	ID No. if any	Author/Title	Unit Price
2 yr.subscription		ALTERNATIVE SOURCES OF ENERGY (bi-monthly) journal	$45 for 2 yrs

Funding: Project Funds 625-0929.09E

Justification: Document purchase for CRES as provided in Project Agreement

CLEARANCES: (1)SDPT L. Dash

(2)MGMT

Carl Kostenko

Signature

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DOCUMENT ACQUISITION ORDER FORM FOR CRES

Date: 8November1983

TO: MGMT
THRU: SDPT/AID
FROM: CRES - AID Project Number 625-0929.09E

Please order the following items

Publisher: American Society of Mechanical Engineers
Address: 345 East 47th Street
New York, New York 10017 USA

Quantity	ID No. if any	Author/Title	Unit Pric
1yr. subscription		JOURNAL OF SOLAR ENERGY ENGINEERING (quarterly)	?

Funding: Project Funds 625-0929.09E

Justification: Document purchase for CRES as provided in Project Agreement

CLEARANCES: (1)SDPT L. Dach

(2)MGMT

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DOCUMENT ACQUISITION ORDER FORM FOR CRES

Date: 10November1983

TO: MGMT
THRU: SDPT/AID
FROM: CRES - AID Project Number 625-0929.09E

Please order the following items:

Publisher: APROVECHO
Address: 442 Monroe
Eugene, Oregon 97402 USA

Quantity	ID No. if any	Author/Title	Unit Pric
1	-	GUIDELINES ON EVALUATING THE FUEL CONSUMPTION OF IMPROVED COOKSTOVES: A MANUAL	?

Funding: Project Funds 625-0929.09E

Justification: Document purchase for CRES as provided in Project Agreement

CLEARANCES: (1)SDPT L. Dach

(2)MGMT

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Date: 1November83

TO: MGMT
THRU: SDPT/AID
FROM: CRES - AID Project Number 625-0929.09E

Please order the following items:

Publisher: ATOL (Aangepaste Technologie Ontwikkelingslanden)
Address: Blijde Inkomststraat 9
B-3000 Leuven, BELGIQUE

Quantity	ID No. if any	Author/Title	Unit Price
1		BIOGAZ:PRODUCTION DE METHANE A PARTIR DES DECHETS(J.Craens)	100BF
1		ENERGIE ELECTRIQUE ET RADIATION SOLAIRE:POSSIBILITES D' APPLICATIONS DES CELLULES PHOTOVOLTAIQUES DANS LES REGIONS EN VOIE DE DEVELOPPEMENT (Bulteel & DePauw)	120BF
1		UNE SIMPLE POMPE EOLIENNE: MANUEL DE CONSTRUCTION (N.Van de Ven)	60BF
1		NOUVEAUX FOYERS AU SAHEL POUR EPARGNER LE BOIS DE FEU (Ki-Zerbo & DeLepeliere)	280BF

Funding: Project Funds 625-0929.09E

Justification: Document purchase for CRES as provided in Project Agreement

CLEARANCES: (1)SDPT L. Dark

(2)MGMT

Signature

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DOCUMENT ACQUISITION ORDER FORM FOR CRES

Date: 8November1983

TO: MGMT
THRU: SDPT/AID
FROM: CRES - AID Project Number 625-0929.09E

Please order the following items:

Publisher: R.R. BOWKER Co.
Address: 1180 Avenue of the Americas
New York, New York 10036 USA

Quantity	ID No. if any	Author/Title	Unit Pric
1	-	LIBRARY JOURNAL-ENERGY SOURCE DIRECTORY ISSUE	?

Funding: Project Funds 625-0929.09E

Justification: Document purchase for CRES as provided in Project Agreement

CLEARANCES: (1)SDPT L. Dash

(2)MGMT

Carl Kontinos

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DOCUMENT ACQUISITION ORDER FORM FOR CRES

Date: 8November1983

TO: MGMT
THRU: SDPT/AID
FROM: CRES - AID Project Number 625-0929.09E

Please order the following items:

Publisher: BRACE RESEARCH INSTITUTE
Address: Macdonald College
St. Anne de Bellevue
Quebec, 80A 1C0, CANADA

Quantity	ID No. if any	Author/Title	Unit Price
1	-	A SURVEY OF SOLAR AGRICULTURAL DRYERS	?

