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**ENERGY INITIATIVES FOR AFRICA**  
**PROJECT No. 698-0424**  
**FINAL EVALUATION REPORT**

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**AGRICULTURE AND NATURAL RESOURCES DIVISION**  
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**EXECUTIVE SUMMARY****BACKGROUND**

The Energy Initiatives for Africa Project (EIA) was a multi-year regional project of the Bureau for Africa, designed to provide a variety of types of technical assistance to A.I.D.'s Africa missions, in addition to being a source of funds for bilateral projects with their host-country governments. The Project was approved in August 1982, with a total authorization of \$17,500,000, of which \$13,200,000 was to support bilateral subprojects. A contract for its implementation was signed on September 30, 1982, with a Project Activity Completion Date of September 30, 1987. This Evaluation Report, requested by the Bureau for Africa's Office of Technical Resources, Division of Agriculture and Rural Development (AFR/TR/ARD), was performed over a period that extended from February 18 to May 17, 1988, and covered only the period up to the original PACD (September 30, 1987), as directed by A.I.D.

The Project included nine bilateral subprojects and thirty-eight regional and single-mission focused activities. These were based on technical assistance to A.I.D. missions (USAIDs), host-country governments, and international organizations, and included various types of training, workshops, studies, and sharing of information.

The EIA Project had its origins in 1980, during a period when international oil prices were high and A.I.D. had an Agency-wide policy that emphasized the importance of energy as a development issue, including both energy planning/management and renewable-energy sources and technologies. At the time, however, A.I.D. missions had few if any energy officers with background or interest in energy technology or economics, and PPC and the Africa Bureau realized that it was unlikely that A.I.D. missions in Africa would initiate energy projects on their own, within their own budgets. Thus, the idea of a regional fund plus regionally provided support for technical services and design of bilateral energy projects was advanced, and it culminated in the EIA Project. In 1984, the Project was effectively redesigned ("reoriented"), along lines recommended by the contractor, as a result of budget cuts in the Section 106 functional account. The major change contained in the amended authorization and the PP Supplement was the elimination of bilateral subprojects, the component used as major justification for approval of the original project, although the authorized LOP funding remained at \$17,500,000. In spite of the fact that the new authorization stated specifically that both the goal of the project and its purpose remained unchanged, both were significantly

modified, as were the indicators of their achievement, in the amended Logical Framework (Log Frame).

#### **PURPOSE AND GOAL OF THE EIA PROJECT**

Project Goal - The goal of the EIA Project, as expressed in the original Project Paper, coincided with A.I.D.'s energy-sector goal of "assist(ing) sub-Saharan African countries to develop and implement national policies and programs which effectively address their pressing energy problems." The Log Frame looked to measuring achievements of this goal by a variety of numerical measurements, including reduction of oil imports, energy/GNP ratios, and rates of deforestation. In the resultant PP Supplement following reorientation, numerical measures of goal achievement were removed and replaced by promotion of efficient energy use and a general concern for natural-resource management.

Project Purpose - As described in the Log Frame, the purpose of the Project was to help "strengthen institutional capabilities of African governments to plan and implement sound national energy programs and projects." In addition, the project aimed at demonstrating and disseminating "self-sustaining public and private-sector initiatives to reverse problems of deforestation, oil import dependence, inefficient energy use, and lack of development of indigenous energy resources." Achievement of the project purpose was expected to be indicated by:

- creation of a trained staff of energy specialists in the participating countries (with specific numbers of trained professionals specified for both small and large countries);
- establishment of country energy plans, with policies and/or programs in effect in participating countries;
- establishment of an operating network of information sharing on energy matters within and among participating countries;
- demonstration of self-sustaining agroforestry, afforestation, or forest-management programs and adoption of these models "on at least five times the acreage of the demonstration sites themselves" in each major ecological zone in Africa; and
- establishment of successful energy conservation programs, or significant substitution of indigenous fuels for imported fuels, in each major economic sector.

Following project reorientation, the project purpose was amended by deleting the words "institutional" and "national," with significant consequences in the indicators of achievement. Numerical goals for trained cadre were replaced by "identification of manpower needs and on-the-job training and workshops." The expectation of leaving national energy plans in place with policies/programs "adopted in each participating country" was deleted. The need to demonstrate and

disseminate agroforestry, afforestation, and forest-management models in "each major African ecological zone" (and in significantly larger areas outside the demonstration sites) was eliminated. Finally, the need to demonstrate adoption of energy conservation or indigenous fuel substitution was also deleted. Under the reoriented project, development and demonstration of methods alone was to be sufficient evidence of achievement of the project purpose.

## EVALUATION

This final evaluation was intended to be useful in the design and implementation of future Africa Bureau regional projects of a similar nature. Although the PACD was extended to act as a transition between EIA and a subsequent regional project being implemented in FY86, this evaluation was restricted to the period up to the original PACD.

Several factors have influenced the methodology and course of this evaluation:

- First, the midterm evaluation called for in both the PP and the amended PP was never performed.
- Second, many of the people involved in the evolution and management of the project have been reassigned to other posts, both in Africa and in other regions, thus requiring the expenditure of some of the limited resources available in order to interview some of the key players.
- Third, the evaluation team was confronted with voluminous, incomplete, and sometimes unavailable documents and reports of a wide variety.
- Finally, the resources available for this evaluation seriously limited the effort that could be devoted to examination of the technical output of the EIA project, either in the form of the large number of technical documents listed by the contractor, or the results of the workshops and training efforts.

As a result, the methodology used for this evaluation was to deal primarily with what were viewed as the most important issues from the perspective of ongoing and future Africa Bureau projects, particularly regional projects and those involved in energy, natural resources or other specialized matters. Hence, the evaluation team focused largely, but not exclusively, on the structure, administration, and management

of the project, drawing on those interviews that were possible, those key documents that were available, and the very few field visits possible, with a discussion of some of the lessons to be learned from this effort.

#### **FINDINGS AND CONCLUSIONS**

**Project Management** - The EIA project was a complex, technical project that underwent fundamental restructuring. Overall, the management of the Project and supervision of the contractor by the office(s) (originally AFR/RA) directly responsible seem to have been inadequate. This was a result of many factors: the changing budgetary environment, reorganization within the Africa Bureau that resulted in the disappearance of the Office of Regional Affairs, the lack of technical expertise within the office given the primary responsibility for management, and partly the lack of continuity that is characteristic of A.I.D.'s foreign-service system.

**Project Design and the Subproject Bureaucratic Burden** - Built into the project design was an administrative task that apparently was seen as burdensome by many missions in Africa. The subproject component, limited as it was to \$200,000 per subproject (with exceptions permitted up to \$500,000), carried with it a project-design and administrative requirement that many missions felt to be as great as the typical, and much larger, mission project. Where there was no officer trained in energy and forestry in a mission to act as an advocate, or where the mission director felt other tasks took priority, missions showed little interest. In addition, A.I.D.'s interest in energy had begun to wane by the time the Project was approved, so much of the push from A.I.D. had diminished significantly by the time the contractor's field offices were opened and in operation.

**Subprojects and Technical Assistance** - Some of the EIA subprojects have been quite successful in their technological and institutional impacts. The technical assistance they represent thus seems to have been more cost-effective than much of the technical assistance funded under the contract.

**Midterm Evaluation** - The failure to conduct a midterm evaluation, as was required in both the PP and the PP Supplement, left the contractor and A.I.D.'s management with no outside advice on where the Project might have been improved. It also left this evaluation without a synthesis of the successes and failures of the first half of the project activity as a basis for comparison to look for the effects of changes.

**Project Reorientation-** In early 1984, A.I.D. management asked the contractor for recommendations for changing the project design to accommodate budget cuts that were being experienced in the 106 account, the source of funds for the largest project component - subprojects. Later that year, A.I.D. adopted the contractor's recommendations for redirection of the project. The failure to hold a formal redesign with outside, disinterested, expert assistance meant that A.I.D. had only the opinions and recommendations of interested parties - the contractor and A.I.D. staff - on which to base such a major redirection of a complex regional project.

**Contractor Performance-** Most A.I.D. staff interviewed for the final evaluation agree on the generally high quality of the technical assistance provided by the contractor, in the course of which a host of reports, manuscripts, computer models, and technical papers were prepared. A.I.D. has not, however, collected and/or organized sufficient financial data from the contractor to analyze expenditures by project component in order to gain some idea of the cost effectiveness of the technical assistance as provided, or to compare the cost effectiveness of the technical assistance to that of the subprojects, in terms of lasting impact within the host country. This comparison would be particularly valuable because, under EIA, the activities under the subprojects were independent of the contractor's responsibilities, which were limited to design assistance, monitoring, and providing technical assistance only on request.

#### LESSONS LEARNED AND RECOMMENDATIONS

1. Projects concerned with a specialized issue such as energy (or health, education, nutrition, agriculture, environment, natural-resource management, remote sensing, or whatever) should be managed from an A.I.D. office with in-house expertise in that field.

Failure to involve the needed technical expertise in A.I.D.'s management function will often lead to inadequate supervision of the contractor's technical judgement. The Agency, and the Africa Bureau in particular, should consider alternative ways to structure such management (see suggestions which are outlined in Section 6.2).

2. As a general rule, regional projects in Africa should generally not be managed from Washington. While administrative management might indeed remain in Washington, whenever feasible A.I.D. should manage the projects from the field provided adequate technical input is part of management.

Discussion of options to achieve this recommendation is presented in Section 6.2.

3. The cost effectiveness of providing technical assistance from contractors' field offices should be realistically weighed against providing in-house capability in the REDSOs and against the benefits of mission-managed bilateral projects (or subprojects).

4. Where technical assistance is provided by contractors' field offices, Agency management must insist on adequate financial reporting keyed to specific technical-assistance activities so that the cost effectiveness of particular efforts can be assessed.

5. A.I.D.'s top management should assess more realistically the domestic (U.S.) political climate before committing the agency to a long-term project.

This is especially important in regional projects, where there is no Project Agreement (PROAG) that commits A.I.D. to some continuity in project conditions. The EIA project suffered from the shifting political climate here at home, with its budget cuts in categories that should have been anticipated. This is not to say that Agency management can be expected to have a crystal ball. But in the face of uncertainties, flexibility can and should be built into contracting arrangements and project implementation plans and schedules.

6. Regional projects that involve specialized subjects such as energy, and contemplate bilateral subprojects, should not be approved if the potentially cooperating missions do not have officers who are at least generally familiar with, or experienced in the subject, and who are reasonably certain of supporting the development of such subprojects, or it is clear that equivalent management and support for the subproject can be provided as part of the overall regional project itself.

7. Midterm evaluations should be an absolute requirement for any project of four-years' duration or more. Exceptions should only be in extenuating circumstances and in such circumstances the justification to eliminate the mid-term evaluation should be made in written form by project management and if endorsed, the argument and endorsement should be part of the written record of the project.

The failure to have a midterm evaluation of the EIA project left all parties concerned with no coherent basis on which to decide what changes were needed during the life of the project. It left this evaluation with no synthesis of project activities during the first half, except for the contractor's reports, and no basis for understanding the reasons for the dramatic shift in emphasis in 1984.

8. Under no circumstances should A.I.D. permit a large project to undergo redesign, by whatever name, without seeking competent, disinterested, advice from either within or outside the agency.

As justified as the reorientation may have been, there is no escaping the independent-recognition that the decisions were made solely by people who had a personal, professional, or bureaucratic interest in the outcome.

9. Any regional (or bilateral) project that supports and utilizes reports, manuscripts, course material, field manuals, workbooks, etc., as a mechanism for technical assistance and/or information sharing must include a process whereby this material receives independent professional peer review (and revision as needed) prior to dissemination or at least prior to widespread dissemination. Hard-copy project libraries of this material should be maintained by A.I.D. This library should include the drafts submitted for review, the comments, and the final document.

Significant resources were expended in the preparation of such written matter during EIA. No process of review was formalized under the project, and the record suggests only limited review of one document. There is no hard-copy library of all the reports and manuscripts at A.I.D. The review is important to insuring the professional quality of the written material and hence the value of disseminating the material. A hard-copy library makes the information immediately and relatively easily available to others subsequent to project completion.

10. Complex specialized-focus projects that include low-volume subprojects should include procedures in the design to minimize, to the extent feasible, the bureaucratic processes for subproject approval and implementation.

The EIA subprojects faced such problems, as discussed in the report (Section V). While this is a problem endemic to A.I.D., alternatives to be considered in project design include:

- o approval of generic subproject types as part of project approval including prescribed budget ranges and level of effort limitations within which actual subprojects would not need subsequent approval;

- o approval of a simplified subproject-approval process including delegation of approval authority to project managers (including technical) as part of project approval; this simplified process to be valid for any subproject within defined budget limitations and within specified subject areas; or,
- o delegating the subproject approval to an existing local institution with appropriate safeguards.

**INTRODUCTION**

The Energy Initiatives for Africa (EIA) Project was a complex, multi-year, regional project that included some nine bilateral (i.e., mission) subprojects and thirty-eight regional and single-mission technical-assistance focused activities. Activities were based on technical assistance to A.I.D. missions (USAIDs), host-country governments, and international organizations; and included various types of training, workshops, and design, development, and financing of the bilateral subprojects mentioned. The documentation was particularly voluminous, incomplete, and sometimes unavailable, and many of the key personnel have been reassigned to other posts, both in Africa and in other regions. Finally, only very limited resources were available for this evaluation and they did not provide for effort that otherwise would have been devoted to examination of the documentation, the quality of the technical assistance provided under the contract, or the detailed evaluation of the subprojects. As a result, the methodology used for this evaluation was to deal primarily with what were viewed as the most important issues from the perspective of ongoing and future Africa Bureau projects, particularly regional projects and those involved in energy, natural resources or other specialized matters. Hence, the evaluation team focused largely, but not exclusively, on the structure, administration, and management of the project.

## I. HISTORY OF THE PROJECT

### A. Background

The Energy Initiatives for Africa Project had its origins in 1980, during a period when international oil prices were high and A.I.D. had an Agency-wide policy that emphasized the importance of energy as a development issue, including both energy planning/management and renewable-energy sources and technologies. Nevertheless, A.I.D. missions had few if any energy officers with background or interest in energy technology or economics. Recognizing this situation, PPC and the Africa Bureau realized that it was unlikely that A.I.D. Missions in Africa would initiate energy projects on their own, within their own budgets. Thus, the idea of a regional fund plus regionally provided support for technical services and design of bilateral energy projects was advanced. This culminated in the EIA Project.

A Project Identification Document (PID) was approved in January, 1981, [1] and the project was designed (under an 8A set-aside) by a three-member team (two of whom were employees of the eventual EIA contractor). The Project Paper (PP) was eventually approved by the Africa Bureau on April 29, 1982. [2] It provided a Life of Project (LOP) funding of \$17.5 million, of which \$13.5 million was to come from the Special Development Activities (SDA, Section 106) account with the remainder (\$4 million) from the Sahel Development Program (SDP, Section 121) account. In recommending authorization of the EIA Project, the Acting Director of the (then) Office of Development Resources (AFR/DR) summarized the background to this project design succinctly: [3]

"The ... project grew out of recognition of the need of the African countries for flexible, [rapid-response] assistance in achieving near-term reduction in their dependence on expensive oil imports and in relieving pressures on their increasingly depleted fuelwood/forest resources. ... [A.I.D.'s] assistance is limited primarily to large, specialized energy planning or implementation projects; and resources are insufficient to respond to [the] needs of those African countries where specific projects have not been programmed. The urgency of [their] oil import and deforestation problems, [the] relatively modest levels of assistance required to initiate movement toward solutions, and [the] wide range of possible solutions all support the need for a flexible regional umbrella-type energy assistance project."

The memorandum noted further:

"EIA is intended to fill gaps in A.I.D. and other donor activities - in region-wide project evaluation, project preparation, energy conservation, and other areas - and to test alternative approaches which entail lower levels of long-term dependence on external financial intervention. Particular emphasis is placed on planning and project preparation to mobilize all potential public and private sector resources and on support of private enterprise initiatives."

In August, 1982, the Project Implementation Order/Technical (PIO/T) authorizing negotiation of a contract was approved,[4] and a contract was signed with Energy/Development International (E/DI) on September 30, 1982. Subsequently, the contractor opened an office in Nairobi, Kenya, which became fully staffed in June, 1983. Some months later, the contractor opened a field office in Abidjan, Cote d'Ivoire.

