

Return to

PD BAN 117  
Polanda

UNITED STATES GOVERNMENT

# memorandum

DATE:

REPLY TO  
ATTN OF: AFR/PD, Norman Cohen

SUBJECT: ECPR Meeting to be Held

TO: DAA/AFR, A. R. Love

675-0208

Country	Guinea
Project Name	Renewable Energy Technology Development (OPG)
LOP Funding	\$461,000
FY 83 Obligation	\$461,000
Term of Project	Two Years
Description	The PVO, Volunteers in Technical Assistance, will field test and evaluate the use of cinva ram brick for local construction and improved wood and charcoal cook stoves. They will also upgrade an appropriate technology documentation center.
Purpose	The project will develop Guinean research and development capabilities and establish a basis for the adoption of a variety of technologies that are cost-effective and socially acceptable in Guinean-specific condition.
Expected Development Impact	To reduce the growing dependence on expensive imported fossil fuels and to slow desertification problem in Guinea.

**Attachments:**

- 1) PID Issues Cable
- 2) PID/OPG Request



Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

OPTIONAL FORM NO. 10  
(REV. 7-78)  
GSA FPMR (41 CFR) 101-11.6  
5010-112

UNCLASSIFIED  
Department of State

OUTGOING  
TELEGRAM

PAGE 01 STATE 042101  
ORIGIN AID-00

6027 063415 AID5787

STATE 042101

6027 063415 AID578

VITA USE THE SYSTEM THEY PROPOSED AT THEIR DECEMBER 82 CONFERENCE ON WOODSTOVES TO ESTABLISH COMMON STANDARDS FOR TESTING.

ORIGIN OFFICE AFDR-06  
INFO AAAF-02 AFCW-03 AFDP-06 FVA-01 PPEM-01 PDPR-01 GC-01  
GCAF-01 GCFL-01 STEY-01 SAST-01 PVC-02 AFDA-01 STEM-01  
DOE-01 OPIC-10 RELO-01 MAST-01 AFPM-01 8H-00 /043 AD

G. THE PAPER MUST CONTAIN A MORE ADEQUATE DESCRIPTION OF THE BENEFICIARIES.

INFO CCT-00 INR-10 AF-00 EB-00 H-01 10-15 /079 R

H. THE EOPS IN THE LOGFRAME ARE GENERAL AND SHOULD BE MADE MORE SPECIFIC.

DRAFTED BY AID/AFR/PD/CCWAP:RANDERSON:BFC  
APPROVED BY AID/AFR/PD:NGOHN  
AID/AFR/CA:BLANE (DRAFT)  
AID/AFR/DP:GCAUVIN (DRAFT)  
AID/GC/AFR:DROBERTSON (DRAFT)  
AID/PPC/PDPR:SKLEIN (DRAFT)  
AID/AFR/TR/ARD:HWARD (DRAFT)  
AID/AFR/PMR:HSMITH (INFO)

I. A CONGRESSIONAL NOTIFICATION IS REQUIRED PRIOR TO AUTHORIZATION.

J. THE PROPOSAL CONTAINED NO IEE. THE SUBMISSION OF THE IEE MAY BE DEFERRED UNTIL THE FIELD TESTING STAGE OF THE PROJECT AND SUBMITTED TO REDSO/WCA ENVIRONMENTAL ADVISOR FOR REVIEW. SHULTZ

-----072217 160049Z /30

R 152018Z FEB 83  
FM SECSTATE WASHDC  
TO AMEMBASSY CONAKRY  
INFO AMEMBASSY ABIDJAN

UNCLAS STATE 042101

AIDAC, ABIDJAN FOR REDSO/WCA

E.O. 12356: N/A

TAGS:

SUBJECT: GUINEA-RENEWABLE ENERGY TECHNOLOGY DEVELOPMENT  
VITA OPG ISSUES MEETING

1. THE OPG WAS REVIEWED AT AN ISSUES MEETING ON JANUARY 31. THOSE ATTENDING FELT THAT THE PROJECT SHOULD BE PRESENTED TO THE ECPR FOR APPROVAL, SUBJECT TO THE FOLLOWING:

A. THE BIOGAS COMPONENT SHOULD BE ELIMINATED AS, IT IS STILL IN THE INITIAL STAGES OF DEVELOPMENT, HAS NOT BEEN SUCCESSFULLY REPLICATED, IS A VERY COMPLICATED TECHNOLOGY, AND IS UNLIKELY TO HAVE SIGNIFICANT APPLICATION IN GUINEA AT THE END OF THE PROJECT.

B. AAO MUST PROVIDE RAT, ONALE FOR THIS PROJECT IN STRATEGY FOR GUINEA. DOES IT FIT? WHAT IS USAID STRATEGY FOR POST PROJECT ACTIVITIES? IS NO FUNDING CONTEMPLATED BEYOND THIS PHASE?

C. WE ARE CONCERNED ABOUT THE POSSIBLE LACK OF ACCOUNTABILITY IN VITA'S PROPOSED IMPLEMENTATION OF THE COUNTERPART FUNDS. THERE MUST BE CRITERIA FOR SELECTION OF PARTICIPANTS AND AN APPROVED REPORTING SYSTEM BEFORE THE PROJECT CAN BE AUTHORIZED.

D. BOTH CINVA RAMS AND WOODSTOVES ARE MORE PROPERLY WITHIN THE SCOPE OF PRIVATE SECTOR ACTIVITIES. WE AGREE THAT IT IS A PROPER ROLE OF THE GOVERNMENT TO PROMOTE THE USE OF THESE TECHNOLOGIES, BUT QUESTION GOVT ROLE IN THE MANUFACTURE AND DISTRIBUTION OF THE TECHNOLOGIES. IS THIS NOT BETTER SUITED TO THE PRIVATE SECTOR? WE WOULD QUESTION SUBGRANTS BEING USED TO SUPPLY FAPAS WITH EQUIPMENT.