Funding: Project Funds 625-0929.09E

Justification: Document purchase for CRES as provided in Project Agreement

CLEARANCES: (1)SDPT

(2)MGMT

Signature

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DOCUMENT ACQUISITION ORDER FORM FOR CRES

Date: 10November1983

TO: MGMT
THRU: SDPT/AID
FROM: CRES - AID Project Number 625-0929.09E

Please order the following items:

Publisher: Canadian Hunger Foundation
Address: 323 Chapel Street
Ottawa, Ontario K1N 7Z2 CANADA

Quantity	ID No. if any	Author/Title	Unit Price
1	-	UN MANUEL DE TECHNOLOGIE APPROPRIEE	?

Funding: Project Funds 625-0929.09E

Justification: Document purchase for CRES as provided in Project Agreement

CLEARANCES: (1)SDPT L. Dash

(2)MGMT

Carl Kostenko
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DOCUMENT ACQUISITION ORDER FORM FOR CRES

Date: 4November1983

TO: MGMT
THRU: SDPT/AID
FROM: CRES - AID Project Number 625-0929.09E

Please order the following items:

Publisher: CHIRON
Address: 40, rue de Seine
75006, Paris, FRANCE

Quantity	ID No. if any	Author/Title	Unit Price
1	-	FABRICATION ARTISANALE DE CAPTEURS SOLAIRES (Cabirol/EDISUD)	28FF
1	-	ENERGIES NOUVELLES,ENERGIES POUR LA VIE. BILANS, ENJEUX. (Barrabe/Chevalier/Peguin-EDISUD)	44FF

Funding: Project Funds 625-0929.09E

Justification: Document purchase for CRES as provided in Project Agreement

CLEARANCES: (1)SDPT J. Dash

(2)MGMT

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DOCUMENT ACQUISITION ORDER FORM FOR CRES

Date: 10November1983

TO: MGMT
THRU: SDPT/AID
FROM: CRES - AID Project Number 625-0929.09E

Please order the following items:

Publisher: Club du Sahel
Address: OCDE
~~2, rue Andre Pascal~~
75775 Paris CEDEX 16, FRANCE

Quantity	ID No. if any	Author/Title	Unit Price
1	Sahel D(81)127	LES FOURNEAUX AMELIORES DANS LE SAHEL, RAPPORT SUR LES CARACTERISTIQUES THERMIQUES DES FOURNEAUX AMELIORES A BOIS (Roggeman, 1980)	?

Funding: Project Funds 625-0929.09E

Justification: Document purchase for CRES as provided in Project Agreement

CLEARANCES: (1)SDPT L. Dash

(2)MGMT

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Date: 1November83

TO: MGMT
THRU: SDPT/AID
FROM: CRES - AID Project Number 625-0929.09E

Please order the following items:

Publisher: COTA (Collectif d'Echange pour la Technologie Appropriee)
Address: 18, rue de la Sablonniere
B-1000 Bruxelles, BELGIQUE

Quantity	ID No. if any	Author/Title	Unit Price
1		L'ENERGIE SOLAIRE: SES UTILISATIONS DANS LES PAYS EN VOIE DE DEVELOPPEMENT (Cota)	400BF
1		SECHOIRS: ETAT D'AVANCEMENT DE LA TECHNOLOGIE DES SECHOIRS POUR LES APPLICATIONS RURALES (GATE/Cota)	?

Funding: Project Funds 625-0929.09E

Justification: Document purchase for CRES as provided in Project Agreement

CLEARANCES: (1)SDPT L. Dark

(2)MGMT

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DOCUMENT ACQUISITION ORDER FORM FOR CRES

Date: 8November1983

TO: MGMT
THRU: SDPT/AID
FROM: CRES - AID Project Number 625-0929.09E

Please order the following items:

Publisher: DS/DIU
Address: USAID
Washington,DC 20523 USA

Quantity	ID No. if any	Author/Title	Unit Price
		**********SEE ATTACHED LISTING**********	