#### B. "Reorientation" of The Project

In FY84, A.I.D. experienced budget cutbacks and the Africa Bureau felt these particularly in the 106 account. With Section 106 funds accounting for more than 77 per cent of the authorized \$17.5 million, continuation of the EIA project was seriously threatened. Furthermore, with more than 60 per cent of total project funding (\$10.55 million) designated for subprojects, i.e., mission-managed activities not funded through the EIA contractor, continuation of the project with major funding cuts would compromise one of the major purposes of the project (i.e., establishment and implementation of numerous subprojects). The contractor was informed of the budget situation in December, 1983, and in January, 1984 A.I.D. requested the contractor to examine options for reorienting the project to accommodate cuts in Section 106 funding for FY84. The next month, (February) the contractor held a meeting in Kenya to discuss the issues, in a format designed by the contractor to be "a corporate strategic planning process, identifying EIA clients and defining product lines." [5] Participating in the meeting were ten representatives of the contractor and five from A.I.D. Representing the contractor were: three employees of the Nairobi field office and three from the Abidjan field office; the President, Project Manager, and Project Coordinator from Washington; and the Chairman of the Board from New York. A.I.D. was represented by the Project Officer from AID/W (AFR/RA) and the chief of AFR/TR/SDP; the Regional Energy Advisor and the Regional Forestry Advisor from REDSO/ESA (both contract employees); and the Regional Energy Advisor from REDSO/WCA (also a contract employee). Neither the missions nor participants (A.I.D.-funded or counterparts) in any of the subprojects were invited to participate; hence there was no direct representation of the bilateral subproject activity, current or potential.

The meeting considered five options:

- eliminating the Project;
- closing the field offices and operating the Project entirely from Washington;
- maintaining one fully staffed field office;
- maintaining two field offices with reduced staff; and
- maintaining two fully staffed field offices and reducing Washington staff time.[6]

The contractor submitted a report to A.I.D. in March, recommending the fifth option, viz., that the proposed funding reductions be accommodated by retaining both field offices (fully staffed), making some reductions in the contractor's Washington office staff, and confining future activities essentially to short-term mission support (i.e., no new subprojects).

Although serious consideration of alternative funding sources to replace the 106 funds being cut was given within AID/W (see below), there is no indication in the meeting report, or in the subsequent outgoing cable on the reorientation, that this option was discussed. On the contrary, the report of the meeting states that "a subproject fund of the size originally conceived is not necessary for the Project to achieve its goals." [7] With that decision having already been made, the recommended option was essentially based on an a priori decision to eliminate bilateral (i.e., mission) activities (not already obligated), which were supported by project funds outside the contract, and it retained only that portion of the project to be implemented through the contract. (The contractor's project manager at the time has stated, however, that the contractor assured A.I.D. that the lost subproject funds would be replaced by funds provided by other donors - both bilateral and multilateral - for specific country activities.) [8]

A.I.D. passed the recommendations to the field for comment in early April [9] and twelve responses were received.<sup>1</sup> Basically, there were

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<sup>1</sup>The evaluation team has seen eleven response cables plus a carbon copy of the draft response from REDSO/ESA.

eight positive responses, one inconclusive, one that urged concentration of remaining EIA funds on subprojects and training, one that felt nothing significant would be lost by eliminating the contractor's field offices and shifting the project management to Washington, and one no comment. [10-21]

Prior to the final decision by the Executive Committee for Project Review (ECPR), the EIA Project Committee<sup>2</sup> discussed the consequences of the funding cuts. The EIA Project Officer distributed an Issues Paper giving the background to the contractor's proposal, noting: "The major premise behind the proposal is that the comparatively large amount of funds and effort devoted to subprojects in the original design can be successfully replaced...by creative uses of technical assistance and small amounts of 'leveraging' financing." [22]

(This echoed the contractor's assurance noted above.) Nonetheless, the Project Committee discussed the PPC suggestion of using Section 103 funds (Agriculture, Rural Development, and Nutrition, ARDN) to replace the loss of 106 funds, as other Bureaus were doing to fund their energy programs, and in an Issues Paper (presumably intended for the ECPR) recommended "that the authorization level of the project be maintained at \$17.5 million but a minimum LOP funding level be set at \$8.2 million with the understanding that if additional funds are made available the project may be increased above the \$8.2 million level." [23] (Emphasis added).

Two meetings of the ECPR were held subsequently. Neither the chairman nor the PPC representative recalls that the Section 103 funding option (for retaining the subproject component) was discussed at either of these meetings. In fact, the chairman noted during this evaluation that he would have favored such an option because he did not approve of "getting locked into" Section 106 funding. The amended Project Authorization finally approved included the Project Committee's recommendation of a \$17.5-million authorization level and a minimum LOP funding level of \$8.2 million, omitted the possibility of additional funds being available, and specifically deleted authorization for subproject activities. [24] In the Action Memorandum recommending

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<sup>2</sup>Project Committee: AFR/PD/CCWAP, AFR/DP, AFR/TR.SDP, AFR/SWAP, AFR/RA, GC/AFR, PPC.

approval of the amended Project Paper, the AFR/PD director noted that the amended project would "reduce reliance on the subproject fund as a mechanism for achieving project objectives..."[25] The amended Project Paper (August 31, 1984) incorporated all the recommendations of the contractor's March 9, 1984 report of the reorientation meeting.[26]

It should be noted that although the largest component of the original project design, viz., mission-managed subprojects (the component used as major justification for approval of the original project) was eliminated by this action, the amended FF states specifically that both the goal of the project and its purpose remained unchanged - an assertion that, on its face, seems completely unjustified. Nevertheless, the implications of eliminating the subprojects were recognized in the amended Logical Framework (Log Frame): the statement of the Project Purpose, viz., "Strengthen institutional capabilities of African governments to plan and implement sound national energy programs and projects," was modified by deleting the words "institutional" and "national." [27] Further recognition of the effects of these changes is apparent in the changed criteria for achievement of the Project goals. (See discussion below.)

Another examination of EIA funds was undertaken in January 1986, and again project termination was considered as a consequence of further funding problems.[28,29] Although the files have not revealed any official decision, apparently the needed funds were located, since the project was not terminated.

## II. PROJECT SUMMARY

As noted above, significant changes occurred in the project concept in 1984. Although the amended PP states that neither the goal nor purpose of the project was changed, [30] language changes in both of these categories in the Log Frame did, indeed, imply significant change. They in turn have complicated this evaluation. In the discussion below, an attempt will be made to demonstrate the impact of the changes by juxtaposing the language of the original PP with that of the amended version, shown underlined in this section.

A. A.I.D.'s Energy-Sector Goal

The EIA Project was designed within the context of A.I.D.'s energy-sector goal of "assist(ing) sub-Saharan African countries to develop and implement national policies and programs which effectively address their pressing energy problems." [31] (This statement of A.I.D.'s, i.e., AFR's, energy-sector goal was retained in the amended PP.) The original Project Paper looked to measuring achievements of this energy-sector goal by:

- the extent to which oil imports were reduced below then currently projected levels;
- the extent to which deforestation rates were reduced below then currently projected levels; and
- a 10 per cent reduction of national energy/GNP ratios.

For the project as amended, however, the achievement of this goal was to be judged by the extent to which national policies and programs were in place to:

- promote efficient energy use including oil imports and indigenous energy sources;
- apply energy effectively to increase productivity and quality of life; and
- increase domestic fuelwood/biomass energy supply and improve natural resource management.

Gone were any measures of oil-import reductions. Gone were any measures of energy consumption relative to GNP, and concern for rates of deforestation was replaced by general natural-resource management concerns.

### B. Project Purpose

Within the context of the energy-sector goal, the project was designed to "strengthen institutional capabilities of African governments to plan and implement sound national energy programs and projects." In addition, the project aimed at demonstrating and disseminating "self-sustaining public and private sector initiatives to reverse problems of deforestation, oil import dependence, inefficient energy use, and lack of development of indigenous energy resources." [32]

Achievement of the project purpose was expected to be indicated by:

- creation of a trained staff of energy specialists in the participating countries (with specific numbers of trained professionals specified for both small and large countries);
- establishment of country energy plans, with policies and/or programs in effect in participating countries;
- establishment of an operating network of information sharing on energy matters within and among participating countries;
- demonstration of self-sustaining agroforestry, afforestation, or forest-management programs and adoption of these models "on at least five times the acreage of the demonstration sites themselves" in each major ecological zone in Africa; and
- establishment of successful energy conservation programs, or significant substitution of indigenous fuels for imported fuels, in each major economic sector [32]

Following project reorientation, the project purpose as stated in the Log Frame was amended by deleting the words "institutional" and "national." [27] a generalization whose justification is not clear, but whose consequences become apparent on further examination of the amended Log Frame. In addition, the indicators of achievement of the project purpose were amended to:

- "Identification of manpower and training needs in energy sector;
- Trained energy professionals in place through on-the-job training through EIA supported energy advisers or staff; national/regional workshops in planning, resources identification/utilization;
- Consistent program for sharing lessons learned;

- Models of self-sustaining afforestation, forest management or farm forestry for energy production demonstrated and disseminated;
- Technical assessments on new or more efficient opportunities for biomass utilization and associated training; and
- Successful energy conservation or local fuel substitution methods developed and demonstrated in critical agriculture/rural development and critical economic sectors."[32]

Numerical goals for trained cadre were replaced by identification of manpower needs and on-the-job training and workshops. No longer was the project expected to leave national energy plans in place with policies/programs "adopted in each participating country" (although, of course, the Liberian subproject did just that). The need to demonstrate and disseminate afforestation, etc., models in "each major African ecological zone" (and in significantly larger areas outside the demonstration sites) was eliminated, as was the need to demonstrate adoption of energy conservation or indigenous fuel substitution. Under the reoriented project, development and demonstration of methods alone was to be sufficient evidence of achievement of the project purpose.

### C. Inputs

Originally, the project had an authorized financial input of \$17,500,000 from A.I.D. plus \$2,650,000 in host-country funds, for a total project funding of \$20,150,000. A.I.D.'s life-of-project (LOP) funding was to be used as follows:

Prime contractor (technical assistance)	\$ 6,050,000 <sup>3</sup>
Other consultants	150,000
Subprojects fund	10,550,000
Training	350,000
Sharing of information/experience	200,000
Evaluation	<u>200,000</u>
	17,500,000

Host-country funds were intended exclusively for the subprojects, making a total of \$13,200,000 intended for funding specific bilateral energy-related projects in individual African countries.[33]

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<sup>3</sup>This amount was intended to support four (4) expatriates plus an unspecified number of consultant days, and four (4) local-hire personnel.[33]

Under the amended PP, although the LOP authorization remained at \$17,500,000, the total amount authorized to be obligated was reduced to \$8,138,000, with an additional \$522,000 in host-country and other funds anticipated. The A.I.D. amounts were allocated as follows:

<u>Prime contractor (technical assistance)</u>	<u>\$5,910,000</u>	
<u>Other consultants</u>	<u>40,000</u>	
<u>Subproject Fund</u>	<u>2,088,000</u>	
<u>Evaluation</u>	<u>100,000</u>	
<u>Total</u>		<u>\$8,138,000</u>

With the additional \$522,000 in host-country funds, the total amount available for subprojects, already committed prior to the reorientation, became \$2,610,000. [34]

Curiously enough, though the funds channeled through the contract were significantly reduced, the amended PP called for two additional local hire personnel (for a total of six), in addition to the same number of expatriates, plus two Washington-based staff.

#### D. Outputs

The original expected outputs from the project were in four major categories: [2]

1. **Planning, Policy Development, and Technology Assessment (PPDTA)** - This category consisted of:
  - Technology assessments;
  - National energy assessments; and
  - Follow-up assistance.
2. **Subprojects Fund** - Under this heading, the project outputs were expected to be:
  - Grants; and
  - Evaluations.

3. Training and Institutional Strengthening - This category included two major activities:
  - Training sessions and workshops for energy planners, energy practitioners, and staff of intermediate financing institutions; and
  - Cooperation with the African Development Bank (AfDB).
4. Information/Experience Sharing - The two activities projected here were:
  - Dissemination of results of technology assessments and subproject evaluations; and
  - Provision of information and assistance to subproject grantees and others.

In each of these categories, achievements were to be indicated by:

PPDTA:

- Assessments of African project experience in 10 energy or forestry areas;
- National energy assessments for 10 countries; and
- Follow-up assistance in the form of 20 technical-assistance assignments for project or policy development.

Subprojects:

- A minimum of 30 subproject grants made to participating countries;
- At least 5 grants to intermediate financing institutions (IFIs) and IFI loans or contracts; and
- A minimum of 15 country or IFI subprojects completed and evaluated, including the evaluation of all IFI grantees.

Training and Institutional Strengthening:

- 5 short-term energy planning training sessions/workshops;
- 5 IFI training sessions;

- 20 practitioner workshops; and
- 3-5 training sessions in cooperation with the AfDB.

Information/Experience Sharing:

- 10 technology assessments and 5 subproject evaluation reports disseminated to 50 institutions; and
- Assistance to at least 25 grantees and 200 planners/practitioners.

The fundamental shift in project orientation that resulted from the reorientation is most easily apparent from the changes in the expected outputs: [35]

1. Planning, Policy Development, and Technology Assessment (PPDTA) became simply Technical Assessment.

- Technology assessments have been replaced by Technical Assessments, which are described as "Sector assessments which include energy" [emphasis added]. To be sure, this category includes Follow-up assistance and Planning assistance, but the objectively verifiable indicators show a shift from energy concerns to natural resource issues, particularly forestry (31 assessments of energy or forestry issues, assessments of energy/forestry training needs). The PP amendment also moved away from assessments of past African project experience (see above) that were presumably aimed at learning from past mistakes and successes, to the 31 desk studies (energy profiles) that the contractor had already completed by that time. Furthermore, there is no indication that the "reoriented" project was intended to be concerned with planning or assessment on a national level, since that designation was specifically deleted.

2. The Subproject category was replaced by Project Development, consisting of:

- Assistance in the design of agriculture/rural development projects and activities;
- Grants awarded; and
- Evaluations undertaken.

Consonant with the reduced concern with project development, the amended PP dropped all numerical goals as indicators of achievement, substituting instead:

- The number of EIA assisted project design activities.
- Quality and number of funded subprojects initiated using EIA or other funds.

Here again, perhaps reflecting policy shifts within A.I.D., the emphasis is on agriculture and rural development projects with no indication of the role that energy might play.

3. Training and Institutional Strengthening was replaced by Training, and this category is described as:

- Training sessions, workshops for individuals concerned with energy activities.

The indicators of achievement were modified to:

- Quality and number of energy training sessions/workshops held
- Quality and number of individuals trained.

The modifications in this output category resulted not only in the deletion of all reference to institutional strengthening (no mention of energy planners, IFIs, or the AfDB), but also in the removal of all specific numerical goals dealing with training sessions, workshops, groups, or individuals trained.

4. Information/Experience Sharing remained essentially unchanged in the amended PP, except that the original language was modified:

- "Dissemination of results of technical assessments, subproject evaluations, workshop materials/proceedings, presentations, and country profiles."

Again, consistent with the reduced inputs, the numerical standards for evaluating achievements in this category were changed:

- "Number of successful programs, projects documented/disseminated."

- Number of successful private sector initiatives (e.g., systems, equipment) documented/disseminated.
- Results of 5 technical assessments, and 5 subproject evaluations, 5 workshops, as well as 3 presentations on energy issues.
- 10 sets of country profiles disseminated to institutions including USAIDs, host country agencies, IFIs, and PVOs.
- Quality and quantity of assistance provided to grantees and other energy/forestry planners and practitioners (sic)."

#### E. Evaluation

In addition to the on-going monitoring of project activities to be performed by the contractor and annual PES-level (Project Evaluation Summary) evaluations of all subproject grants, the Project Paper called for two project evaluations by an independent project evaluation team. The first of these was to be a midterm evaluation, with the second to be the final evaluation, conducted by the same team.