E. WE NEED ASSURANCE FROM THE GOG THAT THEY WILL PROVIDE THEIR SUPPORT TO THE PROJECT. WHAT IS THE STATUS OF THE REQUEST FROM THE GOG TO THE UNDP FOR FUNDS FOR THE RAW MATERIALS NEEDED BY THE PROJECT? THE GOG'S COMMITMENT MUST BE SPECIFIC AND WRITTEN.

F. THE PROJECT MUST INCLUDE A SYSTEM FOR EVALUATION AND FEEDBACK TO AID, INCLUDING BOTH AN EVALUATION OF THE PROJECT AND AN EVALUATION SYSTEM FOR EACH TECHNOLOGY. SUGGEST

UNCLASSIFIED

2

Recd 4/5/83

COVERING MEMORANDUM

GUINEA RENEWABLE ENERGY TECHNOLOGY DEVELOPMENT  
PROJECT VITA/OPG

This project proposal has been favorably reviewed by the AAO/Conakry and technical staff of REDSO/WCA. The project has been warmly endorsed by the GOG, and from the AAO's point of view is an appropriate project which will make minimal demands on our limited staff. An important bi-product of this project will be the establishment in Guinea of a highly qualified PVO; the AAO feels that VITA will provide the GOG valuable access to technical expertise not now readily available in Guinea.

AAO/Conakry requests that should AID/W approve this OPG, AID/W undertake any negotiations with VITA necessary for finalization of the OPG. We suggest that a Condition Precedent be included for the disbursement of funds for the Cinva Ram Block technician; the CP should require a finalized written agreement with the UN-CDF or other donor to furnish the raw material for the Cinva Ram machines. The GOG has submitted a request to the UN-CDF for this funding and we anticipate a favorable decision subsequent to AID approval of the OPG.

PROJECT FUNDING (\$000)

	FY 83	FY 84	TOTAL
AID	461	-	461
GOG	123	123	246
TOTAL	584	123	707

AAO/Conakry

*Edward J. Costello*

Date:

*12/1/83*

O.P.G.  
Proposal to U.S.A.I.D./Guinea  
for a Joint VITA-Government  
of Guinea Renewable Energy Technology  
Development Project

Submitted by:

Volunteers in Technical Assistance  
3706 Rhode Island Avenue  
Mt. Rainier, Maryland 20712  
USA

Revised August 6, 1982

## I. PROJECT SUMMARY

The growing financial burden of fossil fuel imports in developing countries has raised the issue of alternative energy use. Thus far, research and development of energy alternatives currently underway in industrialized countries depends greatly on economic and institutional structures which do not exist in developing countries. Field testing energy alternatives under specific conditions to determine cost effectiveness and social usefulness are essential criteria for establishing alternative energy policies and programs at the national level.

In an effort to further develop Guinean research and development capabilities, to establish a basis for the adoption of a variety of technologies, to reduce the use of fossil fuels and help slow the desertification problem in Guinea, VITA proposes a multi-faceted 2-year pilot project to field test and evaluate the use of biogas, cinva ram brick and improved wood and charcoal stoves. This project will also provide support to an appropriate technology documentation center in an effort to upgrade research facilities and to increase access to information on alternative sources of energy and technology.

Selection of these project activities was based on the recommendations made in the General Survey of Appropriate Technology in Guinea, which was prepared by VITA in March 1981 for the Guinean Government, and on the Guinean Government's commitment to reduce fuel consumption through more efficient energy use. Development of biogas systems, cinva ram block, construction techniques and improved wood and charcoal stoves will provide field experience to Guinean engineers as well as establish energy alternatives in Guinea through the collection and analysis of statistical data on rural energy use and on the technical performance of prototypes developed. Once the field testing information has been collected, the Centre National de Productivite will assume responsibility for dissemination of the successful prototype on a national scale.

## II. PROJECT BACKGROUND

Since 1980 VITA has provided technical support and assistance to the Guinean government regarding appropriate technology issues, particularly in the field of energy resources. In November 1980 VITA sponsored a 4 man team of specialists who prepared an overview of appropriate technology options for Guinea.<sup>1</sup> It also outlined specific areas where VITA could provide technical assistance regarding the development of such appropriate technologies, and is the basis for recommendations made by VITA to the Guinean government for future assistance in the field of appropriate technology.

In response to a request for assistance in rural housing technologies made by the Minister of FAPA, VITA sent a prototype cinva ram brick press and technical expert to Guinea in May 1981. As a result of VITA's support, the Guinean government has begun a national program to introduce cinva ram brick presses to the rural areas. Plans for reproducing the brick presses and other small agricultural machines are underway and funding for the project raw materials has been requested by the Guinean government from the UN Capital Development Fund (see attachments).

In an effort to upgrade information facilities on appropriate technology, VITA has provided 3 weeks of training to the Director of the Centre National de Productivite (CNP) on documentation center organization and procedures and has sent substantial documentation and literature on appropriate technologies and energy issues to the CNP documentation center.

The CNP's central role in promoting appropriate technologies in all sectors has recently been reinforced. The President, A. Sekou Toure, has created an interministerial committee for the development and dissemination of appropriate technologies in Guinea which is to be directed by the CNP. The CNP has requested that VITA continue to support the Center and help develop small-scale projects to make new technologies available in the rural sector.

The following project proposal, endorsed by the Guinean government, is being submitted for funding under the auspices of an Operational Program Grant (OPG) by USAID to Volunteers in Technical Assistance (VITA), a private voluntary organization.

---

<sup>1</sup>This team consisted of an agronomist, a nutritionist, a hydrologist and an energy resource expert.

### III. PROJECT DESCRIPTION

As stated earlier, the problem which VITA wishes to address is one of determining viable energy alternatives for use in Guinea. It is a complex problem and requires support at various levels. To resolve the problem, VITA proposes the development of specific technologies, assessing their performance in the Guinean context, and upgrading the technical capacity of Guinean technicians through on-the-job training so that large scale dissemination of these technologies can take place.