Funding: Project Funds 625-0929.09E

Justification: Document purchase for CRES as provided in Project Agreement

CLEARANCES: (1)SDPT L. Dash

(2)MGMT

Signature

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Quantity	ID No.	AUTHOR/TITLE	
1	PN-AAH-389	THE CONTRIBUTION OF RENEWABLE RESOURCES AND ENERGY CONSERVATION AS ALTERNATIVES TO IMPORTED OIL IN DEVELOPING COUNTRIES. (Energy/Development International, P. Palmedo & P. Baldwin, 1980, AID/SOD/PDC-C-0301)	?
1	PN-AAJ-707	ENERGY FOR RURAL DEVELOPMENT; RENEWABLE RESOURCES AND ALTERNATIV TECHNOLOGIES FOR DEVELOPING COUNTRIES; SUPPLEMENT I. (National Research Council, 1981, AID/ta-C-1433)	?
1	PN-AAG-864	THE ECONOMICS OF RENEWABLE ENERGY SYSTEMS FOR DEVELOPING COUNTRI (D. French, 1979, AID/afr-C-1393)	?
1	PN-AAJ-209 PN-AAJ-210	AFRICA ENERGY SURVEY METHODOLOGY. VOLUMES I & II. (Donovan, Hamester & Rattien, Inc., 1979, AID/SOD/PDC-C-0147)	?
1	PD-AAL-385	MALI RENEWABLE ENERGY: A MID-PROJECT EVALUATION REPORT, APRIL-MA (D. Fall et al., USAID/Bamako, July 1982)	?
1	PN-AAJ-292	SOLAR COOKERS: TEST RESULTS & NEW DESIGNS (CONFERENCE PAPER, 197 (T.E. Bowman, Florida Institute of Technology, AID/TA-C-1333)	?
1	PD-AAG-801	CAPE VERDE RENEWABLE ENERGY PROJECT PAPER. (USAID/Cape Verde, February 1980)	?
1	PD-AAL-677	NIGER SOLAR ENERGY DEVELOPMENT PROJECT EVALUATION SUMMARY. (C.Pippitt, W. Collins, USAID/Niger, October 1982)	?

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Funding: Project Funds 625-0929.09E

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22 - BIOMASSE

221 - Biogaz

T53 : Bio-gas - gaz de fumier : chargement en continu (pays tempéré)
T54 : Bio-gas - gaz de fumier : chargement en continu grande capacité
T55 : Bio-gas - gaz de fumier : chargement discontinu
T56 : Bio-gas - gaz de fumier : chargement en continu petite capacité
T57 : Bio-gas - gaz de fumier : fermenteur à déplacement expérimental
T124 : Bio-gas - gaz de fumier : principe et facteur de la méthanisation de la matière organique
T125 : Bio-gas - gaz de fumier : fermenteur rotatoire. La maison au méthane
T344 : Culture d'algue : Spirulina et production de bio-gaz
T429 : Bio-gaz : digesteur continu simplifié (Thaïlande)
T434 : Bio-gaz : digesteur simple en continu (Népal)
T435 : Bio-gaz de fumier : digesteur simple en continu (Népal)
T458 : Bio-gaz : critères de choix d'un type de fermenteur
T459 : Bio-gaz - gaz de fumier : réalisation d'un fermenteur sphérique type chinois
T460 : Bio-gaz - gaz de fumier : réalisation d'un digesteur type chinois (forme soucoupe)
T461 : Bio-gaz - gaz de fumier : réalisation d'un digesteur type chinois (toit en béton)
T462 : Bio-gaz - gaz de fumier : réalisation d'un digesteur type chinois avec dalles de pierres et pierres
T463 : Bio-gaz - gaz de fumier : réalisation d'un digesteur type chinois (parallélépipédique)
T464 : Bio-gaz - gaz de fumier : vérification de l'étanchéité à l'air et à l'eau du digesteur
T465 : Bio-gaz - gaz de fumier : installation expérimentale en discontinu (type Boigneville)
T466 : Bio-gaz - gaz de fumier : production de compost enrichi et d'énergie en milieu rural (Haute Volta)
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T489 : Biogaz : collecte de l'eau de condensation dans les tuyaux de gaz
T516 : Biogaz : une installation en Mayenne (France) 1
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T538 : Biomasse : un nouveau couvercle gazométrique (type indien)
T601 : Biomasse : stockage-méthanisation sous le bâtiment d'élevage

222 - Gazogènes

T645 : Gazogène : principe
T646 : Gazogène : parties constitutives (1)
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T648 : Eléments de base pour la construction d'un gazogène

224 - Alcool

T649 : Production d'éthanol : substrats et collecte
T650 : Production d'éthanol : fermentation

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T333 : Le charbon de bois : approche générale de la carbonisation, partie I
T334 : Le charbon de bois : approche générale de la carbonisation, partie II
T335 : Carbonisation du bois : les meules forestières
T336 : Carbonisation du bois : four à charbon de bois fixe
T337 : Carbonisation du bois : four métallique transportable type "Magnein"
T490 : Dispositif simple pour confection de fagots
T651 : Fabrication de charbon à partir de déchets végétaux
T652 : Foyer "Tube in Basket" pour balles de riz