In any event, however, the midterm evaluation was never performed, so none of the activities or entities involved - not the project, A.I.D., cooperating governments, international organizations, or this final evaluation - enjoyed the benefit of a midpoint assessment of the successes, failures, and problems that may have characterized the first half of the project. (A mid-term evaluation would also likely have noted the insufficient financial reporting keyed to specific activities. As discussed subsequently, the lack of such reporting prevents an assessment of cost effectiveness.)

Besides halving the funds available for evaluation (see above), the amended PP noted that the original evaluation plan was no longer applicable. The contractor's responsibility for evaluating the subprojects was retained, with increased emphasis on "assessing the impact of the various packages of technical assistance" to be delivered by the contractor, and the contractor was required to submit a "thorough evaluation plan" in FY 1984. [36] which does not seem to be among the documentation available. The requirement for a midterm evaluation, by A.I.D., was retained ("During FY 1986 A.I.D. will undertake a full scale technical and programmatic evaluation..."). [36] As noted above, however, that evaluation was never carried out. Finally, the coup de grace was administered to the internal evaluation process by the curious omission of mention of a requirement for a final evaluation.

It has been argued that many of the changes effected by the reorientation of the EIA project corrected what were seen by some as errors in the original project design. Nonetheless, the sum total of the changes embodied in the amended PP fundamentally changed the purpose, goals, and indicators of achievement of the original project paper, without the benefit of any independent advice.

### III. EVALUATION

#### A. Constraints

As was noted in the Introduction, the Energy Initiatives for Africa Project was a complex multi-year project that included nine subprojects and some thirty-eight regional and single-mission focused activities, aside from the multitude of technical-assistance activities and technical reports prepared. Multiple modalities (technical assistance to host countries, USAID missions, and international institutions, various types of training, and subproject financing) were utilized to deliver the evolving development assistance of the project.

With the exception of a comprehensive memorandum prepared by the former REDSO/ESA energy advisor (covering activities in East Africa only), no complete and systematic collection of project-related documents or detailed project activity-completion summaries were available for this evaluation, other than the quarterly and annual reports of the contractor. These reports are general in nature and, while they give excerpts from some of the technical analyses produced under the project, they give few details of the technical activities themselves, besides noting details of contractor staff travel related to those activities. With regard to the subprojects, it is frequently difficult to identify the contractor's actual involvement from the reports. The lack of a midterm evaluation, furthermore, meant that there was no synthesis of the first half of the project to be used as a basis for the final evaluation.

Some of the subprojects produced as many as twelve relevant written documents/reports. The number of documents produced for the mission and regional activities and the total documentation, or lack thereof, for the various project activities has not been clear to the evaluation team, however, particularly since significant blocs of documents have not been available in time for this evaluation.

Against this background of: multiple project activities in some thirty-eight countries; incomplete, unorganized, yet voluminous documentation; too many potential interviewees, many of whom were already dispersed throughout Asia and Africa, if not retired; and a budget significantly lower than the amount authorized in the amended PP (see above), which itself was unreasonably low for a project of this complexity, the evaluation team's approach was one of in-depth coverage of only some selected activities coupled with a more general evaluation of the project, based largely on selected interviews and review of readily available documentation. Priorities for activities to be focused on, people to be interviewed, and documents to be

examined were determined by criteria that reflected the relative expenditures within the project, the importance of the activity in terms of how well it matched project objectives, the potential replicability of activities, the ability to schedule field visits within the available time, and the judgement of knowledgeable USAID staff. The evaluation team allocated its limited time and effort to examining what were viewed as the most important issues from the perspective of ongoing and future Africa Bureau projects, particularly regional projects, and those involved in energy, natural resources or other specialized matters. Hence, the evaluation team focused largely, but not exclusively, on the structure, administration, and management of the project.

During the course of most of this evaluation, the evaluators were assured by both contractor and A.I.D. personnel that, for reasons that varied with the informant, no amended PP had ever been signed after the project reorientation. (The question was raised frequently during the interviews since one had not yet been found.) Thus, the bulk of the time available for this evaluation was based on the original PP and the conditions and criteria for achievement of goals and purpose outlined in the original Log Frame. It was not until two weeks after the original due date for the draft evaluation report that, during a search of AFR's microfiche files, one of us located the signed, approved PP supplement with its many project revisions, including the budget and the revised Log Frame.

Finally, this discussion of the evaluation would not be complete without raising the issue of A.I.D.'s evaluation policy and the consistency with which it is applied, even within one regional bureau. Serious questions are raised when one compares this complex regional project with other similar or less complex projects, in terms of provisions made for evaluation.

- At an authorized LOP funding level of \$17,500,000, this regional project was originally scheduled for two comprehensive evaluations - one midterm and one final - with a total budget of \$200,000. The project was amended before midterm, the LOP funding level was not changed, but a minimum funding level approximately half the LOP - \$8,138,000 - was set. Mention of the required final evaluation was deleted, and the evaluation budget was cut to \$100,000. In any event, no midterm evaluation was conducted, and \$70,000 was allocated to this evaluation, which permitted the three-member team a maximum of 10 days out of the U.S., including travel time, to interview people in the field, visit project activity sites, review documents, and evaluate the impact of subprojects and a host of technical-assistance activities; in addition to the time in the U.S. to review documents, conduct interviews, and write the report.

- Compare this with the Energy Planning and Management Project (650-0059), a mission-managed project in Sudan, which has an LOP funding level of \$8,450,000, approximately the same as the eventual funding level of the EIA Project. For this project, the midterm evaluation put four people in the field for three weeks, plus the Regional Energy Advisor from REDSO/ESA for one week, in one country. Or compare this with the evaluation of the Central American Regional Energy Project prepared for USAID/ROCAP (by de Lucia and Associates Inc.) for which the budget was twice that allocated for this EIA evaluation.

The disparity in these two approaches to project evaluation is made more obvious by the comment by the Sudan evaluation team: "Due to the short time the evaluation team was in the country, it was possible to visit only what the team thought to be critical sites." [37]

#### IV. FINDINGS

As has been noted earlier, in many respects this evaluation has operated under severe constraints. Within the limitations that existed, however, the evaluation team has examined certain aspects of the project that were expected to give the best insight as assistance to future activities by A.I.D. Among those aspects were activities and organizational processes that covered, to the extent feasible, the criteria that A.I.D. has established for this evaluation, including both the Statement of Work for this Evaluation and the Logical Framework of the Project Paper, as amended in the Project Paper Supplement that followed the reorientation. The aspects examined can be grouped as follows:

- Background and history of the project and how this illuminates the process of project creation and implementation;
- Project implementation in terms of A.I.D. management, contractor management; and
- Results of project implementation in terms of the project's purpose and goals.

The aim, of course, has been to establish a coherent base for the lessons to be learned as a guide to future similar projects.

The background and history of the project have been examined in previous sections of this report. The diverse (and dispersed) nature of the project activities makes the management issues best discussed separately, as is done in the following section (Discussion and Conclusions). In this section we shall deal with some of the findings with regard to specific activities, as determined through review of documents available, both in Washington and in the two REDSOs, and the very brief visits to persons involved in three countries with subprojects - Liberia, Cote d'Ivoire, and Kenya.

##### A. Measures of achievement of project goals - Numerical goals

The modifications that were made in the PP Supplement (the amended, "reoriented" project paper) changed the evaluation criteria significantly, as was noted in some detail earlier. All the quantifiable measures - oil imports, energy consumption, rates of deforestation, numbers of trained staff in place - were removed in the amended PP, presumably in recognition of the effect of the drastic cut (elimination?) in the subproject component. The short time available in the field and the documents that were available, however, combined

to make it impossible for this evaluation to ascertain those numbers. In any event, it would probably not be fair to either A.I.D. or the contractor to stick to criteria that are no longer applicable to the project.

It is difficult to arrive at an idea of the cost effectiveness of the effort devoted to any of the categories examined below in view of the sparse information available. A.I.D. has no financial breakdown of the amounts expended under each of the identifiable categories and apparently at no point during the project was such information requested from the contractor. And in response to inquiries from the evaluation team, the contractor noted only that Technical Assistance accounted for about 46 per cent of the expenditures under the contract, Subproject Assistance for about 34 per cent, with Training and Information Sharing at about 10 per cent each. The confusion arises from the fact that the contractor has lumped both Technology (Technical) Assessments and Planning and Policy Development under the Technical Assessment category. Also, with Training listed as a separate financial item, the extent to which workshops have been charged to technical assistance, or to training, or to both, is not clear.

#### B. Project components

1. Technical assessments - As noted earlier, the terminology for this category was changed during the reorientation, from "technology" assessments to "technical" assessments. Under the new category, the project produced more than 30 country energy profiles (desk studies performed in Washington) that have been distributed to the field - including at least some missions. In addition, the contractor has produced some fifty documents on energy and natural resources during the life of the project (see Table 1).

Table 1. A list of technical publications produced under the EIA contract, as reported by the contractor in the FY 1987 Final Report and in interviews during this evaluation.

TITLE	AUTHORS
Abidjan Charcoal Market	John Gallup
Agroforestry for African Farming Systems	William C. Beets
Alternative Fertilizing Methods for Increasing Agricultural Production in Developing Countries	Deborah Hines
Annotated Bibliography of Factors Affecting Pumping and Irrigation in Africa	John Gallup
Application de l'analyse economique et financiere dans la planification des projets forestiers au Sahel	Kjell Christopherson and G. Edward Karch
Appropriate Technology for Forestry and Forest Industries	Keith Openshaw
Biomass Supply	Keith Openshaw
The Bobo Kiln	G. Edward Karch
Breakeven Model User Manual	E/DI Staff
The Casamance Kiln	G. Edward Karch Kjell Christophersen and Michael Boutette
Charbon: Production et utilisation a petite echelle	G. Edward Karch and Michael Boutette
Charcoal Production Technology	G. Edward Karch
Charcoal Production Model	E/DI Staff
Economies d'energie en Cote d'Ivoire	Gregoire Genot
Economic Methodology for Peat II Project	Asif Shaikh

The Economics of Small-Scale Charcoal Production: A Case Study of the Casamance Kiln	Kjell Christophersen and Ed Karch
Energy Conservation Workbook - Commercial Buildings [Not completed]	Shibu Dhar
Energy Conservation Workbook - Industry	Matthew Milukas
Energy Conservation Workbook - Transportation	Seyoum Solomon, D. Michael Bess, and Andres Doernberg
Energy Conservation Workbook - Utilities	Shibu Dhar
Energy Profile of Small and Medium Rural Enterprises in Africa	Gordon Melvin and Partners
Etude du marche regional sur le charbon de bois: Europe, Royaume Uni, Afrique de l'Ouest [Also available in English]	Nicolas Engalichev
Etude sur les charges recurrentes du secteur forestier au Mali	Fred Weber and Amadou Maiga
Expanded Economics Analysis of Senegal River Irrigation Pumping Alternatives	James D. Westfield, Gregoire Genot and John Gallup
Forest Energy/Natural Resources Assessment Workshop/Project	J. Ulliman
Forest Resources Analysis and Planning Model and User Manual	E/DI Staff
Forestry/Development Options in the Fifth Region of Mali	Asif Shaikh
Fuel From Papyrus Study	Gordon Melvin and Partners
Intermediate Financial Institutions	Kenn Ellison
Les possibilites pour les economies d'energie et pour l'augmentation de la production dans le secteur des energies traditionnelles	Asif Shaikh

Le role de l'energie et de ressources naturelles dans la production et le developpement agricole et dans les secteurs domestiques urbains et ruraux	D. Michael Bess
Lesotho Household Energy Survey	Judith S. Gay
Market Study: Forest Products from Dinderesso Classified	Nicolas Engalichev
Overview of the Energy Situation in ECOWAS Countries	Asif Shaikh
A Preliminary Investigation of Forest Products Pricing and Marketing in Mali: Legislative Aspects	Roy Hagen and Hamadi Kanandji
A Preliminary Profile of Rice Processing in Madagascar	D. Michael Bess
Priorities for and Types of Forestry Research in Kenya	Keith Openshaw
Production and Consumption of Wood Energy in Kenya with Particular Reference to Agroforestry	Keith Openshaw
Production and Marketing Strategy for the ATS Metal Stove	Maxwell Kinyanjui
Recurrent Costs in the Mali Forestry Sector	Fred Weber and Amadou Maiga
The Role of Indigenous Vegetation in Energy Production for the Rural Household	Keith Openshaw
Rwanda Forestry II Project	Keith Openshaw
Small-Scale Pumping for Agriculture in Developing Countries	James D. Westfield
Surveying the Marketing/Production Capabilities of Certain Renewable Energy Technologies by Basuto Small/Medium-Scale Enterprises	Geoff Burrell

Timber and Fuel Needs in African Nations and How They Can Be Met	Keith Openshaw
Transitional Donor Financial Support for Forestry Sector Reforms in Mali [Draft]	Keith Openshaw
Une investigation préliminaire de la factiori de prix	Roy Hagen and Hamadi Konandji
Use and Management of Indigenous Woody Plant Species for Energy	Keith Openshaw
Will Wood Work?	Asif Shaikh and G. Edward Karch
Woodfuels and Their Importance to Development	Keith Openshaw and P. Hassrick

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Some of these are the result of workshops on the particular issues, and some independent studies, most dealing with the economics of various aspects of forestry, use of agricultural residues, or energy consumption. Several marketing studies have also been published. Some of these reports have been distributed to the field, to both USAID and Peace Corps missions and to individuals and organizations in host countries. According to the contractor, many have not been requested and therefore have not been reproduced or distributed. The contractor's project manager estimates that about three-fourths of the documents produced under EIA are in the REDSO libraries. There is some dispute, however, as to the actual amount of documentation available in the REDSO libraries. According to the former Regional Energy Advisor at REDSO/ESA, that office never received copies of many of the documents originating from contractor activities in West Africa.

The major concern that arises regarding many of these documents - particularly the more technical papers and the ones that are intended for use as manuals and workbooks - is the question of quality control. There is no evidence that either A.I.D. or the contractor felt the need for independent review of any of these technical documents, with one exception. The record does show that one of the documents produced under EIA was subjected to an independent review, and the two reviewers' comments were quite critical - one severely so.<sup>2</sup> This is not to imply that the other documents would have received similar critical peer reviews, but it does point up the need for independent review of technical papers, complicated financial analyses, and particularly workbooks and field manuals intended for the use of people without the specialized knowledge that would allow them to make independent judgements about the advice or guidelines being offered.

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<sup>2</sup>The publication "Agroforestry in African Farming Systems: A Handbook for Agricultural Officers" by William C. Beets was reviewed by the Agricultural Development Officer in USAID/Malawi [38] and by the Africa Bureau's Senior Forestry Advisor [39]. Perhaps it was because the latter was so disturbed at the prospect of seeing the document "emerge as a handbook for agriculturalists - particularly if it is to be distributed as an A.I.D. document" that the "handbook" designation was dropped from the title (Table 1).

2. Project development - Prior to FY84, project development activities of the EIA field staff were essentially confined to subproject development. FY84 seems to have been a banner year for project development activities, whether as a result of the reorientation or not, is not clear. In that year, in addition to continued work on subprojects that were still in the planning stage, the contractor reported having worked with seven missions on at least as many potential projects. All of the subprojects that eventuated under EIA, however, had been designed, obligated, or were in the process of approval before the reorientation. With the shift in focus that took place after reorientation, there was no development of new subprojects reported and cooperation with the World Bank begins to appear in the reports. The fruitfulness of these activities is hard to determine at this point, because the Bank has not yet completed action on many of them.
3. Training - It is apparent that the project was responsible for a multitude of high-quality workshops, training sessions, and reports. Much of the training was provided via the subprojects and was largely implemented outside the technical assistance contract. The recipients of training and the attendees at workshops interviewed by the evaluation team uniformly were positive in their comments. As noted above, most of these workshops resulted in comprehensive reports that have proved valuable to the participants.
4. Information sharing - This is a category that is difficult to evaluate without interviewing most of the people with whom information was shared, reading all the documents distributed, and reading all the papers presented at international conferences - none of which was possible under this evaluation. There is no doubt that many, if not most, of the contractor's activities could be considered information sharing from the very nature of human interactions, and indeed the contractor's reports include a host of activities under this category. There has been some dispute, however, over the need for the large amount of travelling involved under this category, including the attendance at international and national conferences.