Although there has been substantial discussions regarding the development of alternative energy technologies at the policy level, little practical experimentation has been done. Without fully understanding the technical and economic feasibility of these options, national planning remains unrealistic and makes little progress towards resolving rural, energy related problems. By developing, field testing and disseminating specific technologies in selected rural areas, these ambiguities can be overcome.

The project activity will pursue the following objectives:

- 1) collect detailed socio-economic data on traditional energy use and needs;
- 2) develop prototypes and give on-the-job training to Guinean technicians;
- 3) field test the performance of the prototype technologies;
- 4) disseminate the successfully tested prototypes in selected communities;
- 5) evaluate the technologies in terms of their technical, social and economic impact;
- 6) make recommendations for future nationwide dissemination efforts.

To accomplish each of the above mentioned objectives, VITA will provide a long term technical advisor to the CNP who, in collaboration with the CNP Project Director, will coordinate the utilization of human and financial resources and training of counterparts for this program. The VITA Technical Advisor will participate in this project for a period of two years and will be based in Conakry. A job description for the Technical Advisor is contained in the appendices.

The project will develop, test, and disseminate three specific technologies:

- 1) biogas generation and utilization
- 2) cinva ram block construction
- 3) improved wood and charcoal stoves.

In addition to the above mentioned activities, an institution-strengthening aspect of the project proposes to provide material and technical support to the CNP's Appropriate Technology Documentation Center. The CNP will be the GOG executing agency. A more detailed description of each activity and CNP's role follows this general description.

## A. Biogas Generation and Utilization

In recent years the Guinean government has become interested in the possible use of biogas in rural areas and on state farms in an effort to reduce the use of wood fuel and to generate electricity. Recommendations made in the VITA General Survey of Appropriate Technology in Guinea; Energy Sector conclude that conditions are favorable for biogas use, particularly at centers, such as state farms where sufficient quantities of cow dung could be easily collected, and where there already exist skilled people who can operate and maintain the biogas-digesters. Mr. Senainon Behanzin, currently the Minister of FAPA (state assisted farms), has been a major promoter of biogas systems and has traveled to India and China to visit community biogas programs. Through his efforts, FAO funded a preliminary study on biogas use in Guinea in 1981. The study concluded that sufficient wood and vegetable wastes, favorable climatic conditions and adequate livestock populations exist for the development of biogas systems in Guinea. A small biogas system was installed at the National Agricultural School at Foulaya, but lack of technical know-how and funding have prevented further testing and prototype development.

VITA proposes to provide a biogas technician to the Guinean government for a period of 3 months. During this time he/she will work with the VITA Technical Advisor and a team of engineers from the Ministries of Energy and FAPA to complete the experimental work that was begun at Foulaya and then install three small biogas systems in three different geographic and socio-economic environments. One system will be installed on the state operated cattle ranch at Ditinn, located in the Fouta Djallon, where adequate amounts of animal dung and farm wastes are available, and where increasing desertification has reduced the availability of wood fuel. The other two systems will be installed in large village communities in different geographic regions. They will be selected by the Bureau d'Etudes in the Ministries of Energy and FAPA in collaboration with the biogas expert and VITA Technical Advisor.

The cost of a small biogas system is relatively low and can be built with materials found locally and the assistance of community artisans such as masons and metalsmiths. The GOG contribution will include the supply of all materials needed to construct and install the four biogas systems, transport and housing for the VITA biogas technician while he/she is out of Conakry.

The project will be implemented by CNP in collaboration with ongoing Ministries of Energy and FAPA activities. The CNP will provide logistical support and coordinate project activities outlined in this proposal. Their role and responsibilities will be discussed in greater detail in the Implementation section.

---

<sup>1</sup>The energy generated from these systems will be used for cooking and lighting.

At the end of one year, four biogas systems will have been installed, Guinean engineers will have had on-the-job training in the installation and operation of biogas systems, rural communities will have had an initial exposure to biogas systems and their use, and an evaluation of project activities and recommendations for future biogas development will have been started. During the project year, the CNP and VITA Technical Advisor will make follow up site visits, report on the performance and acceptability of the systems, and make recommendations to USAID and the GOG in regard to possible follow-up activities.

INPUTS/Biogas

VITA

-Technical Assistance biogas expert, 3 months

GOG counterpart  
syli furd

-Guinean engineers  
-Transportation  
-Commodities  
-Housing for Technical Assistants in the interior.

B. Cinva Ram Construction

As one of the means by which the GOG hopes to improve conditions in the rural areas of Guinea, the construction of low cost housing units is high on the list of priorities. Such low cost housing should make maximal use of local materials and labor and, hopefully, provide employment for artisan brick makers and builders. As part of this general objective, the GOG has designated low cost dwellings as a high priority in its development plans and has indicated that cinva ram block construction (production of pressed bricks composed of earth, clay and 4-5% cement) should begin as soon as possible.

In May 1981, VITA sent a cinva ram block machine and an engineer to Guinea to demonstrate cinva block production and use. During his stay in Guinea, the engineer worked with 2 technicians from the CNP and 2 FAPA engineers. The results obtained were very encouraging and, consequently, the Minister of FAPA requested that cinva ram machines be produced in Guinea and distributed to the FAPAs. Other Guinean organizations interested in this technology are (1) the Ministry of Urbanism and Housing; (2) the Construction Cooperative; and (3) private artisans.

The "Centre Pilote d'Industrie" has been identified as the best facility to produce the machines since it has both the equipment and personnel necessary to produce four cinva ram machines each day. Among its 4,000 Volunteers VITA has a technician with 20 years experience in the construction and use of cinva ram machines in Asia and Latin America. This individual also has experience in low cost, self-help housing projects.