23 - ENERGIE SOLAIRE

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T625 : Energie solaire : capteur mural vertical (1)
T626 : Energie solaire : capteur mural vertical (2)
T627 : Energie solaire : capteur de fenêtre

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T87 : Traitement de l'eau : petits chauffe-eau solaire (deux)
T221 : Energie solaire : installation du capteur solaire CATADAS (1)
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T279 : Construction d'un simple chauffe-eau
T266 : Energie solaire : prototype de four solaire à moyenne et haute température

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T539 : Energie solaire : le capteur plan à eau (1)
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235 - Distillation solaire
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T136 : Production d'eau douce à partir d'eau saumâtre. Distillation solaire : éléments d'évaluation
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237 - Séchage solaire
T176 : Conditionnement pour la conservation des produits : séchoir solaire basculant
T177 : Conditionnement pour la conservation des produits : séchoir solaire (Brace)
T236 : Séchage de céréales : construction d'un séchoir solaire à partir de caisses en bois
T467 : Séchage solaire : principes généraux sur le séchage
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T469 : Séchage solaire : typologie des capteurs à air
T470 : Séchage solaire : les couvertures transparentes de capteurs solaires : fonctions et choix
T471 : Séchage solaire : unités de mesure, définition

24 - ENERGIE EOLIENNE
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25 - ENERGIE HYDRAULIQUE
T90 : Energie hydraulique : transmission de l'énergie d'une roue hydraulique
T91 : Energie hydraulique : grande roue hydraulique
T327 : Energie hydraulique : mini-centrale hydraulique "Hydrolec"
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1	6-0216	"Senegal moves to harness the sun" (P.Sormany/from: AFRICA NEWS, 23November1981,p.10-11)	?	
1	6-0181 ?	"Small solar plants for electricity supply" (Durand & Pirot/ from: SUN II, PROCEEDINGS OF THE INT. SOLAR ENERGY SOCIETY/ SDC D1.MF.2)		
1	6-0194	"A solar-powered irrigation system for Bakel, Senegal" (Keiser et al./from: SUN II: PROCEEDINGS OF THE INT. SOLAR ENERGY SOCIETY/SDC D1.MF.1)		

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Publisher: Superintendent of Documents
Address: U.S. Government Printing Office
Washington, D.C. 20402 USA

Quantity	ID No. if any	Author/Title	Unit Price
3yr. subscription	061-000-81001-3	DESKTOP LIBRARY (SOLAR TECHNICAL REPORTS) (bi-annual)	$60.00
(NB:This is the only type of subscription available)			

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Please order the following items:

Publisher: SWD (Steering Committee Wind Energy Developing Countries)
Address: c/oDHV Consulting Engineers
P.O. Box85
3800AB Amersfoort, THE NETHERLANDS

Quantity	ID No. if any	Author/Title	Unit Price
1	SWD-82-1	INTRODUCTION TO WIND ENERGY (E.H.Lysen)	$25.00
1	SWD-81-4	ASPECTS OF IRRIGATION WITH WINDMILLS (A.E.M.vanVilsteren)	$9.00
1	SWD-81-1	WIND ENERGY FOR WATER PUMPING IN CAPE VERDE(H.Beurskens)	$14.00
1	SWD-80-1	CONCEPTION DES PALES DES EOLIENNES A AXE HORIZONTAL(Jansen/Smulders)	
**********		ADVANCE PAYMENT REQUIRED**********	$5.00

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Please order the following items:

Publisher: TECHNICAL INSIGHTS, Inc.
Address: 158 Linwood Plaza
P.O. Box1304
Fort Lee, NEW JERSEY USA

Quantity	ID No. if any	Author/Title	Unit Price
1yr. subscription		BIOMASS DIGEST (monthly)	?