A major concern of this evaluation is the lack of peer review of the technical documents produced under EIA, mentioned above, and the consequent uncertainty about their technical quality. The effectiveness of the information-sharing component has been compromised, in addition, by two other problems. One is the

general nature of the quarterly and annual reports and their lack of specificity with regard to the content of the technical assistance and the subproject activities, as noted in Section III A. The other has to do with what seems to have been a selective and sometimes misleading reporting on subproject activities.

- The contractor's Abidjan field-office staff attended the wrap-up workshop of the Liberian subproject (see Appendix C) - a major event that demonstrated forcefully the positive institutional impact of the subproject. The sole mention of that event in the annual reports, however, is "EIA/Abidjan staff made a brief visit to Liberia in September 1985 to participate in the energy Program Implementation Workshop."
- The Rwanda subproject, which was described by the REDSO staff as a "disaster", is described in bland general terms in the annual reports. The final (FY 1987) report notes the revisions to management plans and schedules made by contractor staff and concludes simply, "And, in general, the sub-project will shift in focus toward agroforestry."
- The FY 1987 annual report states that the Lesotho project closed down, "most of its objectives having been achieved." This is at complete variance with the independent evaluation excerpted in Appendix B.

Finally, there was a noticeable absence of "networking" among the subprojects - sharing the information and reports of one subproject with the others, with the obvious aim of helping some learn from the mistakes and successes of others.

### C. Subprojects

As noted in Section II F, the subprojects, which were the main focus of the original project design, were mission-managed long-term activities distinct from the short-term technical assistance provided by the contractor. In conjunction with its visits to the two REDSO offices, the evaluation team was able to make very brief visits to the counterpart organizations involved in the subprojects in Kenya and Cote d'Ivoire to get some idea of the impact of the EIA subproject activity in those countries. In addition, the team visited Liberia for the same purpose, with the added advantage of interviewing some of the key people who were in the U.S. As a result, a detailed evaluation of the Liberia (Energy Planning Advisor) subproject is given in Appendix C. Circumstances permitted a second visit to the KENCO subproject, and a

detailed evaluation of that subproject (Regional Improved Stoves Program) therefore appears as Appendix A. Finally, two cooperating participants, whose services were provided by A.I.D., visited Lesotho and Malawi where they had the opportunity to evaluate those subprojects in more depth. Both of these reports (Lesotho: Improved Rural Productivity through Marketing and Disseminating Energy Technologies - and Malawi: Energy for Small and Medium Enterprises) are available as separate documents. A summary of the report on the Lesotho subproject appears as Appendix B.

1. Energy Conservation, Cote d'Ivoire - This subproject was aimed at assisting the government agency newly created to deal with energy conservation issues (Bureau d'Economies d'Energie, BEE) by helping them seek funds for energy-conservation measures, and by supporting energy audits and public-relations campaigns. Discussions with the government began in 1984 and funds (\$200,000) for the Energy Conservation subproject were obligated in July 1985, with the BEE as the grantee implementing the subproject.

The focus for this activity was primarily the private sector, and by the end of 1987 the BEE had conducted energy audits in thirty-four commercial and industrial establishments. These included thirteen processors of agricultural products, eleven food-processing firms, seven involved with textiles and plant fibers, and three dealing with wood and wood products. In addition, a large and apparently well-known publicity campaign had been launched, involving radio and television announcements, T-shirt distribution, and distribution of printed material.

It is still too soon to evaluate the achievements of this activity with concern to the private sector. At the time of the evaluation team's visit, one of the establishments audited had taken steps to put in place some of the changes recommended in the audit; the others were still planning future actions or had given no indication of their plans. Greater success seems to have been achieved, however, in the public sector, where the BEE reports that measures taken, involving equipment modifications and changes in billing methods, resulted in a total saving of CFA 1,722 million (approximately \$6.5 million). If the private sector can eventually show similar energy (and financial) savings, the overall optimistic view of the BEE officials may well be amply justified.

2. Regional Improved Stoves Program, Kenya - This subproject activity began with an obligation of \$200,000 in August 1985. It is a regional activity in technology dissemination located within a regional non-governmental organization headquartered in Nairobi, the Kenya Energy Non-Government Organizations, which was the subproject implementer. Only a brief discussion will be given here since this subproject is treated in greater detail in the Appendix.

The subproject was aimed at reducing woodfuel consumption in Sub-Saharan Africa by the improved efficiency of cookstoves. It is safe to say that this subproject activity has significantly assisted KENGO in its work to disseminate the technology of fabrication of more efficient cookstoves widely in Africa. The funds made available have supported workshops, technical training, and technical assistance to participating countries. All local people involved in the operation were uniform in praise of the achievements of KENGO and appreciative of the efforts of USAID through this subproject. The one bone of contention that did arise, in discussions not only with KENGO personnel but also with artisans involved in actual manufacture and distribution of the improved stoves, was that the conditions of the subproject grant did not permit the purchase of materials needed for construction of the stoves. The project is geared to delivering technical assistance, not material support. KENGO cannot, for example, build model production units. Limitations on material assistance obviously restrict what KENGO can do and what impacts the project can have. This meant, for example, that entrepreneurs of the informal sector, the backbone of the fabrication and distribution network, were frequently faced with sometimes insurmountable problems in obtaining enough funds to purchase the starting materials for their operations. Those who were unable to borrow the needed cash were never able to participate; others often experienced significant delays in starting their small operations.

This issue of private-sector involvement and how to encourage it is at the heart of such projects concerned with dissemination of new technologies, and is discussed more fully in Appendix A. Despite this problem, this subproject has all the earmarkings of a success.

3. Energy Planning Advisor, Liberia - Following an energy assessment of Liberia performed by Oak Ridge National Laboratory (ORNL) with USAID support in 1983, USAID/Monrovia requested EIA's assistance in providing a long-term energy planning

advisor to the Government of Liberia. Subproject funds for this activity (\$250,000) were obligated in July 1983, with ORNL as the contractor, and some additional funding for short-term technical assistance was supplied by ST/EY. The resident advisor arrived on the scene the following October. Interviews with the former advisor, his Liberian counterpart, and the Liberian organization with which he worked (the National Energy Committee - NEC) lead to the conclusion that this subproject activity "has been of measurable benefit to the Government of Liberia," as stated in the final evaluation of that subproject. [37]

Products of this activity included a national Energy Balance for 1982, an Integrated National Energy Plan (a "national energy plan in place" as envisaged by the original PP), a national Energy Balance for 1984 prepared after the termination of the subproject, and a strengthened National Energy Committee, with a dedicated staff who are committed to the ideas of rational energy planning and conservation on a national level. The NEC continues to be the center for government discussion of energy issues; other agencies and officials recognize their competence and dedication and call on them for assistance. The NEC staff notes, however, that there continue to be problems of changing committee membership, as representatives from the various agencies come and go in different jobs. For this reason, they are working to have the Committee elevated to the status of Commission in order to be able to command membership at a higher, and presumably more stable level.

This subproject illustrates the positive results that are possible with long-term energy planning advisers when there is support from both the mission and the government.

4. Energy Conservation Audits in Electric Utilities - This involved a grant of \$250,000 to the Economic Community of West African States (ECOWAS) to perform a series of energy audits in the ECOWAS member states. A U.S. firm (Hagler-Bailly) was engaged to perform the audits. According to the contractor's FY 1987 report, as a result of a series of delays, "the work plan was scaled back to include only one round of audits in two countries - Niger and Sierra Leone." The report notes that a training course was conducted in Niger and that the planned audits in Sierra Leone were completed. The report is silent about energy audits in Niger. The PACD for this subproject was extended to December 31, 1986, but the contractor had not evaluated the subproject as of this final EIA evaluation.

5. Small Hydropower for Increased Agricultural Activity, Madagascar - This activity was originally identified by REDSO/ESA. The facility constructed was designed to provide 30 kilowatts in hydromechanical power and 30 kilowatts in electrical power to stimulate agricultural productivity. EIA funding of \$150,000 was provided, with an additional host-country contribution of \$407,000. The Subproject Activity Request Cable (SPARC) was approved in June 1984. Although the contractor's annual reports note neither the obligation date nor the PACD, the final (FY87) report notes that a one-year extension had been granted until April 1988. A detailed evaluation review of the Madagascar subproject has been carried out by REDSO/ESA, and is available from that office.
6. Farm Tree Planting in the Sub-Prefecture of Buberuka, Ruhengeri Prefecture (Rwanda) - This subproject was intended to establish a forestry extension service, plant communal forests, and improve the management of existing forests, woodlots, and nurseries. Funds (\$500,000) for this four-year subproject were obligated August 31, 1983, with an additional \$335,000 to be provided by the host government. The final (FY87) report notes that these goals were indeed achieved, but interviews with current and former REDSO/ESA staff indicate some serious disagreement over the value of the reported achievements.
7. Long-Term Energy Advisor (Somalia) - Designed by USAID/Somalia, this two-year subproject commenced in June 1983 when A.I.D. obligated \$205,000 following a request from the Government of Somalia for an energy advisor in the Ministry of National Planning. Subsequently, additional funds were obligated to bring the total to \$285,425. As mentioned elsewhere in this report, this subproject is an example of the influence on the course of such a project exerted by the presence or the absence of one or more advocates within the mission. The subproject was designed and approved largely as the result of advocacy within the mission, but soon after approval that advocacy disappeared in the course of normal reassignments. The situation was exacerbated by a change in A.I.D. policy that

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<sup>2</sup>In preparation for this EIA evaluation, a visit to Madagascar was requested for the purpose of evaluating the Madagascar sub-project. In any event, however, that visit was not possible.

resulted in the elimination of energy as a mission concern. Although in our interview with the former Energy Advisor the consequent lack of mission support was seen as a major obstacle to a smoother, and perhaps more successful, operation of this subproject, former mission staff gave high marks to the Energy Advisor for having created a working Energy Planning Unit under difficult circumstances. This subproject also illustrates the dramatic differences in points of view of the EIA contractor and the subproject manager. The EIA contractor's annual reports indicate significant activity connected with this subproject. The Energy Advisor, on the other hand, reported "minimal support" from either EIA or REDSO.

## V. DISCUSSION AND CONCLUSIONS

### A. Successes and Failures

As discussed in the previous section (and in Appendices A and C), some of the EIA subprojects were quite successful and have had significant impact. Some of these were also achieved at relatively low cost. In this sense the subproject components achieved much of the Project's objectives. Success as measured by impact of the other Project components, particularly much of the technical assistance not linked to the subprojects, is quite difficult to assess irrespective of the professional quality of the particular effort. This is particularly so where A.I.D. project management has not requested (or obtained) the detailed information that would permit a cost-effectiveness analysis of particular project activities (as was noted above). Although, as discussed below, much of this technical assistance was reported to be of high quality, it was relatively expensive. The comparison of subprojects to other project activities, therefore, is central to an evaluation of EIA.

### B. A.I.D. Management - The Macro Picture

Overall, the management of the project and supervision of the contractor by the office(s) (originally AFR/RA) directly responsible seem to have been inadequate. Management shortcomings appear to have occurred at multiple levels - at the level of specific project management and at higher levels of the Office and even at the Bureau level. This is not to imply that project management was necessarily weak in some aspects. In the early stages of the project, project management was aggressive in pushing a "view" of project evolution in the face of uncertain and changing budgetary and priority positions. Both Office and Bureau management appear to have done less than that what was possible to 1) buffer the project and project management by

suggesting alternatives in funding, 2) suggest more flexible contracting stances, or 3) force more serious consideration of hard choices. Over time, the project management inadequacies manifested themselves in various ways.

Some of this may have been due to the changing environment faced by the Office of Regional Affairs, and particularly the changing budgetary environment. A major reason, however, appears to be the larger problem of lack of continuity that is characteristic of A.I.D.'s foreign service system. In this case, its most immediate manifestation was the frequent changing of project managers. These reasons may account for the inadequate management and supervision, but they are not adequate excuses, for they are common to most multi-year projects. While the changing of managers, for example, might have been partially responsible for the inadequate project documentation, both financial and technical, it cannot excuse the failure to conduct a midterm evaluation. Nor can it excuse the lack of professional review of documents meant to serve as information dissemination vehicles or the lack of adequate expenditure information to assess cost effectiveness of project activities. (See paragraph E.) While some of the responsibility for this failure belongs to the contractor, it is, nevertheless, the responsibility of the project manager to see to it that such things are done and that the contractor devotes sufficient time and resources to the effort.

Individual components of the project, particularly some subprojects and particular technical-assistance efforts, often received quite adequate management supervision and oversight, sometimes by the missions (Liberia, for example) or by the REDSOs. There are also components where the management and supervision - including evaluation - appear to have been a mixture, both inadequate and adequate, depending on where and with whom the management/supervision/evaluation responsibility lay. For example, the files and information on the Rwanda Subproject suggest that the mission's management role was inadequate and that REDSO/ESA's more direct and potentially useful inputs were curtailed, if not unwelcome.

Often management oversight was performed by the missions, or by the REDSOs on behalf of the missions for certain activities. But the missions and the REDSOs had no overall management or financial supervisory role over the contractor. Indeed, before the approval of the original PP, the REDSOs argued against having management responsibility because of their limited budgets and staffs. The missions and the REDSOs did have responsibility for management and financial supervision of subprojects, however, since these were mission activities. This left the project with two field offices in

Africa and the responsible A.I.D. management in Washington. Furthermore, the responsible office (RA) did not have the technical expertise to judge or supervise the technical assistance provided by the contractor, nor is there indication that it looked outside the agency, or to other A.I.D. offices, for such expertise to review project activities. Consequently, project management was not in a position to evaluate the contractor's technical judgement and decisions.

Some aspects of the project seem to be related to the roles of multiple A.I.D. players, and to the fine distinction between authority and responsibility (de jure versus de facto, as one A.I.D. informant put it) and how this has shifted over time. While the project was nominally managed by AID/AFR/RA (while that office existed), clearly the regional offices (REDSOs) and the (bilateral) missions had important roles. Moreover, even in Washington there were shifts in responsibility (and perhaps even some turf battles), not necessarily only when people changed jobs - for example, as the roles of the Office of Regional Affairs (RA) and the Office of Development Resources (later Technical Resources, TR) shifted over time. These are complicated issues critical to the effective and efficient management of such complex regional projects. Unfortunately, however, the limited resources available for this evaluation precluded a deeper analysis of these issues and their implications, other than these general observations and the specific findings and conclusions noted below. Nevertheless, consideration of the implications of these issues is crucial to AID/W planning and management of its forthcoming Natural Resources Management Support efforts.

### C. USAID Management and Project Design - The Subproject Bureaucratic Burden

In a number of cases, the design, approval, and implementation supervision for the subprojects has been seen by many as a burden on the staff involved. Comments such as, "It took as much to deal with a \$200,000 project as with a \$5-million project" were made by some of the A.I.D. staff involved with the EIA Project. Comments were also made to the effect that using a regional source of funds for subprojects may not encourage a sense of accountability for project progress on the part of some missions. The evaluation team heard comments mentioning the burden at various stages - design, approval, and implementation supervision. Some interviewees noted that the problem was that both AID/W and the contractor underestimated the requirements; hence there may have been misperceptions about the bureaucratic burden ab initio. When the relative administrative burden is high, particularly in relation to project size, and where bureaucrats have no sectorial

commitment, let alone expertise in the subject, an obvious bias against such subprojects is raised. This bias might even arise for those with a commitment to the sector because of the relative administrative burden. It is unclear, however, how much of this is caused by A.I.D.'s micro supervision and financial management. It is also unclear whether this burden introduced a bias in the process, in particular by positioning the missions against subprojects in general, or against subprojects of a particular type - or, perhaps, towards the shift to technical assistance in the "reoriented" project. (See F below.)

This problem was to some degree a flaw in the project design. It could have been at least partially avoided. Work in other regional and bilateral umbrella projects indicates that it should have been possible to have a more generic subproject review process. This might have been accomplished in the design phase through the identification of generic sets of subproject types that would have received blanket approval as part of the project approval. It is important to note, however, that this problem - this bias against subprojects under an umbrella regional project - does not seem to be characteristic of all sectors, whether as a consequence of a simpler subproject approval/management process, or because of the presence in the mission of an advocate, a project officer with a special interest and responsibility in the subject and appropriate backstopping in AID/W. Other regional projects (e.g., Combatting Communicable Childhood Diseases, ROCAP regional energy projects) seem to have been able to generate adequate numbers of bilateral subprojects. The important role played by advocacy within the mission is excellently demonstrated by the Somalia subproject (Energy Planning Adviser). The mission Energy Officer recognized the urgent need for energy planning on the national level and, with the firm support of the Director, pushed the design and approval of that subproject. In due course, both the Energy Officer and the Mission Director departed for other assignments, and mission support for the subproject and the Planning Advisor all but disappeared as other interests occupied their replacements.