As part of this program, it is planned that the VITA cinva ram technician will spend two months in Guinea during which he will work with CNP and Centre Pilote personnel to develop a local cinva ram production capability and instruct government personnel as well as private artisans in their use and maintenance.

The Minister of FAPAS has addressed a letter to the UNDP/Conakry (see Oct. 1981 attachment) requesting the United Nations Equipment Fund (UNEF) to provide the raw materials for 1050 cinva ram machines. It is anticipated that a positive decision will be made during May 1982 with regard to this material by UNEF.

Following the visit of the VITA cinva ram technician, the CNP staff and long-term VITA Technical Advisor will oversee both the production of the machines at the "Centre Pilote" and their utilization by the FAPAS, Ministry of Urbanism and Housing, Construction Cooperative and private artisans. Since no one dissemination strategy can guarantee the acceptance of a technology, both governmental and non-governmental channels will be pursued to increase the likelihood of success.

Through the use of a Small Grants Fund, local artisans will be able to purchase cinva ram machines and market both the blocks as well as construction services that make use of the blocks. Grantees will be artisans with an already established reputation and clientele in the construction trade and both the CNP and VITA Technical Advisor will be responsible for maintaining contact with grantee artisans and assessing their interest in pursuing cinva ram construction activities. Both the CNP and VITA Technical Advisor will provide administrative and technical assistance to grantee artisans.

#### INPUTS/Cinva Ram

##### VITA

-Cinva ram technician, 2 months

##### GOG

- Technical staff, 2 engineers
- Transportation costs
- Upcountry housing
- Artisan small grants

##### UNEF

-Raw material from 1050 Cinva ram machines

#### C. Improved Wood and Charcoal Stoves

Deforestation is an increasingly serious problem in the Upper and Middle regions of Guinea. Labor costs related to fuel wood gathering are considered high. The FY 83 USAID ODSS has recommended assistance in promoting the use of improved wood consumption.

Most wood stove models require little capital investment and are built with materials and labor found locally. Depending on the effectiveness of the stove models, the heat required for cooking, and the types of wood

used, wood fuel consumption can be reduced up to 58 percent. VITA has already had considerable field experience with wood stove testing in the Sahel, and is currently coordinating all woodstove technical efforts in the region. As a result, a number of successful prototypes and dissemination strategies have already been developed. In a two month period one technician was able to evaluate five different wood stoves, two being stoves currently used by Voltaic women and three experimental models.

VITA proposes to set up a similar testing center at a Centre de Promotion Feminine (CPF) in Upper or Middle Guinea to build and test various stove models. A VITA wood and charcoal stove expert will work in Guinea for 2 two-month periods. During these periods, he/she will:

- 1) evaluate data collected by CNP on wood fuel consumption and traditional cooking methods;
- 2) build prototype stove models and provide on-the-job training to Guinean technicians;
- 3) demonstrate operational stoves to women in selected communities;
- 4) evaluate stove technical performance and make modifications;
- 5) make recommendations for further wood stove dissemination in collaboration with technical staff and local women's groups.

With the assistance of the CNP, VITA Technical Advisor and Centre National des Femmes/Centre Promotion Feminine staff members, the VITA stove expert will develop a two-year work plan. The CNP will provide all logistical support for the team which will be based at a CPF to be selected.

At the end of six months, preliminary lab testing of a number of stove types will have been completed. The VITA Technical Advisor and CNP staff members will have collected information on fuel wood consumption and traditional cooking methods to assure the introduction of the best possible model to the community.

Once a number of successful laboratory prototypes have been developed, the Director of the CPF will work closely with the VITA Technical Advisor, and CNP Socioeconomist to organize volunteer women to participate in assessing the effectiveness and acceptability of the improved stoves over a three month field trial period. At the end of program year one, based on results of both laboratory and field testing, the CNP/VITA team will design a detailed dissemination plan for improved woodstoves to be carried out by the Ministry of Energy and the Comite National des Femmes/Centre Promotion Feminine.

INPUTS/Improved Wood  
and Charcoal Stoves

VITA

-wood stove expert, 4 months

Cost Counterpart  
Svli Funds

-Technical staff, 2-3 engineers  
-Transportation  
-Materials (wood stove construction)  
-Up country housing  
-Testing center

D. Appropriate Technology Documentation Center

The CNP is currently involved in setting up a documentation facility on appropriate technology. In support of CNP's efforts to upgrade information systems and increase access to literature on appropriate technologies, VITA has provided 3 weeks of training to the CNP director in its own system of classification and documentation center organization. The CNP center has already been built, and VITA has supplied numerous appropriate technology publications. A lack of documentation center equipment, however, has prevented the center from becoming operational. The CNP has asked for further documentation and material support from VITA. In an effort to upgrade CNP's capabilities in providing access to information on appropriate technology, VITA proposes to continue support to the center by providing equipment and more documents on appropriate technology. This support would include metal shelves, card catalogues and metal filing cabinets and the reproduction of various publications available to VITA on appropriate technology.

By the end of the project the equipment and additional publications will be in place and, during the first VITA staff visit, assistance will be provided to help make the center operational.

Inputs

Commodities: Metal shelves, card catalogues, file cabinets and appropriate technology publications.

#### IV. IMPLEMENTATION

The CNP will be the Guinean agency responsible for the implementation of VITA's proposed project activities.<sup>1</sup> Because of CNP's central role in appropriate technology development, it is considered the most suitable organization to perform the broad task of coordinating the project activities among the GOG ministries concerned. The CNP is organized into six major divisions. The Technology and Development Division will assume all responsibilities for the implementation of the project. The CNP director will name a project director from this Division and will oversee all project activities.