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Please order the following items:

Publisher: TECHNIQUE ET DOCUMENTATION - LAVOISIER
Address: 11, rue Lavoisier
75008 Paris, FRANCE

Quantity	ID No. if any	Author/Title	
1	-	LE RAYONNEMENT SOLAIRE: CONVERSION THERMIQUE ET APPLICATIONS (Bernard/Menguy/Schwartz, 2nd. ed.)	145FF
1	-	INGENIERIE DES SYSTEMES SOLAIRES: APPLICATIONS A L'HABITAT (Guarracino/Sfeir)	250FF
1	-	VALORISATION ENERGETIQUE DES SOUS-PRODUITS AGRICOLES	374FF
1	-	L'ENERGIE SOLAIRE AU SERVICE DU DEVELOPPEMENT	150FF

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Please order the following items:

Publisher: Technology Application Center
Address: University of New Mexico
Albuquerque, New Mexico USA

Quantity	ID No. if any	Author/Title	Unit P
1	TAC-SPG-82-001	SOLAR POWER GENERATION:A BIBLIOGRAPHY WITH ABSTRACTS QUARTERLY UPDATE JANUARY-MARCH 1982	?
1	TAC-SPG-82-002	SOLAR POWER GENERATION:A BIBLIOGRAPHY WITH ABSTRACTS QUARTERLY UPDATE APRIL-JUNE 1982	?
1	TAC-SPG-82-003	SOLAR POWER GENERATION:A BIBLIOGRAPHY WITH ABSTRACTS QUARTERLY UPDATE JULY-SEPTEMBER 1982	?
1	TAC-SPG-82-004	SOLAR POWER GENERATION:A BIBLIOGRAPHY WITH ABSTRACTS QUARTERLY UPDATE OCTOBER-DECEMBER 182	

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Date: 10November1983

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Please order the following items:

Publisher: UNITED NATIONS
Address: Sales Section
New York, New York 10017

Quantity	ID No. if any	Author/Title	Unit
1	E.81.I.24	REPORT OF THE UNITED NATIONS CONFERENCE ON NEW AND RENEWABLE SOURCES OF ENERGY (1981) *French translation if available*	$11.00

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CLEARANCES: (1)SDPT L. Dash

(2)MGMT

Gail Kostenko

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Please order the following items:

Publisher: VANCE BIBLIOGRAPHIES
Address: P.O. Box229
Monticello, Illinois 61856 USA

Quantity	ID No. if any	Author/Title	Unit Pri
1	-	SOLAR ARCHITECTURE: A BIBLIOGRAPHY OF MONOGRAPHS (1981)	$15.25
1	-	SOLAR BATTERIES: A BIBLIOGRAPHY (1981)	$7.50

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Please order the following items:

Publisher: VDI-VERLAG GmbH
Address: Postfach 1139
D-4000 Duesseldorf 1, FEDERAL REPUBLIC OF GERMANY

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1yr. subscription		VDI-NACHRICHTEN (Verein deutche Ingenieure)	?

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Please order the following items:

Publisher: Verlagsgesellschaft mbH & Co.
Address: Leser-Service
MonchhofstraBe 15
D-6900 Heidelberg, FEDERAL REPUBLIC OF GERM/

Quan-tity	ID No. if any	Author/Title	
1yr. subscription		SPEKTRUM DER WISSENSCHAFT	?

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(2)MGMT

Carl Koestenbo

Signature

Date 1November1983

TO: MGMT
THRU: SDPT/AID
FROM: CRES - AID Project Number 625-0929.09E

Please order the following items:

Publisher: VITA Publications
Address: 80 S. Early St.
Alexandria, VA. 22304 USA

Quantity	ID No. if any	Author/Title	Unit Price
1 set		SOLAR POWER BIBLIOGRAPHY-Vol.1-4 (1983)	$65.00
1	-	WOOD CONSERVING COOK STOVES: A DESIGN GUIDE (1980)	?
1	-	LAB TESTS OF FIRED CLAY STOVES, THE ECONOMICS OF IMPROVED STOVES, AND STEADY STATE HEAT LOSS FROM MASSIVE STOVES (Yameogo/Ouedraogo/Baldwin, 1982)	?

Funding: Project Funds 625-0929.09E

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CLEARANCES: (1)SDPT [signature]

(2)MGMT

[signature]
Signature

Date: 1 November 1983

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THRU SDPT/AID
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Please order the following items:

Publisher: WORLDWATCH INSTITUTE
Address: 1776 Massachusetts Ave.NW
Washington,DC 20036 USA