Finally, it has been suggested that the supervision burden, particularly the detailed financial supervision, might be relieved by a greater use of grants and bureaucratic "off-loading" through other institutions, such as university consortia or other non-governmental entities. This has proved useful with some subproject situations. Indeed, this was the procedure followed in the subprojects in Kenya and cote d'Ivoire.

#### D. USAID Management - Failure To Have a Midterm Evaluation and Failure To Go Through Formal Redesign

In view of the evolution of the EIA Project and the budgetary problems encountered, (Sections I and II above, and F below), it is the judgement of the evaluation team that the failure to have a midterm evaluation was a very serious mistake, as was the failure to go through a formal, independent redesign of the project. In the judgement of the evaluation team, although the decision not to have the midterm evaluation or the formal and independent redesign may indicate aggressive project management, it was clearly misguided. Many of the serious project shortcomings discussed in this report might have been circumvented. Evaluation or redesign teams would have noted many of the problems and suggested solutions, and the changes and shifts recommended - including, perhaps, those eventually adopted - might have been endorsed after appropriate independent<sup>6</sup> review rather than appearing as changes initiated by "insiders" (A.I.D. management and the contractor) who could be seen as having personal, professional, or financial interests in the outcome. Midterm evaluations (or lower-level "technical reviews") can be constructive sources of helpful suggestions, criticism, and of course, evaluation. Arguments that evaluations can slow things down are not sufficient justification to avoid them, particularly when significant changes are being contemplated or are being made (see paragraph F).

#### E. USAID Management and Contractor Performance - The Lack of Documentation, the Lack of Review

This has been a complex project of multiple subprojects, numerous technical-assistance efforts, and various information sharing/dissemination efforts. The last of these included the preparation of manuscripts, reports, and computer-model documentation, and presentation of papers at professional meetings. The overall documentation of the project, however, is poor. Among the failures are:

1. There has been no analysis of contractor expenditure by project component, either according to the original PP design, or by any other appropriate management-defined scheme of categories. Furthermore, the contractor's financial reports are not sufficiently detailed to provide the support for any cost-effectiveness analysis.

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<sup>6</sup>See Sec. F. Paragraph 2, below for a more detailed comment on "independent."

2. There does not appear to be even a moderately complete, coherent, organized file or record of the project in AID/W. In addition, several months after the contractor's Nairobi field office had shut down, the bulk of project records from that office still had not been acquired by AID/W (or by REDSO/ESA) from the contractor and were not available for this evaluation.
  
3. Many of the reports, computer models, and other publications produced under the project are available only from the contractor. These and those prepared for wide dissemination as part of the information-sharing component of the project were not in general subjected to independent review, which raises some question about their objectivity, completeness, and usefulness.

#### F. USAID Management - The Project Evolution Issues

The dramatic shifts and changes in the project - large decreases in overall budget (with some small subsequent increases); dramatic shifts in project emphasis away from subprojects and to technical-assistance (TA) intensive activities; and of course project management shifts, including personnel changes both on the contractor's staff and within A.I.D., and the disappearance of the Office of Regional Affairs - raise a number of interrelated issues. The project started with heavy emphasis and funding focused on subprojects as opposed to TA-type activities. Reportedly, when the project was conceived - before the PID - it was intended to be almost exclusively in support of subproject activities. In the original PP, about \$13 million was allocated to subprojects with some fraction of the \$6 million allotted to the contractor to be devoted to technical assistance. (The contractor reported that approximately 40 per cent of the amount paid, up to late 1984, was spent on TA.) This changed early in the project as funds were reduced and the focus shifted away from subproject funding.

The evaluation team has tried to deal with the interrelated issues raised by the evolution of the project, which are discussed below. Unfortunately, restrictions on the availability of time and information have prevented adequate detailed discussion of some of the issues.

1. A.I.D. management's lack of foresight - We have no wish to use the advantage of hindsight to be critical of everything about the project. Between project design and implementation, however, A.I.D.'s project managers should have sensed some of

the shifting environment in both national and foreign-assistance policy. In particular, A.I.D. was aware, in 1981, of the change in the administration's energy policy, and the change in emphasis of our foreign-assistance policy. If A.I.D. officials had considered carefully the budget shifts implied by these changes and had forecast, at least to some extent, the funding crunch ahead, the agency might have hedged on the terms and conditions of the contract with E/DI or made it more flexible, might have delayed project implementation, or perhaps have modified the project design.

How the change options were defined and decided - The failure of A.I.D. to take either of two independent (but related) steps severely compromised the evolution of the project. First, A.I.D. failed to conduct a midterm evaluation, which was explicitly called for in the Project Paper. Second, A.I.D. failed to seek disinterested advice on a formal redesign of the project. In view of the dramatic changes to the original project design that took place in 1984, both of these steps should have been taken. Neither process occurred, however, and the evaluation team has been unable to discern any cogent reason. Expressed concerns of A.I.D. project management about delays cannot justify these omissions in a project of this complexity and magnitude.

- REDSO/ESA staff recommended an evaluation. Some persons interviewed said the contractor was opposed to an evaluation. The contractor management recalls being in favor of an evaluation. The evaluation team, however, is not aware of any written record of a discussion or decision on this issue.
- There is no record of any outside input into the process of project reorientation (i.e., redesign) that took place in 1984, from either within or outside the agency. A more formal process was needed, particularly in view of the issues raised by those changes. Independent inputs might well have recommended the same changes - but perhaps not. With independent inputs, at least the evolution would not have been defined entirely by "insiders" (A.I.D. management and the contractor) who could be seen as having personal and professional stakes in the results. In any project, particularly one of this complexity and magnitude, it is too much to expect such insiders to have some of the objective perceptions needed. That is why the A.I.D. process usually has professionals not directly associated with the project as part of evaluation and/or redesign teams. In addition to the

subproject emphasis or de-emphasis, some independent evaluation views would have been helpful on other matters. From the start, EIA was a project of very broad scope, and even after the budget reductions and shifts in emphasis away from subprojects, it remained broad in scope. There would appear to have been arguments to be made in favor of a different emphasis or a more finite and narrow scope.

Opportunities for objective comments were missed when independent input, as defined above, was excluded from the decision making. It is clear that the options recommended in the contractor's report of the "reorientation" meeting (Ref. 5.) were the basis for the cable that the A.I.D. project manager sent to the missions, asking for comments on the changes. The contractor's recommendations thus became the de facto scenario for the future. It is unclear how much the options discussed and the scenario recommended reflected the views of the A.I.D. participants prior to the meeting. It does appear, however, that the participants' views may have been largely a reaction to a proactive option-definition role played by the contractor and A.I.D. management at the meeting. The obvious option to eliminate the project was discussed, but it was not presented to the missions as even a discussion point. Certainly no such option as "put all the money in subprojects and keep only some TA to help these subprojects" was either discussed or presented to the missions for comment.

3. Why did A.I.D. not replenish the reduced 106 funds from another account? - When the proposed reorientation of the EIA Project was discussed by the Project Committee, the PPC representative noted the possibility of replacing the missing 106 funds with funds from another account, as other Bureaus were doing, thus avoiding the need to reduce or eliminate the subproject component. There is no evidence in the record, or from the recollections of either the PPC representative to the subsequent ECPR meeting or its chairman that this option was ever presented to the meeting. It thus appears that the decision to reorient the project and eliminate the subproject component had been taken at a lower level and no conflicting option was going to be entertained. In fact, the initial A.I.D. project manager states that during the shifts and reductions (in resources), A.I.D. management directed that there be no resources for subprojects - an indication that this decision had already been made before either the Project Committee or the EPCR meeting. This raises the further question that, if this is the case, in view of the major importance to the success of the project ascribed to the subproject component, why didn't A.I.D. seriously consider cancelling the project?

4. In project-management and resource-allocation decisions, who was the advocate for the subproject funds? - This issue is closely related to the question of relative effectiveness of subprojects versus TA project components discussed below. To some extent this is also a distinction between components with more direct beneficiaries, such as subprojects, versus TA components with indirect beneficiaries. It has been pointed out, however, (by the former REDSO/ESA energy advisor) that this direct versus indirect distinction may be misleading in that all EIA activities (TA and subprojects included) were to be "indirect" in nature in that they were to be replicable or were to be actions capable of leveraging other actions. Nonetheless, in view of the dramatic difference in focus away from subprojects that followed the reorientation, the following observations are relevant.

- EIA and other regional projects can be contrasted to a typical bilateral project with a Project Agreement (PROAG) to which a host-government agency is party and has authority to approve changes. As EIA was structured, there was no built-in party (host government or other) represented in the project-management decision structure whose interest was primarily in subprojects. This is typical of most, but not all, regional projects. Yet the original design was heavily weighted to subproject activities and this was in fact one of the primary justifications for project design and approval.
- As the project evolved and consideration was given to reduction if not elimination of subprojects, there was no advocate at the discussion and negotiating table to present the case for subprojects. From within the agency, the Bureau for Science and Technology (ST) or the Bureau for Program and Policy Coordination (PPC), with their broader perspectives, might have provided useful input to the decision. ST apparently opposed the project at the very beginning because not enough emphasis was placed on subprojects, particularly in a project structure that acted as a disincentive to the contractor to push bilateral subprojects. Representatives (advocates) reflecting local governments' interests (in subprojects), while admittedly more difficult to build into the decision structure in regional projects, might have provided another independent source of ideas. (Examples from Central American regional energy projects are inappropriate

because in that case, there are **regional** institutions with which to work. Examples of African regional agriculture research with empowered Committees are of only limited application, since the research agenda is generally much better defined than the scope of EIA's activities.) **An independent voice at the discussion/negotiating table might have argued more strongly for subprojects.**

5. The Limited Range of Reorientation Options - The options considered during the reorientation meeting appear to cover only the **vested interests** of the parties present - the human/bureaucratic needs of the parties who were at the table making the decisions.

- The project was an AID/W creation; continuation would be in its bureaucratic interest.
- The REDSOs, and to some extent the (bilateral) missions, wanted TA available in the field.
- Some missions were leery of the administrative burden of subprojects (see B above).
- The contractor's interests were served by the TA-intensive options.

In effect, the project reorientation shift moved the project emphasis and changed the beneficiaries as TA components were emphasized. What seem to have entered implicitly as components/activities, but **never very explicitly and prominently stated**, were the following components:

- support to the USAID regional or country missions;
- support to international agencies (other than AFDB); and,
- support to host countries for needs not fitting into the major category in the PP.

Examining the relevance, effectiveness and efficiency of such TA activities introduces a number of additional questions and issues. This is the case particularly if the examination is done in comparison with the subproject type activities that were outlined in the PP. These subprojects were to have a direct impact, to reach the private sector and use intermediate

financial institutions. These questions of relative efficiency and effectiveness should have been confronted at the point of reorientation. No verbal or written evidence was presented to the evaluation team to suggest that this was done. The conclusion is that it was not done. If the decisions were made on a judgmental basis, at some point they should have been verified. An appropriate place for such a verification and other review would have been a midterm evaluation.

6. Implications of subproject successes - The relative success of the subprojects was mentioned above in paragraph A. In fact, from the perspective of this evaluation, it appears that some of the subprojects have been quite successful. In some cases, these have been implemented at quite a low cost because they used largely local staff. Since these projects have also reached beneficiaries in a more direct fashion than much of the TA and have had immediate impact, they appear to have been quite cost effective.

This is in contrast to much of the TA expended under the reoriented project, the impacts of much of which are less direct in many cases.<sup>7</sup> The evaluation team was interested in how much attention was paid to this cost-effectiveness issue in the reorientation decision, since all but one of the subprojects that were ultimately implemented were underway, in the pipeline, or being planned before the reorientation.

There is no clear indication that A.I.D. management ever addressed this question of the relative cost effectiveness of subprojects versus TA not related to subprojects. This was an oversight, particularly when the relative cost effectiveness of subproject success should have been apparent. And yet at the same time, information received by the evaluation team indicates that successful subprojects (e.g., KENGO) were denied additional resources while TA continued.

7. Impact of Non-Subproject TA - There have been many positive comments on much of the technical assistance provided under the contract and generally favorable comments on the professional skills of the contractor's field staff. Irrespective of the

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<sup>7</sup>This was noted in Section 4 above.

professional quality of the TA, however, there are several issues that must be raised about it, besides its cost effectiveness, particularly in comparison to the subprojects. Among these issues are the following questions:

- a. Should such large amounts of TA be expended **unlinked** to direct project funds that it could help directly, as originally intended in the PP?

In the evaluation team's judgement the answer to this is, "Probably not," but the question deserves greater study and a more definitive answer than was possible under the constraints that limited this evaluation.

- b. Should A.I.D. have consented to the distribution of technical documents, handbooks, and field manuals without seeking independent review?

The answer is a firm no - it is simply not professionally responsible.

- c. Should there have been any TA directed to policy issues when the minimal A.I.D. energy portfolio that evolved starting in 1981 gave minimal policy leverage, at best?

In the evaluation team's judgement the answer to this is also a firm no, unless the needed leverage can come through collaboration with other donors.

- d. Did the TA serve any truly catalytic roles?

The evaluation team has been told that in at least some cases this TA did lead to subsequent World Bank support of particular activities. It should be pointed out, however, that such catalytic roles have also been attributed to the subprojects.

- e. Could such TA have been provided more cost effectively?

There are issues of scale that must be addressed to answer this question meaningfully. At what level of technical assistance are the overhead costs covered? And at what point is there synergy among the different TA efforts so that the TA's productivity is high? Detailed analysis of these questions was beyond the scope of this effort, unfortunately. Several informants, while praising the quality of the TA provided, commented that it was an extraordinarily expensive way to obtain

it. Some referred to the Forestry Support contract and PSC contractors as alternative modes to deliver the TA at lower cost. At the same time, synergy between the subprojects was noted by some, at least some of which has been facilitated by having an organized TA team in the field. It should be noted that some of this synergism was also facilitated by USAID staff in the field. The negative side of this picture is painted by the comments that there was too little synergism between the East and West African activities of EIA, particularly in information sharing, and particularly in view of the staffing differences between the two REDSOs. In sum, the answer to this question is simply not clear.

f. If the shift to more TA was a way to maintain interest in the energy sector in A.I.D., was TA the best way? Might high-visibility subprojects not have been better, or perhaps TA supplied in the usual way, not via contractors' field offices?

Despite the redundancy of the comment, it must be noted once again that all of these issues should have been part of a midterm evaluation, and certainly should have been among those discussed during reorientation.

8. Role of The Contractor in Relation to REDSOs - As the project evolved through the reorientation, the contractor's field teams became, de facto, a source of "free" TA for the missions and the REDSOs - free in the sense that the costs were not charged to their budgets. In view of this situation, would not the roles of these teams have been more effective if they had been seconded to the REDSOs (thereby avoiding the high cost of maintaining two contractor field offices)? According to the contractor, this option was apparently rejected at the PP point, but at that time, the emphasis was on subprojects and support of subprojects. When the shift was overwhelmingly to TA, perhaps the TA team should have been effectively merged with the REDSOs.<sup>a</sup> There is no evidence that this was subsequently

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<sup>a</sup>The implication in this comment is that the members of the TA team would have become Personal Service Contractors (PSCs), housed at the REDSOs. A.I.D. has long had a system of using PSCs as de facto staff members: witness the Regional Energy Advisors and Regional Forestry Advisors at the REDSOs, the Regional Environmental Officers

considered. Such questions are particularly relevant for TA-intensive projects such as the Natural Resources Management Support effort about to begin.

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and Energy Officers stationed at some missions in other regions, and similar positions. The practical difficulty with this solution is the limitation on total positions - permanent "slots" and PSCs - imposed by the State Department for each U.S. Mission overseas (embassy, USAID, Peace Corps, etc.). If the Executive Branch is really interested in using limited tax dollars efficiently, it should examine the question of the political costs, if any, of increasing the allowed number of positions in a particular country, versus the financial costs of procuring services through the establishment of expensive private contractor offices overseas compared with the cost of PSC procurement. (This, in turn, ignores the other problem of the status of the PSC who is given regional or mission responsibility in a specialized field, with no authority as an A.I.D. employee.)