The CNP has semi-autonomous administrative standing under the Ministry of Information and is presided over by the President's Office. It has well established links with most Ministries, particularly those dealing with the rural sector. The CNP is the official link between Guinean government agencies, and information and training for the Guinean people. Given the wide variety of project activities and the number of Ministries which will participate in this project, it is essential that an officially recognized agency provide the coordination and management of the project. The CNP has had considerable experience in project management and implementation as a result of a series of UN/ILO projects. A major function of the CNP is to provide management assistance to public owned enterprises and teach public administration and accounting. In the past two years VITA has worked closely with the CNP in developing an appropriate technology program for Guinea, during which time the CNP staff has provided valuable logistic and liaison support.

The CNP Project Director will be responsible for the following activities:

- Achieve the goals of the project, including the development and dissemination of the 3 project technologies
- Assist with the arrival of the long term VITA Technical Advisor
- Help obtain and prepare materials prior to arrival of the short term technical assistants
- Work closely with the VITA long term Technical Advisor in all aspects of project planning, implementation and evaluation
- Serve as liaison between VITA and all Guinean agencies involved in the project activities
- Establish working groups for each proposed activity (These work groups will include engineers from the Ministries of Energy and FAPA, and technicians from the CNP Technical Division)

---

<sup>1</sup>See Annex 1 for more detailed information about the CNP.

-Provide logistical support including:

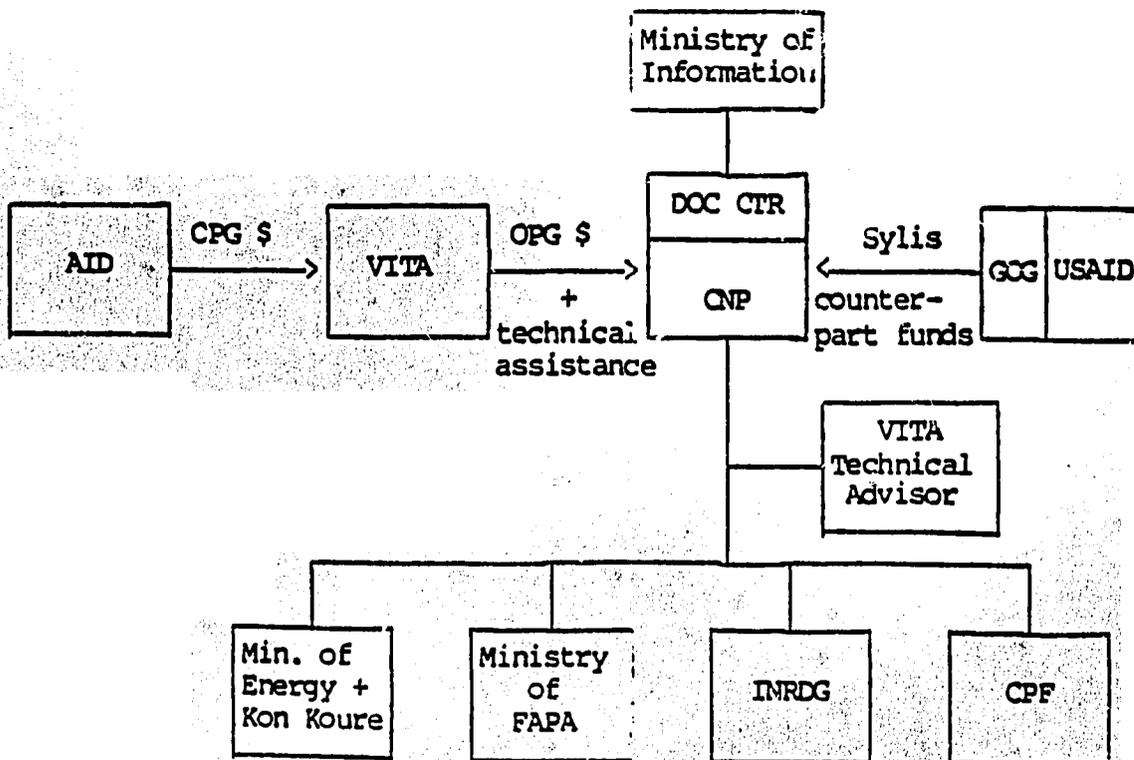
- a) making travel arrangements for work groups;
- b) securing authorization for test activities at rural testing sites;
- c) providing transport for work groups from Conakry to field testing sites;
- d) arranging for housing for VITA technical assistance while up country;
- e) organizing and collecting materials needed for designing and testing prototypes.

-Disburse and manage USAID counterpart Syli contributions

-Provide administrative support in the preparation of final reports and evaluations

The overall time frame for the project will be 2 years. During the course of the project VITA home office staff will make two scheduled trips to Guinea to provide follow up support to VITA technical assistants and to the CNP staff. The second visit will take place at the end of the project period and will be concerned with setting up the procedures for the final evaluation and report on the various project activities.

The following diagram illustrates the implementation roles of the various organizations involved and illustrates the pivotal role to be played by the CNP.