Quantity	ID No, if any	Author/Title	Unit Price
1	Paper45	WIND POWER:A TURNING POINT (C. Flavin)	$2.00
1	Paper44	RIVERS OF ENERGY:THE HYDROPOWER POTENTIAL(D.Deudney)	$2.00
1	Paper42	WOOD:AN ANCIENT FUEL WITH A NEW FUTURE (N. Smith)	$2.00
1	Paper35	FOOD OR FUEL:NEW COMPETITION FOR THE WORLD'S CROPLAND (L.Brown)	$2.00
1	Paper19	THE SOLAR ENERGY TIMETABLE (D. Hayes)	$2.00
1	Paper15	ENERGY FOR DEVELOPMENT:THIRD WORLD OPTIONS (D.Hayes)	$2.00
1	Paper11	ENERGY: THE SOLAR PROSPECT (D. Hayes)	$2.00
1	Paper1	THE OTHER ENERGY CRISIS:FIREWOOD (E. Eckholm)	$2.00

Funding: Project Funds 625-0929.09E

Justification: Document purchase for CRES as provided in Project Agreement

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(2) MGMT _____

Signature

ANNEX II: DATA BASES SEARCHED, ORGANIZATIONS AND PERSONS CONTACTED IN THE PREPARATION OF THIS CONSULTANCY

Data Bases Searched:

-DEVELOP Data Base (contact for access information: Control Data Corporation, Box 0, Minneapolis, Minnesota 55440. Telephone: 800-328-1870/612-853-7942.)

-USAID DEVELOPMENT INFORMATION UTILIZATION Data Base (contact for access information: USAID/DIU, Washington, D.C. 20523. Telephone: 703-235-1000.)

-DOE ENERGY Data Base (contact for access information: U.S. Department of Energy Technical Information Center, P.O. Box 62, Oakridge, Tennessee 37830. Telephone: 615-576-1301.)

Organizations and Persons Contacted:

-U.S. Department of Energy, Renewable Energy/Solar Technology Division, 1000 Independence Ave. S.W., Washington, D.C. 20585.
-Jay Holmes (telephone: 202-252-8090)
-Morris Skalka (telephone: 202-252-6436)

-U.S. Department of Energy, Technical Information Center, P.O. Box 62, Oakridge, Tennessee 37830. Telephone: 615-576-1301.

-SERI (Solar Energy Research Institute), Technical Information Branch, 1617 Cole Blvd., Golden, Colorado 80401.
-Charles Berberich (telephone: 303-231-1006)
-Donna Hawkins (telephone: 303-231-1937)

-Solar America, Inc., 1600 Connecticut Ave. N.W., Washington, D.C. 20036.
-Judith Gerrie (telephone: 202-887-0153)

-VITA (Volunteers in Technical Assistance), 1815 N. Lynn St., Arlington, Virginia.
-Brij Mathur (telephone: 703-276-1800)

-USAID Development Information Division, Washington, D.C. 20523.
-Lida Allen (telephone: 703-235-9037)

-USAID Office of Energy, Washington, D.C. 20523
-Eric Peterson (telephone: 703-235-8694)

-USAID Sahel Development Program, Washington, D.C. 20523
-Dellaphine Rauch (telephone: 202-632-8834)

National Oceanic and Atmospheric Administration (NOAA), Environmental Science Information Center, 11400 Rockville Pike, Rockville, Maryland 20852. Telephone: 301-443-8137.

Sheladia Associates, 5711 Sarvis Ave., Riverdale, Maryland 20737.
-Richard Flood (telephone: 301-779-4313)
Note: This consulting firm provides institutional support, through a USAID contract, to the Mali National Solar Laboratory.

James Howe (SERI, retired)

-Club du Sahel, OECD, 2 rue Andre Pascal, 75775 Paris CEDEX 16.
-Art Fell (telephone: 524-8960)

-ANVAR (Agence Nationale de Valorisation de la Recherche), 43 rue de Caumartin, 75436 Paris CEDEX 09. Telephone: 266-9310.
-Mme. Allagbada (CRES Antenne)
-Mme. Francoise Lambert (CRES Antenne)
-M. Rollet (Editeur, "ANVAR")
-Mme. Roxanne Lizambert (Bibliotheqaire, ANVAR)

GRET (Groupe de Recherches et Echanges Technologiques), 34 rue Dumont d'Urville, 75116 Paris. Telephone: 502-1010)
-Denise DuBoscq
-Brigette Brun
-Anne-Marie Foussat

UNESCO Energy Information Division, 7 Place de Fontenoy, 75700 Paris. Telephone; 577-1610.
-Mr. Charles Gottschalk, Chief of the Divsion, and his assistant Ms. Delia Torrijos, were both on travel mission at the time of the consultant's work in Paris.