## VI. Recommendations

### A. Introduction

The Evaluation team's findings, discussion, and conclusions as described above suggested a number of recommendations that were presented in the draft report. These draft recommendations elicited extensive comments. In response, the evaluation team attempted both to clarify and to expand the draft recommendations. As part of this process, and also as precipitated by some of the comments<sup>9</sup>, the recommendations now include some new specific suggestions that draw in part from the evaluation team's experience with other projects and with other development-assistance organizations. In addition, other issues worthy of specific recommendations were identified in the course of the review of various comments on the draft evaluation report and during discussions with people who had reviewed the draft.

### B. Specific Recommendations

1. Projects concerned with specialized issues such as energy (or health, education, agriculture, natural resources, etc.) should be managed from and by an A.I.D. office with in-house expertise in that field. The Agency, and the Africa Bureau in particular, should consider alternative ways to structure such management (see suggestions that follow.)
  - a. In the view of the evaluation team, management without an integral role played by technical experts will often lead to inadequate supervision of the contractor's technical judgement. Such a technical oversight role should be part of a structure that also gives substantive inputs in the programmatic decisions to those charged with technical management and review. This requires the technical staff to have some direct programmatic authority even if this is a shared authority.

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<sup>9</sup>The evaluation team is particularly indebted to the very extensive and thought-provoking comments of Mr. Charles Mosely of REDSO/WCA. As a result of his suggestions, the team drew more deeply not only from the evaluation findings and other A.I.D. experience but

- b. The structure of this management, and the appropriate level of technical supervision is, of course, a function of the project (or subproject) particulars:
  - o In some instances these technical inputs need not be extensive, for example where the project is a replication or extension of efforts elsewhere and the technical issues and problems have mostly been dealt with before.
  - o Other cases could be ones in which the local cooperating agency (government or otherwise) has considerable technical expertise, sufficient to assume at least a de facto (if not contractual) technical-review and supervision role with respect to the contractor. In this case, the Agency's technical-management role would be to provide backstopping and "official contractual" supervision.

Unfortunately neither of these two situations characterizes many of the specialized, low-volume<sup>10</sup> project activities of EIA or other needed activities the Agency should be undertaking in the future. In the judgement of the evaluation team, specialized activities dealing with energy and other related natural-resource issues are very important for development, particularly in Africa.<sup>11</sup> This importance is too great for

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also from the team's experience with other agencies and organizations. This was done in an attempt not just to deal with the "what" of the recommendations but also at least to probe "the how" for some of the recommendations.

<sup>10</sup>Low volume is of course a relative term; what is low volume in a country program with an annual budget of \$20 million may be much different in the context of a Mission with an annual program budget of \$2 million. But as discussed earlier in Section V., it is clear that the relative low-volume aspect of EIA subprojects was an issue.

<sup>11</sup>The evaluation team considers the reform and improvement of the energy sector to be critical to efficient and equitable development in many countries in Africa and elsewhere. The opportunities for improvement and reform and their importance can be viewed from numerous perspectives: energy's importance in household budgets,

the management problems and staff limitations noted herein to prevent A.I.D. from undertaking future specialized energy projects. Rather, the Agency should consider alternative mechanisms to provide the necessary technical management. In the view of the evaluation team, this requires looking at approaches that significantly differ from the Agency's practice of assigning management on a geographic rather than a functional basis. For specialized low-volume activities some blend of geographic and functional-group based management may be a viable alternative. In other situations, when the Africa Bureau or a particular Mission is short of the necessary expertise, it can make use of the usual interagency agreement mechanism (viz., RSSA, PASA), for example with the US Department of Agriculture, for project management assistance. Alternatively, an arrangement with another Bureau within A.I.D., such as Science and Technology (or another Regional Bureau with specialized expertise and experience) could be considered to assist with the needed technical (and related programmatic) management in a collaborative fashion. A related issue of the location of management is the subject of the next recommendation.

2. As a general rule, regional projects in Africa should not be managed from Washington. Whenever feasible, A.I.D. should manage the projects from the field provided adequate technical input is part of the management. (See recommendation 1 above.)

The analysis of management problems that arose with the EIA project shows that management from Washington was inadequate in some important aspects. The problems are intertwined with issues of who manages and how (with or without technical staff input). The reluctance of the REDSOs to assume this management burden is understandable in view of their budgetary and staffing constraints. But some alternatives, other than the structure used for EIA, need to be developed for other specialized and low-volume but important specialized activities. Among the possibilities to be considered are:

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national development-budget requirements, and in foreign-exchange requirements; energy-sector opportunities for increased participation by private firms (large and small), or for enterprise development and employment generation; and from the perspective of the comparative advantage of the US to assist countries in Africa and elsewhere with such development issues and opportunities.

- o A direct management role for the REDSOs with some provision of concomitant budget and staffing resources to permit them to exert strong technical and financial supervisory management control over the contractors in the field. In such a role the REDSOs could act either as the agent for an AID/W Office, or the particular specialized regional project could be "ceded" to a REDSO as the Africa Bureau's de facto manager.
- o Project management as practiced by the World Bank, Asian Development Bank, and other private and public institutions that manage many large projects from central institutional headquarters. Whether based in Washington, Manila or wherever, such institutions have management procedures and practices that allow adequate, technical, programmatic, and financial project management. Such management practices absolutely require sufficient funds for project management and supervision, which means Agency staff (technical and management) time and travel funds must be made available. This modality could include drawing on resources from other Bureaus as outlined in the discussion of recommendation 1 above.
- o Management practices and procedures that combine aspects of the alternatives outlined in i. and ii. above.

3. The cost effectiveness of providing technical assistance from contractors' field offices should be realistically weighed against providing in-house capability in the REDSOs and against the benefits of mission-managed projects (or subprojects).

The discussion of this issue in Section V demonstrates the questionable basis, in terms of cost effectiveness, of contractor-provided technical assistance under EIA compared with that provided under the subprojects. There are of course non-trivial difficulties to be overcome in providing the technical assistance in-house through the REDSOs. Among these are the difficulties sometimes encountered in separating operating and project costs when staffs are co-mingled and an office does not have a management system designed for immediate support of such a mix of project and operating roles and accounting. Others are the simple but often very difficult problems of inadequate office and logistical support available in the REDSOs - support that is stretched in meeting operating responsibilities and might be incapable of absorbing

specific project burdens. The options of additional bilateral projects might also have brought additional overhead and support costs. All these issues need cost-effectiveness analysis.

4. A corollary to Recommendation 3. is that in the case of the use of such technical-assistance contractors, A.I.D. management must insist on adequate financial reporting keyed to specific technical-assistance activities so that the cost effectiveness of particular efforts can be assessed.

The shortcomings of such reporting in the EIA project were noted above (Section V E.). In projects geared to the delivery of technical assistance, there will often be numerous and varied requirements for such assistance. Cost-effectiveness analysis should facilitate the allocation of this assistance to activities that will produce the greater impact from such assistance. And in projects such as EIA, in which there is the option of support for subprojects or technical assistance, cost effectiveness analysis should aid the allocation of project resources between subprojects and technical assistance (or some combination of such activities). This analysis requires, first and foremost, clear measures of the personnel, technical assistance, and other inputs to specific activities. Furthermore it requires some estimate of the impact from such assistance. The measurement of such impacts is often not straightforward since the impacts of technical assistance can be both direct and indirect, and can occur immediately and/or over longer periods of time. Hence, in addition to measurements of inputs to specific activities, attempts must be made to estimate quantitative and qualitative impacts as part of the project management structure. This is particularly important in any multi-year technical assistance project. These measures of input and impact should be the basis of ongoing cost-effectiveness analysis.

5. A.I.D.'s top management should assess more realistically the domestic (US) political climate and budgetary environment before committing the Agency to such long-term regional projects. In the face of significant uncertainty, A.I.D. should organize project implementation with built-in flexibility where feasible. This is especially important in regional projects, where there is no PROAG that commits A.I.D. to some continuity in project conditions. The EIA project suffered from the shifting political climate here at home, with its budget cuts in categories that should have been anticipated. This is not to say that Agency management can be

expected to have a crystal ball.<sup>12</sup> But in the face of uncertainties, flexibility can and should be built into contracting arrangements and project implementation plans and schedules.

6. Regional projects that involve specialized subjects such as energy, and that contemplate bilateral (mission-managed) subprojects, should condition such subprojects on one of the following:

- o the presence in the potentially cooperating mission of officers who are reasonably certain of supporting the development of the subproject and preferably are also at least generally familiar and/or experienced with the subject; or,
- o it is clear that equivalent management and support for the subproject can be provided as part of the overall regional project management itself. (See Recommendations 1 and 2 above.)

The second of these options is necessary so as to help prevent the implementation from falling victim to the apathy, reluctance or even disinterest and hostility of doing new things and/or doing things differently that is sometimes encountered. While it is important to have mission support if possible, what is absolutely critical is sufficient management and support, wherever it comes from. Furthermore, regional projects dealing with important specialized issues such as energy and incorporating subproject activities that may be low volume might necessarily have to draw this support from regional offices or Washington unless and until the activity is large enough to justify local presence (financed by the regional project) or Mission support is forthcoming.

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<sup>12</sup> Examination of the time record of the project - particularly the delays in some implementation steps, such as putting in place the full field technical-assistance team - suggests that many of the forthcoming difficulties were imminent and could have been foreseen - and in some cases were known. Management steps to provide flexibility should have been taken.

7. Mid-term evaluations should be an absolute requirement for any project of four-years' duration or more. Exceptions should only be in extenuating circumstances.

The failure to have a midterm evaluation of the EIA project left all parties concerned with no coherent basis on which to decide what changes were needed during the life of the project. It left this evaluation with no synthesis of project activities during the first half, except for the contractor's reports, and no basis for understanding the reasons for the dramatic shift in emphasis in 1984.

If extenuating circumstances to justify eliminating the midterm evaluation are argued by project management, this argument should be presented in written form for approval by the appropriate Agency office management; if this position is endorsed, both the argument and the endorsement should be part of the written record of the project.

8. Under no circumstances should AID permit a large project to undergo redesign, by whatever name, without seeking competent, disinterested, independent advice.

As justified as the re-orientation may have been, there is no escaping the recognition that the decisions were made by people who had a personal, professional, or bureaucratic interest in the outcome. Outside help can refer to existing Agency staff or consultants. The important factor is that such personnel should have had no role at any point in the project from initial conception onwards.

9. Any regional (or bilateral) project that supports and utilizes reports manuscripts, course material, field manuals, workbooks, etc., as a mechanism for technical assistance and/or information sharing must include a process whereby this material receives independent professional peer review (and revision as needed) prior to dissemination or at least prior to widespread dissemination. Hard-copy project libraries of this material should be maintained by A.I.D. This library should include the drafts submitted for review, the comments, and the final document.

Significant resources were expended in the preparation of such written matter during EIA. No process of review was formalized under the project - the record suggests only limited review of one document. There is no hard-copy library of all the reports and manuscripts at A.I.D. Professional review is important to insure

the professional quality of the written material and hence the value to be gained by disseminating it. A hard-copy library makes the information immediately and relatively easily available to others subsequent to project completion.

10. Complex specialized-focus projects that include low-volume subprojects should include procedures in the design to minimize, to the extent feasible, the bureaucratic processes for subproject approval and implementation.

The problem faced as a result of this issue in the EIA project was discussed above (Section V.C.). While this is a problem endemic to A.I.D., alternatives to be considered in project design include:

- o approval of generic subproject types as part of project approval including prescribed budget ranges and level-of-effort limitations within which actual subprojects would not need subsequent approval;
- o approval of a simplified subproject-approval process including delegation of approval authority to project managers (including technical) as part of project approval; this simplified process to be valid for any subproject within defined budget limitations and within specified subject areas; or,
- o off-loading the subproject approval to an existing institution and accepting as part of the project approval this institution's current approval system with modification if necessary thereof).

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## APPENDIX A

## REGIONAL IMPROVED STOVES PROGRAM

## KENGO SUBPROJECT (698-0424.23)

## I. BACKGROUND

The Regional Improved Stoves Program (RISP) Subproject is one of the subprojects financed under the EIA Project. As the discussion below indicates, it appears to be one of the strong success stories of EIA, and as such is given special attention in this appendix. It is the most truly regional subproject sponsored by EIA. And yet, although it is a success, this subproject unfortunately exhibits some flaws too often found in USAID projects.

The Subproject, which was requested by the Mission, began officially in August, 1985 when \$200,000 in EIA funds were obligated. An additional \$110,000 in local currency was provided by the Government of Kenya under the agreement.

## A. Goal and Purpose

As stated in the subproject paper:

"The GOAL of the Subproject is to reduce woodfuel consumption in Sub-Saharan Africa through improving the efficiency of cookstoves.

The PURPOSE of the Subproject is to initiate an Africa-wide improved stove coordination and support program utilizing local personnel and expertise. Subproject OBJECTIVES are to: (a) identify, develop, promote, disseminate and market improved cookstoves utilizing local personnel and expertise, (b) train groups and individuals in stove evaluation, (c) improve stove information exchange between local groups and individuals, and (d) identify local and donor support for continued stove development, improvement and marketing." (Note a.)

## B. Grantee and Strategy

The project grantee (responsible for subproject execution) is the Kenya Energy Non-Governmental Organizations Association (KENGO) whose operating strategy has been to work with existing players, organized and unorganized. KENGO's strategy promotes and assists artisans and other groups in the formal and informal sector, in addition to providing direct and indirect assistance to some firms in the formal sector.

Formed in 1981, KENGO is an umbrella agency that represents over 200 member organizations in Kenya. KENGO and its member organizations have been involved in a wide range of energy/environment-related areas. This includes activities such as community agroforestry as well as improved cookstoves. KENGO has received support from numerous donors in addition to USAID.

### C. Building on Earlier Experience

The RISP subproject benefitted from an existing institutional structure; KENGO had been operating for more than four years and had accumulated valuable experience. In fact, the subproject had its origins in much of KENGO's earlier work. An additional very important aspect was the development of the private-sector players and their capacity in the production and sales of more efficient stoves (Jikos). These entities included both numerous players in the informal sector (the artisan producers) who were assisted by prior USAID projects, and at least a few players in the formal sector. Among the latter were two firms: Miaki Jikos, founded by a local consultant/participant in an earlier USAID project (the Kenya Renewable Energy Development Project - KREDDP) and another firm (Jerri International), which was founded earlier and which also received assistance from the USAID KREDDP project.

These prior institutional-development and assistance efforts were also sponsored by other donors, in addition to USAID, and other prior efforts were supported by local resources. All of these prior activities constituted a firm basis on which the RISP subproject could build. By providing examples of both successes that needed replication and failures that were to be avoided, they argued strongly for the subproject, and indeed made it possible.

### D. Subproject Evolution

Designed to build upon the existing experience and expertise already developed in the region, particularly in Kenya, the KENGO/RISP subproject was to provide both a network of coordination to avoid duplication of effort, and technical assistance to groups in the region. This was to be provided by local artisans and expert consultants. In any event, KENGO has achieved these goals, and continues to provide technical assistance in this manner.

The subproject appears to have proceeded in three phases:

- Phase 1 - consisting of information gathering, getting to know the key actors in the region; visiting the countries and learning the current state of the art, largely of artisan production; giving technical assistance and exchanging information in the course of these visits.
- Phase 2 - preparing, organizing, and conducting the regional workshop; and

- Phase 3 - provision of technical assistance (TA) and training.

The subproject is currently in this third phase.

## II. DISCUSSION AND CONCLUSIONS

The following paragraphs outline a number of findings from the subproject review. The issues discussed in paragraphs E-I, could be considered design failures. Had a subproject midterm evaluation been performed, some of these problems might have been circumvented.

### A. Purposes have been met

Table 1 presents a list of activities undertaken as part of the subproject, and Table 2 is a list of some of the more important documents produced. The number and variety of technical-assistance, training, and information-sharing activities suggest that the subproject purposes outlined earlier have largely been achieved. Participants (beneficiaries) in the subproject activities speak positively about both the activity and KENGO. Examination of the subproject goals and purposes shows that some issues remain. One is the needed continuity of such effort, which is discussed in paragraph E. below. Another involves the characteristics of the training and technical assistance, discussed in paragraph F.