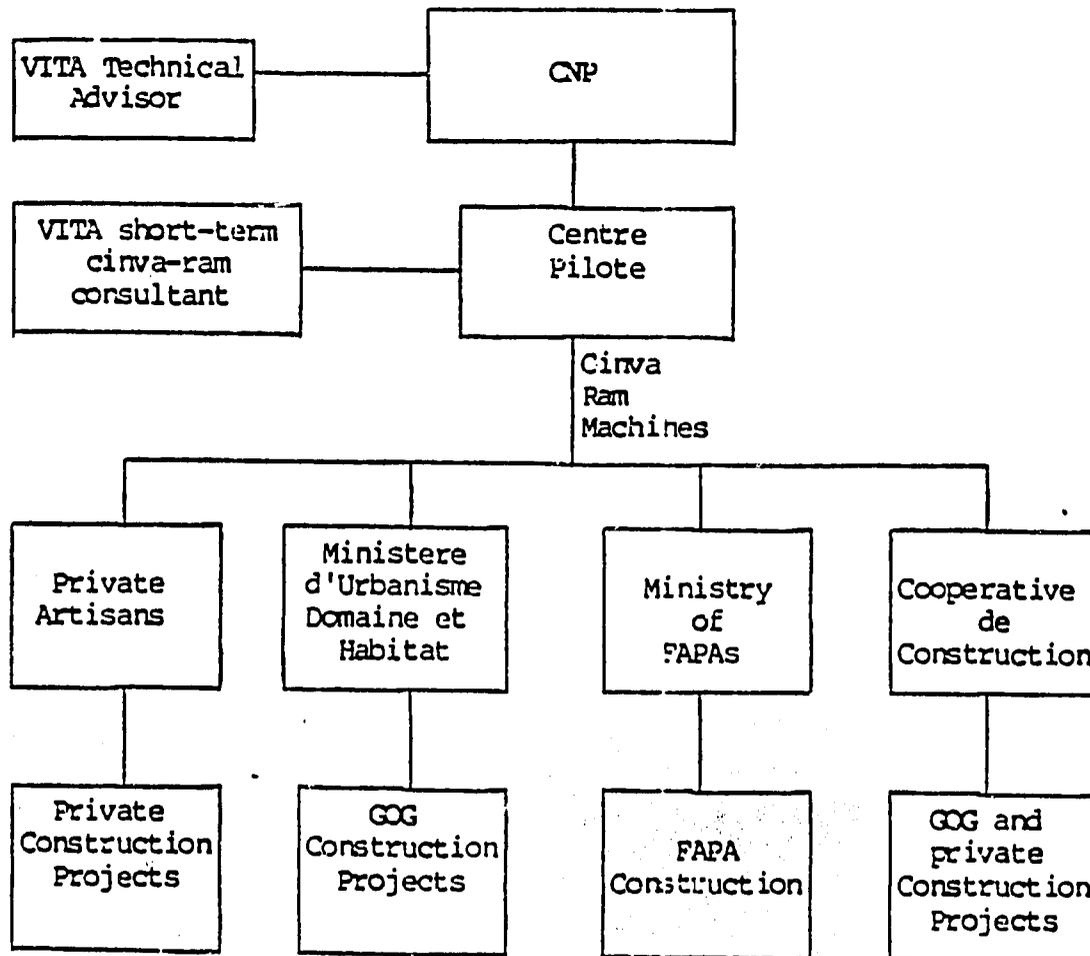


## DISSEMINATION

Due to the differing nature of the three technologies that will be developed under this program, the means by which successful prototypes will be disseminated to the rural population will also vary. One of VITA's basic policies is to make maximal use of already existing institutions that have an established outreach capability. As a result, it is planned to disseminate the three technologies through existing GOG agencies as well as through encouraging private entrepreneurs to incorporate successfully proven prototypes into their ongoing production/sales activities.

## CINVA RAM

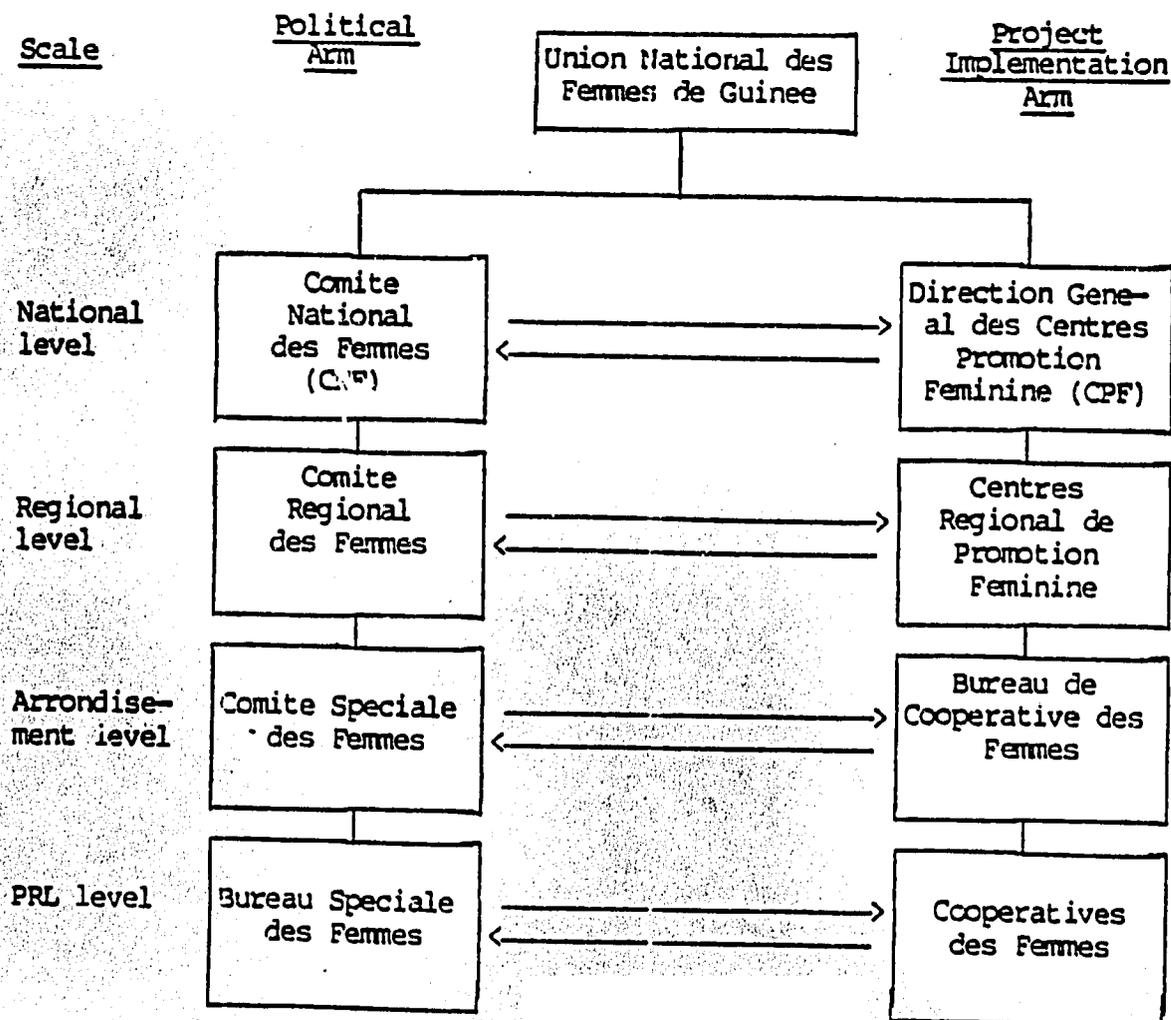
Cinva ram presses will be initially produced at the Centre Pilote, which is located just outside Conakry. Once a successful production capability has been developed, interest in the technology will be promoted through distributing the devices to a number of agencies, both public and private. The diagram below illustrates the four planned channels through which the machines will be initially distributed. It is then anticipated that demand for further machine production and use will be stimulated which will be satisfied by activities in both the public and private sectors.