### B. A plus that it happened

It is to the credit of A.I.D. - the Mission, the REDSO staff, and the EIA Project - that the KENGO/RISP subproject was designed, funded and implemented. The Mission requested the subproject; REDSO participated in the design and provided management; and EIA provided the funds and the technical skills of the contractor to participate in the design. Too often A.I.D. fails to follow up useful and successful projects for reasons of shifting priorities or budgetary allocations, or other reasons often unfathomable. In this case, as noted above, there was a considerable body of earlier efforts on which to build and whose experience needed dissemination. It could be argued that such a regional project was overdue and should have been one of the earliest and highest priorities of EIA. In view of EIA's budgetary and bureaucratic difficulties, however, it is commendable that this subproject happened.

Reports indicate that the subproject was initially proposed by KENGO and then REDSO (Pryor) and EIA staff (Bess). The subproject coordinator (Karekezi) gives Pryor much credit for ideas, support, and assistance in many different ways - an example of the best informal process of an A.I.D. staff person helping a local institution with both its overall development and a specific project.

### C. The most truly regional subproject

KENGO/RISP is the one widely reaching regional subproject supported by EIA. Although the technical assistance has been largely focused on eastern and southern Africa countries, it has also reached West Africa, at least through the regional workshop, the networking, and information dissemination. Furthermore, KENGO is considering a mechanism to facilitate delivery of technical assistance and other services in West Africa, through collaboration with a West African institution, such as ENDA in Dakar.

### D. Local staff and cost effectiveness

The subproject has provided its many services and is achieving the project purposes largely with local staff. These accomplishments by this KENGO-executed subproject have been at a relatively low cost - \$200,000 for what was intended to be a period of two years. At the time of this evaluation, approximately 40 per cent of that amount had not yet been expended, and the subproject had been extended for another fifteen months. Direct input to this subproject by the EIA contractor seems to have been confined to the earlier phases of the subproject, as noted above, with no significant input since. With the exception of the cost of the design input by the contractor, therefore, the subproject has been supported essentially by the subproject obligation alone. A cost-effectiveness calculation thus implies as little as a few thousand dollars for some activities.

### E. Need for more time and continuity

The subproject design and its obligated funds were originally for a period of two years. This appears to be too short a project period in view of:

- the importance of these improved-stoves issues and the delay there had been in providing a regional mechanism as leverage based on earlier successes financed by A.I.D. and others;
- the normal time required for NGOs like KENGO to gear up for new or different activities;
- the importance of longer-term continuity in such efforts; and,
- the likely time frame needed to "identify local and donor support for continued stove development, improvement and marketing," (purpose d., cited above) and to put in place other donor assistance to insure such continuity.

Discussions with the subproject coordinator reinforced this view, pointing out that the project could have used more time rather than more money. He cited the need for continuity of program, and time to build staff delivery

capability, among other things. The subproject PACD was eventually extended to December 1988 and getting the time extension was cited as one more example of the helpfulness of REDSO's Regional Energy Adviser. But the need for more time should have been recognized and dealt with in the design.

The need for continuity in such a regional effort, when the problem being addressed is one that will take years to overcome, is particularly important, and is frequently given short shrift. For example, KENGO had a standing request for extending the project (beyond the no-cost extension to December 1988) if other funds, such as natural-resource management funds, became available. Although such funds were apparently used to extend the E/DI contract to December 1988 when the decision was made to close the Nairobi office, apparently the contractor's Nairobi office did not pass on this request to the Abidjan office or to AID/W, although, of course, there is no indication that such a use of additional funds would have been approved. Here, the purpose of identifying other subsequent donor support is most important to insure continuity. An apparent success is that it appears that KENGO's regional efforts may be sustained by support from other donors - discussions are underway with the Dutch, Norwegians, and Swedes. The subproject clearly was a catalyst in helping to generate interest within other donors and to give KENGO the skills to deal with them in such a way that it can set at least part of the agenda rather than only respond to the donor's agenda.

#### F. Introductory versus in-depth training

Brief study tours and workshop meetings such as those that have been part of the KENGO/RISP activities can provide an introduction to production, marketing or other aspects of dissemination that are part of an improved-stove program. Such activities, along with the publications and networking activities, can communicate some experiences and markedly assist in the transfer of information. (Note b.) Some aspects of a stove development program, however, such as the production of the fired-clay liners, take time and skills that may require longer and more in-depth training. With KENGO/RISP's current capacity to assist in the development of test facilities, it is unclear whether these facilities can be used as longer-term training sites. Nor is it clear whether there is enough skilled personnel available for such longer-term training. These important issues deserve consideration beyond what is possible in this brief review. Their discussion should have been part of a midterm evaluation of the subproject, or included in some of the monitoring and other studies that should have been part of the contractor's work (see paragraph H, below).

#### G. Failure to include material support

The subproject is geared to delivering technical assistance, not material support. KENGO cannot, for example, build model production units. If the reviewers understand this correctly, only recently has KENGO been allowed to

build testing/training facilities for beneficiaries (and not for private entrepreneurs). The authorization to provide such material assistance should have come earlier and should have encompassed a broader range of material assistance. Limitations on kinds of assistance permitted have an obvious impact on what the project can accomplish. The earlier A.I.D.-funded KREDP (mentioned above) indicated the need for material support as well as technical assistance, in some cases. In our judgement, the exclusion of the ability to provide material support through KENGO/RISP was a limitation of project design. Additional project resources and fewer constraints might have led to much greater leverage of earlier experiences. For example, the artisan stove manufacturers interviewed had difficulty in starting their operations because of lack of funds for the initial materials needed, or in some cases, for rudimentary equipment. (In contrast, the Thailand Renewable Energy Project, for example, provided this kind of assistance and succeeded in helping numerous small entrepreneurs and cooperatives become established in manufacturing and distributing improved stoves, profitably.) The reasons for such limitations on KENGO/RISP are unclear, but appear to stem from two sources:

#### A Design Premise Perhaps Not Valid

The subproject states (in reference to the formal and informal sectors), "In Kenya, these sectors are already capitalized and primarily require the transfer of new technical and marketing skills." (Note a.) This premise is clearly not valid elsewhere in the region and, as noted above, information available to the evaluation team shows that it is not fully valid for Kenya.

#### Other Factors

It is unclear how much the failure to allow the inclusion of such material support in the KENGO/RISP subproject was also a result of the earlier experience with, and the perceived strengths and/or weakness of KENGO:

- i. The unsuccessful experience with the ATI-KENGO project that was more directly geared to provide such support;
- ii. The perception that KENGO's strength is in "networking" and similar information transfer and only some types of technical-assistance activities, and not in enterprise development/nurturing;
- iii. If i. and ii. are relevant, then to overcome these factors and include the material and other support (see 8) would have resulted in a different subproject, perhaps one that would have needed more than just KENGO as a grantee.

These issues and those suggested by the discussion below are much too important not to have received more attention and documentation, both as

part of the development, implementation, and (missing) midterm evaluation of this subproject, and of overall EIA activities.

#### H. Inadequate Support/Linkage to Private Sector

This issue is very much intertwined with that discussed immediately above in paragraph 6. Many of the known stove successes in Kenya and elsewhere have had major involvement by the artisan and/or the more organized private sector. The profit motive can be self-sustaining and a driving mechanism for diffusion; thus assistance to the private sector is important. The needed assistance usually includes not only technical assistance but also other needs. Under the KENGO/RISP subproject there is no mechanism to finance/assist many of the steps or actions necessary to help private individuals or firms with needs other than technical assistance (such as a lending mechanism to enable artisans to purchase materials to start production). Meeting other needs of entrepreneurs would have included tangible support - e.g., fixed and operating capital in loans or equity.

Furthermore, there was not a built-in mechanism or procedure to broaden the definition of "technical assistance" to include assisting entrepreneurs get such material and other help from other A.I.D.- (or other donor-) financed projects geared to small enterprise, e.g., the Undugo Society efforts or the USAID Kenya Rural Enterprise Project. In the view of the evaluation team, this failure to have a greater private-sector focus and to make explicit linkages to other USAID enterprise and private-sector efforts is a shortcoming not just of the design of this subproject but of the whole EIA project. Both these aspects received considerable attention in the EIA PP but much less in the project implementation.

#### I. Monitoring and evaluation of the issues and the subproject

The issues associated with production and marketing of improved stoves - what makes such programs a success, the effect of such activities on woodfuel supply and prices, household income, land degradation, etc. - are very important and still not clearly understood. These issues are at least as important now as they were at the start of EIA. The KENGO/RISP subproject could have aided the process of understanding these issues by:

- requiring documentation of both past and current activities, and
- including ongoing monitoring studies (e.g., controlled studies of actual use in households with the improved stoves compared with similar households without, studies of trends in market prices and availability of woodfuels etc.) to be done by local participants in the network.

Meeting some of the needs for information and understanding should have been done by EIA. In the absence of a broader KENGO/RISP subproject, other

mechanisms should have been sought by the contractor. Although the EIA contractor staff produced a large body of reports and papers, they do not, however, sufficiently address the issues discussed in this paragraph; resources were allocated instead to other issues or activities of seemingly less importance.

### III. OUTSTANDING ISSUES

The foregoing analysis touches upon those aspects of the KENGO/RISP subproject that could be dealt with in the course of this evaluation. There remain several other issues raised by this evaluation, analysis of which was prevented by the circumstances. Some of these are:

How could this effort be extended for better inclusion of West Africa? Is using ENDA in Dakar the answer?

Would the project have been an appropriate vehicle for some longer-term longitudinal studies of market trends and structure, in particular price structure and trends? If so, how could the subproject design have been modified to include such studies, preferably using local talent?

Could the subproject have done a still better job of using local talent and avoiding repetitive efforts? How?

## NOTES

a. "Energy Initiatives for Africa Subproject Regional Improved Stoves Program (698-0424.23)" REDSO/ESA and REDSO/WCA, August 15, 1985.

b. Publication and sharing of information are particularly important not only in transfer of technology, but also in institution building, and should go hand in hand. An example of conflict in these two goals, however, is a publication from one of KENCO's predecessor projects, where the contractor involved published a full-color, informative booklet with a good account of the technology of improved-stove development and fabrication, but presented it all as an accomplishment of the contractor, rather than of the institution that needed strengthening, and had been responsible for the accomplishment, albeit with the contractor's technical assistance. Within IIA, similar confusion has also arisen. In the case of the KENCO/RISP regional stoves workshop, a careful reading of the contractor's annual report is needed to escape the impression that the workshop was organized and conducted by the contractor, rather than by KENCO.

c. Material for this discussion is based on lengthy interviews with current and former REDSO/ESA personnel, current and former KENCO personnel, current and former contractor personnel, the contractor's quarterly, annual, and other reports, a host of KENCO documents provided by many of the people interviewed and by AID/W, and the following specific documents in addition to the subproject paper:

1. Mike Jones. (Nd). Assessment of Kenya Improved Stove Project Experience.
2. Mike Jones. Memorandum.

TABLE 1. A SELECTION OF KENGO/RISP SUBPROJECT ACTIVITIES

1. Reconnaissance/Information Sharing Missions: Botswana, Burundi, Madagascar, Somalia, Uganda and Zimbabwe
2. Preparation, Organization, and Execution of Regional Stoves Workshop
  - attended by 50 participants from 14 African countries as well as representatives of USAID and other bilateral and multilateral agencies
3. Training (specific focus) and origin of country participants
  - Sudan: Energy and Agroforestry Study Tour (Kenya)
  - Sudan: Improved Cookstoves Training Course (Kenya)
  - Sudan: Agroforestry Training Course (Kenya)
  - Madagascar: Wood Energy/Improved Stove Training Course
  - Uganda: Improved Cookstove Conference
4. Technical Assistance:
  - Improved Stoves Project Formulation, Planning and Management: Uganda, Madagascar, Kenya, Zambia, Zimbabwe and Botswana;
  - Energy-efficient stoves design and testing: Uganda and Burundi;
  - Assisting local agencies in attracting donor support Uganda (SIDA), Somalia (World Bank) and Madagascar (World Bank)
  - Assisting governments with national wood-energy policy formulation (Uganda).

TABLE 2. SOME OF THE MORE IMPORTANT DOCUMENTS  
PRODUCED UNDER THE KENGO SUBPROJECT

<u>TITLE</u>	<u>AUTHOR</u>
Development and Field Test of the Kenya Ceramic Charcoal Stove	Raphael Kapiyo
Cookstoves Study Tour of Uganda	Stephen Karekezi
Foundation for Woodstove Dissemination (FWD) Focal Point for Eastern, Central and Southern Africa - 1986/87 Report	Stephen Karekezi
Wood Energy - Madagascar	Stephen Karekezi
Wood Energy - Somalia	Stephen Karekezi
Wood Energy Study Tour of Burundi - Burundi, Kenya, Madagascar	Stephen Karekezi
Development and Dissemination of Wood Energy Technologies in Eastern Africa - Summary Report of KENGO Regional Workshop on Improved Woodstoves	Stephen Karekezi, Prabha Bharwaj, and Elizabeth Obel (editors)
Calendar for 1987	KENGO
KENGO News, Vol II, No 2, July 1987	KENGO
Regional Stoves Workshop	KENGO
Improving Cookstoves - KENGO Wood Energy Training Series	Beatrice Khamati
Marketing of Stoves - KENGO Regional Stove Workshop	Orro Marketing Ltd.
International Course on Biomass Energy, 11-29 April, 1988	KENGO

Regional Wood Energy Programme for Africa

KENGO

Doing More With Less Fuel - Recommendations for a Wood Energy Conservation Strategy for Uganda, Summary Report to the Uganda Ministry of Energy, 1987

WSG - Woodenergy Systems Group, The Netherlands;  
KENGO - Kenya Energy Non-Governmental Organizations Association;  
JEEP - Joint Energy and Environment Projects, Uganda; YMCA - Young Women's Christian Association of Uganda; MoA/FD - Ministry of Agriculture, Forestry Dept., Uganda; MoE - Ministry of Energy, Uganda

## APPENDIX B

IMPROVED RURAL PRODUCTIVITY THROUGH MARKETING  
AND DISSEMINATING ENERGY TECHNOLOGIES

## LESOTHO SUBPROJECT (698-0424.32)

[Evaluation of the Lesotho subproject was considered by the evaluation team to be potentially valuable in pointing up lessons that A.I.D. could advantageously apply to future projects. The limited funds and time available to the evaluation team interfered, however. The team's efforts were supplemented, fortunately, by support from the Bureau for Science and Technology for a collaborating participant, funded under another on-going contract, to conduct an evaluation of this subproject. What follows is a summary of that evaluation, excerpted from the longer report that is available from AFR/TR/ARD or Oak Ridge Associated Universities. The author is William Barron, Ph. D., and the complete title is: "Energy initiatives for Africa, Lesotho Sub-Project: Improved Rural Productivity through Marketing & Disseminating Energy Technologies, A Technical Review."]

## INTRODUCTION

Several formal and informal reviews/evaluations have been conducted on the EIA Lesotho Subproject. These focused largely on the specifics of Subproject design and on details of implementation. The purpose of this present technical review is to examine the Sub-project within the context of the umbrella Energy Initiatives For Africa (EIA) Project. As such, this review attempts to pull back from the details where possible, and to present a more general examination of the Sub-project's goals and strategies and lessons which might be learned.

This technical review is based on examination of the written record collected in Washington, Maseru, and Nairobi, and on interviews and several site visits in Lesotho in March 1988. This write-up is intended to serve as additional information for the team conducting the formal evaluation of the Energy Initiatives For Africa Project during March through May 1988. The formal evaluation of EIA deals with project and sub-project activities from Fiscal Year (FY) 1982 through FY 1987.

## FORMAL STATEMENT OF SUB-PROJECT PURPOSES

As described in the Sub-project description (USAID/Maseru June 1984) the purposes of the Sub-project are to:

- a) develop and strengthen selected dissemination capabilities of the Appropriate Technology Section (ATS) of the Ministry of Cooperatives and Rural Development and the Government of Lesotho (GOL) that are essential to the design, development, testing and demonstration of improved rural technologies;
- b) design, test, and develop effective rural technology dissemination strategies utilizing multimedia resources (e.g., posters, publications, films, etc.);
- c) disseminate and/or market selected improved rural technologies as developed by the ATS under the predecessor RET Project;
- d) develop and strengthen small, and preferably rural, entrepreneurial capabilities to produce and market for profit improved rural technologies.