The above described strategy has been discussed and agreed upon with the CNP and it is felt that it will maximize the chances for the successful widespread use of cinva ram technology since it makes use of both public and private sector channels.

WOODSTOVES

Since woodstoves are a more decentralized technology and involve primarily women, a different mode of promoting their use and production has been planned. Once a number of successfully field-tested prototypes have been developed at a Centre de Promotion Feminine (CPF) in Upper or Middle Guinea, the office of the Director General of the CPF will collaborate with the CNP in the planning and implementation of a nation-wide woodstove dissemination project (see annex II for a description of the CPF). The diagram below illustrates the structure of the women's organizations in Guinea. The left side of the chart (headed by the Comite National des Femmes) is the women's political arm of the PDG (Partie Democratique de Guinee) and is involved in all activities that involve women in Guinea. While the CNP hierarchy will not have an operational role in the project, its political support will be very helpful in both the rural and urban areas. The CPF hierarchy will be the main institution involved in the dissemination phase of the project.



16

In addition to dissemination through the CPF structure, information on woodstove activities will be diffused through the Ministry of Social Affairs, weekly editions of Moroya and the Organization and Productivity sections of the CNP. As has been done as part of VITA's Sahel program, artisan training sessions will also serve to publicize the benefits and means of obtaining the improved stoves.

### BIOGAS

Biogas generators will have been built at the Foulaya Agricultural School as well as in three different geographic locations elsewhere in Guinea. Guinean engineers will have received on-the-job training in the construction, startup and maintenance of the systems. These engineers will then be capable of training other villagers and artisans in the construction and use of digesters.

In addition to the Foulaya Agricultural Institute, the FAPAs will serve as an outreach mechanism for biogas technology. Since a considerable financial investment (approximately \$100 in materials alone) is required to build a family size (approximately 3 cubic meters) digester, it is probable that community size digesters will be initially more suitable. This will require the establishment of a communal system of "feeding" and maintaining the digesters which may lend itself more to the structure and mode of operation of the FAPAs than to artisan or other small scale entrepreneur activities. The ongoing animal husbandry activities of the FAPAs would also lend themselves to the successful utilization of biogas technology.

It is also probable that the Ministry of Agriculture, Water and Forestry would be interested in promoting biogas technology as a means of increasing the utilization of organic fertilizer. Since one of the digesters will be built at the Ditinn Farm, this aspect of biogas technology will be evaluated as one of the direct benefits of the technology.

### Small Grants Fund

As a means of encouraging artisans and small scale entrepreneurs, VITA and the CNP will oversee a Rural Energy Fund that will promote increased production, sales and utilization of renewable energy technologies. This fund will be financed from USAID/Guinea Counterpart Funds and will total 1,000,000 Syllis (\$47,600).

Guidelines for the use of the fund will be established by the VITA Technical Advisor and the Director of the CNP and will be approved by USAID and the Ministry of Information.

It has been agreed with the CNP that this fund should assist projects that:

- (a) promote artisan and/or small scale entrepreneurial efforts in the three project technologies;
- (b) have potential for directly or indirectly improving the quality of life of lower socioeconomic groups in rural areas;

- (c) have a self-help component;
- (d) promote women's participation; and
- (e) will develop innovative approaches and provide information about factors influencing the successful transfer of renewable energy technologies.

Both the VITA Technical Advisor and the CNP Project Director will be cosignatories of each grant and it will be their joint responsibility to periodically assess project progress on each of the grants made. Administrative support for grants disbursement and record keeping will be provided by the CNP Project Secretary.

Under its Renewable Energy Program, VITA has gained a great deal of experience in the development and implementation of a small grants program. It is expected that this experience will prove extremely useful in assisting the CNP set up and implement this aspect of the Guinea OPG project.

#### Reporting

Biannual reports will be provided by the VITA Technical Advisor to the CNP Director, the AID/AAO in Conakry and the VITA home office. These reports will describe project progress, problems encountered and, most importantly, the degree to which the new technologies are being accepted by the rural population and artisans/entrepreneurs. Small grant disbursements will also be included as well as progress in making the CNP Documentation Center an operational information exchange resource.

## V. BENEFICIARIES

At the end of the project, data will have been collected and analyzed on rural consumption needs and traditional energy use and evaluations will have been made on social and economic usefulness of the prototypes introduced. GOG institutions involved will have gained substantial field experience in testing, and disseminating specific alternative energy technologies and will have a more concrete basis for determining other future programs.

The beneficiaries can be divided into three groups. First, the project results will have a substantial impact on policy makers who will have needed information on energy options which have been tested and disseminated to selective communities under conditions specific to Guinea. The upgrading of research facilities and better access to literature in the field of appropriate technologies will further enhance the decision making process. Second, at least seven Guinean engineers will have had on-the-job training and field testing experience which will increase their professional capabilities and give them greatly needed skills in technical problem solving. Third, are the Guinean people who will benefit from the introduction of new improved technologies regarding energy use and the improvement of living conditions in the rural areas. The communities which will be involved in demonstration and dissemination of the prototypes will have the opportunity to use renewable energy technologies and adopt them if they are found beneficial. Artisans and local craftsmen will be encouraged to participate in demonstrations and training programs and incorporate these new technologies into their ongoing activities. The transfer of new technologies can be successful only when various sectors of a community have the opportunity to examine and evaluate their potential given the local resources available and the capacity to duplicate the proposed technology. The response and participation of the rural population in this project is the most important aspect of grass roots development strategy promoted by VITA.

## VI. BUDGET

Funding for the project will be provided by an AID Operations Program Grant (\$460,000) and by the GOG (\$246,000 in equivalent sylis). The GOG will utilize PL 480 counterpart funds for all inputs except regular staff salaries which will be financed as a regular GOG budget item. The OPG will finance the hard currency costs of VITA technical assistance and some commodities not available in Guinea. PL 480 counterpart funds will be made available for the small grants program to provide artisans and entrepreneurs with the needed risk capital to integrate the new technologies into their ongoing activities; administrative and financial procedures for the small grants fund will require the prior approval of WAAC Abidjan and the AAO/Country.

AID FUNDING

1. Long Term T.A., \$30,000/year x 2 years	\$60,000
2. Furniture for above (including generator and spare parts)	20,000
3. Housing & Utilities (\$2,500 a month) LOCAL	60,000
4. Biogas technician's salary (\$200 x 66) OUT	13,200
5. Cinva-Ram technician's salary (\$150 x 44)	6,600
6. Woodstove technician's salary (\$125 x 88)	11,000
7. Benefits at 30% of VITA salaries	27,000
8. International Travel (all personnel)	18,000
9. Shipment of UAB and HHE	5,000
10. Education allowance (long-term T.A.)	3,000
11. U.S. per diem (all personnel)	3,000
12. In-country travel (all personnel), per LOCAL diem, temporary lodging, etc.	30,000
13. Project vehicles (2) , spare parts and shipment	35,000
14. Documentation Center Equipment	5,000
15. A.T. Literature	2,000
16. Home Office Support Costs	20,000
17. Occupancy at 12% of home office salaries	2,400
18. TDY by VITA and GOG personnel in neighboring countries to visit similar projects and conduct short-term training LOCAL currency for ticket	15,000
	\$336,200
19. VITA overhead (27% of direct costs)	90,774
20. Contingency and Inflation (10%)	33,620
	\$460,594
T O T A L .....	\$460,594

**2-year Syllis Budget  
for AID/VITA/CNP/Guinea O.P.G.**

CNP Project director 8,000 Syllis x 24 months		192,000
CNP Socioeconomist (female) 7,000 Syllis x 24 months		168,000
5 enqueteuses x 4,500/month x 6 months		135,000
3 biogas engineers 7,000 x 24 months	<i>out</i>	504,000
2 cinva ram engineers 7,000 x 24 months		336,000
2 masons 4,500/month x 24 months		216,000
Secretary 4,500/month x 24 months		108,000
Documentalist		168,000
Office supplies (10,500/month)	<i>Local Cost</i>	252,000
Vehicle maintenance (2 vehicles) 5,000/month x 24 months	<i>Local "</i>	120,000
Gasoline (2 vehicles) 600 liters/month x 30s/liter x 24 months	<i>Local "</i>	432,000
Chauffeur 3,500/month x 24 months	<i>" "</i>	84,000
<u>Biogas construction materials</u>		
10,000 Syllis/digester x 4 digesters	<i>out</i>	280,000
Woodstove materials (local)		30,000
Cinva ram materials (local)		_____
Housing (up-country)		840,000
Utilities 12,500/month x 24 months		300,000

	<b>Subtotal</b>	<b>4,165,000</b>
<b>Contingency 10%</b>		<b>416,500</b>
	<b>Total Syllis</b>	<b>4,581,500</b>
<b>Rural Energy Fund and Small Grant FOR WHAT</b>		<b>1,000,000</b>
	<b>Grand Total Syllis</b>	<b>5,581,500</b>

## Job Description

VITA TECHNICAL ADVISOR  
TO THE GUINEAN NATIONAL CENTER FOR PRODUCTIVITY  
MINISTRY OF INFORMATION, CONAKRY, GUINEA

The long-term Technical Advisor will serve as:

- technical advisor to the CNP Director and Renewable Energy Project Director;
- Coordinator of VITA assistance to the project and VITA liaison with AID/Guinea and CNP.

The expert will be required to work with the CNP to:

1. Assure an appropriate technology approach, emphasizing the use of non-imported materials.
2. Assure a multi-disciplinary approach to research and testing to ensure that prototype devices are socially acceptable and economically viable.
3. Provide technical advice on research and testing.
4. Prepare annual work plans for laboratory and field research and extensive field testing, and set up field testing/evaluation models.
5. Determine requirements and draft TORs for short-term consultancies.
6. Assist in designing training programs for Guinean counterparts and for rural energy technicians.
7. Determine commodity and equipment requirements and prepare specifications for local procurement.
8. Devise criteria for a Rural Energy Fund to promote and disseminate energy technologies in rural areas through private artisans and entrepreneurs.
9. Participate in energy colloquia sponsored by the CNP.
10. Contribute to progress reports required of CNP.
11. Identify needs, make requests and coordinate use of VITA resources (documents, publications, short-term consultants, etc.) to support the project.
12. When authorized by the CNP Director, assist the VITA Renewable Energy Program as an information resource and energy specialist for the West Africa Region.