## I OVERVIEW MAIN POINTS

## (Design)

The Lesotho EIA Sub-project For Improved Rural Productivity Through The Marketing and Dissemination of Energy technologies (#698-0424.32) was initiated in September 1984 and ended in September 1987, with an obligation level of \$250,000 and a final expenditure level of about \$227,000. The Sub-project was designed as a direct follow-on to USAID'S Renewable Energy Technology Project (RET) which had developed the specific technologies to be produced and marketed under the EIA Subproject. RET worked closely with the Appropriate Technology Section (ATS) of the Ministry of Cooperatives and Rural Development and ATS served as the counterpart organization for the EIA Subproject. Monitoring in the field was to be provided by USAID/Lesotho and on-going technical support and oversight was to be provided through short-term TA and visits by the EIA regional office in Nairobi, with additional support from the REDSO/ESA Energy Advisor.

## (Goals)

This Sub-project sought to increase rural incomes and employment through the marketing, dissemination and commercialization of energy-related technologies. On the production side, the Sub-project sought to encourage and

assist the Lesotho small and medium scale private sector to produce metal cookstoves, metal grates and bars for stone stoves, horticultural growhole kits, and other devices (e.g., RHCs) developed under RET. EIA assistance to potential private producers was provided through technical information on product design, training in production techniques, and in some cases, advance purchase orders for products to be later sold through ATS. On the demand side, the Sub-project sought to increase awareness of opportunities for improved efficiency of energy used by households and institutions through several different dissemination strategies, including training of "multipliers" who would in turn train others at the community level, and the use of various media, including radio, print, and tee shirt decals.

(Approach)

With the funding from EIA, ATS would hold training sessions with local artisans on construction techniques for the energy saving and other devices. Where necessary, ATS would also stimulate production of these devices by placing purchase orders with the producers. Concurrently, ATS would work through various channels to spread word to communities in Lesotho about the advantages of its improved technologies and techniques. One information dissemination technique was the use of "multipliers" who would demonstrate to communities the usefulness of these devices.

Sub-project funds were used to pay some salaries at ATS, for training activities carried out by ATS, for vehicle maintenance, and for technical assistance. It was expected that strong linkages would be formed between the ATS's EIA sub-project-funded activities on the one hand and on-going GOL, USAID., and other donor and NGO/PVO programs on the other. These linkages were expected to be particularly strong in the dissemination efforts. The major beneficiary groups were expected to be rural households, local artisans, government institutions and non-governmental community organizations. Employment and income were to be generated through the local manufacturing of the devices. Households and institutions would benefit through increased availability of cost-effective devices for energy and other purposes.

EIA would also assist ATS through technical assistance. Prior to the obligation of sub-project funds, EIA funded work on a survey of household cooking in Lesotho and an explanation of the capabilities of the small and medium-scale private sector to manufacture the ATS stove. During the course of the Subproject, EIA also funded a stove consultant who worked with the ATS to improve the design of its metal stove.

(Outcomes)

The Sub-project did achieve some important successes. Several hundred stone stoves were installed in schools and several hundred metal stoves were manufactured and are gradually being sold. Despite some shortcomings, the training sessions appear to have had some real impacts. ATS also developed

reasonably effective dissemination strategies for providing information to households on its various energy and agriculture equipment and improved techniques.

Unfortunately, the important production-side goal of stimulating the indigenous private sector met with little success. The metal stoves which were eventually produced have a limited market because of their relatively high cost (roughly \$60 US at 1988 exchange rates) and they were manufactured in the Republic of South Africa, not Lesotho. Efforts to have local artisans manufacture these metal stoves failed. Attempts to have the artisans make the other equipment, such as grates for the stone stoves and horticultural growholes, thus far have met with only occasional and temporary success. In the area of dissemination, the 1986 Midterm Evaluation noted that there was insufficient follow-up support from the ATS to the "multipliers". Inadequate follow-up to recipients of training continued to limit the effectiveness of the ATS efforts throughout the remainder of the Sub-project and this problem persists today.

In his final write-up on the Subproject, the REDSO/ESA Energy Advisor noted that the Lesotho Sub-project was

in certain respects the weakest of  
all the Subprojects in the  
region...

In its September 1987 Final Evaluation Cable, the Mission noted significant problems in the management and design of the Sub-project, and outlined a number of basic changes in approach which it recommends employing in similar efforts in the future. These changes include the use of full-time resident technical assistance and management and the establishment of a capital fund to help address the financing problems facing the small scale private sector.

Surprisingly, the E/DI EIA Quarterly and Annual reports fail to mention these serious shortcomings in the Sub-project's outcomes. For example, the FY 1987 E/DI EIA Annual report (December 1987) summed up the Sub-project with the comment that

... this Sub-project proceeded to  
close down, most of its objectives  
having been achieved.

Considering the comments made in various evaluation reports, and during recent interviews, this summary statement in the 1987 Annual Report, at best, requires extensive qualification. Overall, the descriptions in the E/DI EIA periodic reports give a highly positive picture of the Subproject, without reference to disappointments in the case of production-side activities. In short, they fail to give a balanced view.

(Influencing Factors)

ATS suffered from the loss of key personnel at several junctures. A 1986 change in government in Lesotho added further to ATS staffing problems. These difficulties were compounded by persistent transportation shortfalls in a Sub-project with important outreach/training activities. On the A.I.D. side, Mission personnel with oversight responsibility changed several times over the course of the Subproject. And, in the end, it became clear that the private sector in Lesotho faces several major obstacles whose significance was not fully appreciated when the Sub-project was designed.

The process of economic development is a complex one with many necessary and few sufficient conditions for success. This Sub-project set out to do many interdependent things with very limited resources. Some of its accomplishments are impressive and worthy of note, but the causes of its failures must also be somewhat difficult and expensive to produce. Also, concern continued to be expressed about consumer response to the appearance of the stove.

Michael Bess of E/DI's EIA Nairobi office provided management oversight and administrative support, as well as guidance and monitoring during his periodic visits to Lesotho. Tony Pryor of REDSO/ESA provided sub-project design, administrative and monitoring support, and general guidance during his periodic visits over the course of the Subproject. Various Mission staff, including L. Burniess, C. Fortunato, M. Yohnnes, and A. deGraffenreid at different times provided inputs to Sub-project design, monitoring, oversight, and evaluation.

## IMPACTS

In any event, the EIA Lesotho Sub-project was a good try, but one which suffered from several adverse developments (with more or less cumulative effect) and in the end had to face the fact that the obstacles to small-scale private sector development in Lesotho are far greater than anticipated.

The Lesotho EIA Sub-project was one of only a few EIA efforts aimed specifically at strengthening of the private sector. Its two-pronged approach of stimulating the production of, and the demand for, improved energy products in the private marketplace represented an ambitious, comprehensive approach. Some parts of these efforts worked rather well, even in the face of obstacles, while others encountered insurmountable difficulties, given the available resources.

## (Production-Side Activities)

Production and dissemination of improved stoves met with some success. The more basic goal of strengthening the private sector's ability to produce various products in Lesotho has thus far met with only very limited success in a few cases. The principal disappointment is that even after several attempts and with TA from ATS, local artisans failed to produce metal stoves of acceptable quality, and responded in only a very limited fashion to ATS' efforts to have the metal grates and growholes made locally.

In addition to the metal stove work, ATS worked with rural artisans on the manufacture of metal stoves, growhole box kits, food dryer kits, and metal bars and grates for stone stoves. The most successful of these efforts was the training of several teams of artisans working for Save The Children, Lesotho. This work led directly to the construction of several hundred large stone stoves for use in over 100 primary schools in the country. Work on the local production of metal bars and grates for these stone stoves met with reluctance on the part of potential producers to make them without cash or materials advances. Eventually, ATS produced some of the grates itself to both demonstrate to local artisans the market potential and to satisfy demands it helped establish.

Work on the production of growholes and food dryer kits met with some limited success, but the availability of materials or cost problems again significantly slowed the response of the private producers. The principal obstacle to more rapid development of artisan activities in this area appears to be bottlenecks in the availability of raw materials (e.g., the plastic covers). ATS itself is limited in its ability to provide as much training and periodic technical assistance to the artisan community as it would like, due to its transport constraints.

The weakest part of the ATS work, and one which occupied much of its effort over the course of the Subproject, was the production of the metal stoves. ATS spent a good deal of its early effort on improving the stove design and on upgrading production techniques. In this, ATS received short-term TA from EIA. Eventually ATS's training efforts with local artisans did result in the production of a few metal stoves, but these were either too costly or were of unacceptable quality. ATS then turned to Lesotho Steel, a locally-based medium-sized industry. After some early quality problems, Lesotho Steel produced several hundred stoves of acceptable quality and cost. However, it did so not at its Maseru facility as ATs had expected, but by having the stoves made at an affiliated facility in Bloemfontein, South Africa.

ATS continues to receive metal stoves from Lesotho Steel and has already sold several hundred on the market. Further production and subsequent market sales are expected in the future. One controversy is whether the ATS stove at M 130 (roughly \$ 70 US at the 1988 exchange rate) addresses an appropriate need for Lesotho's lower-income households. EIA's preliminary studies in support of

ATS' production of stoves showed that only about 10% of the households in Lesotho used stoves in this price range or above. As noted in its Final Evaluation, the Mission believes that the ATS metal stove is simply too expensive to meet the needs of the majority of local households. As reaffirmed in interviews, Mission staff believe that a lower priced device should have been developed and marketed by ATS under the EIA Subproject. ATS staff and the EIA regional advisor, Michael Bess, strongly disagree, stressing that the ATS stove addresses an important market need and offers important advantages to consumers, including the ability to burn a wide range of locally available fuels.

The difficulty in working with the local small and medium-scale private sector was evident by the time of the Midterm Evaluation in April 1986. The midterm Evaluation noted that,

the greatest weakness in the ATS work with beneficiary groups has been with entrepreneurs.

The Midterm Evaluation stated that "efforts are underway to fill these gaps," apparently through more attention on the part of ATS staff to training and quality control in their work with prospective producers. However, despite repeated efforts by ATS, little progress was made in this area over the remainder of the Subproject. Late in the Sub-project EIA contracted a local consulting firm to monitor Sub-project activities. Peat, Marwich, and Mitchel's Second Progress Report (submitted July 1987) took a close look at the ATS metal stove program. It concluded that small-scale production (batches of 50) is preferable to larger-scale production, and that overall, ATS gained little by working with the relatively larger firms, such as Lesotho Steel. However, the consultant deferred until a later report its recommendations on the best approach by ATS for attracting small-scale producers to manufacture a stove of acceptable quality.

In its Final Evaluation Cable the Mission stressed the financial problems of local small-scale producers.

Appropriate technology activities such as the EIA project can best be sustained, in our view, by building-in a capital fund to finance the establishment of local industries to replicate the technology that is being transferred.

(Demand Side Activities)

The ATS has been relatively successful in delivering information on energy conservation and equipment opportunities to the people of rural Lesotho. This work involved the use of "multipliers", that is, the training of trainers. ATS

trained over 100 trainers from a number of different GOL agencies, and these persons in turn appear to have been reasonably successful in spreading the word to consumers about more energy-efficient cooking techniques and in making people aware of the improved devices (e.g., retained heat cookers, and metal stoves) to make more effective use of available fuel and to grow more food or fuel (e.g., growhole kits). The Midterm evaluation noted the problem of follow-up to the initial training provided by ATS for the multipliers, citing ATS's transport bottlenecks. The Midterm Evaluation recommended that ATS limit the number of courses and to make each course more intensive. ATS apparently attempted to improve its training, but in the end seemed to have been unable to overcome its problems due to limitations imposed by persistent transport shortfalls and staffing inadequacies.

Dissemination efforts with the multipliers were supplemented through the use of radio and other media (e.g., tee shirts) and this seems to have been reasonably successful. In its dissemination efforts ATS established effective links with a number of other GOL agencies under the Ministries of Agriculture, Health, and Education. These linkages developed to a greater extent than originally envisioned. The Sub-project's support to this type of liaison and networking within the host-country government must be considered an important benefit stemming from the Sub-project. Projected liaison between ATS and several Mission programs (e.g., LAPIS and BNFES) was less effective.

#### (Institutional Impacts)

The EIA Sub-project provided vital support to a struggling GOL agency and assisted this agency in furthering its aims of promoting the production and use of more efficient cooking devices and other types of equipment. The limited EIA resources were, however, insufficient to help ATS overcome its underlying limitations, notably staff capability and capacity for adequate follow-up on training and outreach. As Bess and Pryor stress, it is not reasonable to expect EIA, by itself, to make ATS into a fully viable institution.

In 1988, some months after the end of EIA assistance, ATS remains a relatively weak and vulnerable institution, but one which the GOL seems to have come to recognize as doing important work and one which should be continued even in the absence of outside funding. Without EIA support, ATS may well have been terminated.

The ATS program addresses important needs (i.e., household and institutional cooking, and increased food production techniques) and ATS attempts to do so through what has become an increasingly directed focus of A.I.D. assistance worldwide -- the strengthening of the indigenous private sector. The fact that ATS now seems likely to continue in existence is encouraging. The staff's commitment to the work of helping households and others improve the efficiency of energy use is important, particularly considering

Lesotho's problems with environmental sustainability and the prospect of higher energy prices in the longer term. Hopefully, A.I.D. or some other donor will support the ATS in this work in the future.

#### CONTRACTOR PERFORMANCE

##### (Short-term TA)

The quality of the work performed on the Sub-project by E/DI staff and its subcontractors was generally of high quality. Both the Mission and the ATS staff have a high regard for the work of Michael Bess of E/DI's EIA Nairobi office in Sub-project design and monitoring. The EIA-funded short-term assistance by Guy, Burrell, and Kinyanjui was provided in a timely manner and addressed important information and technical needs. It is all too easy in hindsight to identify oversights and needs which were not adequately addressed. Overall, the TA provided under EIA to this Sub-project was valuable in moving the Sub-project forward.

##### (Reporting)

As with the EIA project in general, important information on the Lesotho Sub-project was not available in Washington. Uncoordinated actions on the part of A.I.D./Washington, REDSO/ESA, E/DI and others left the EIA files in Washington with major gaps. The most complete set of records available in Washington was the contractor's Quarterly and Annual Reports to A.I.D./Washington. Unfortunately, the information in these reports is typically very general. Where specifics are given, the information is usually descriptive rather than analytic. In the case of the Lesotho Subproject, issues of content are compounded by the question of balance.

The write-up on the Sub-project in the E/DI EIA Quarterly and Annual EIA reports presents to the reader a picture of successes, particularly in the case of information dissemination. Where production side developments are mentioned, it is in regard to a success. The only problems noted in the periodic reports relate to ATS staffing. There is no mention of ATS' repeated disappointments in its attempts to have equipment and parts made locally, problems perhaps most dramatic in the case of the ATS metal stove, but extending also to the manufacture of metal parts for the stone stoves and to the other technologies, such as growholes. The Midterm Evaluation's concern that ATS' work with the entrepreneurs was its greatest weakness is nowhere reflected in the E/DI EIA reports. The Quarterly and Annual Reports mention the number of ATS stoves being made, but do not say that they are being imported from the Republic of South Africa. The Sub-project's successes are certainly worthy of comment, but they are balanced, and in some cases at least partly overshadowed, by very real failures. Such a balanced picture is absent from the Quarterly and Annual Reports.

The attitudes and perceptions of various reviewers may account for a substantial difference of opinion about the Subproject. Certainly, ATS takes an upbeat view similar to that presented in the E/DI reports, stressing the successes. For its part, the Mission appreciates the successes and has a high regard for the dedication of ATS staff. However, the Mission also notes that some important hoped-for outcomes did not develop. The picture which emerges over the course of this technical review is one of a counterpart organization making the best use of limited resources, accomplishing some important ends, but despite its best efforts, failing to accomplish others -- largely because the problem was far more difficult than expected.

It may be true that in a narrow, quantitative sense the Sub-project did meet "most" of its objectives, i.e., with regard to training sessions held, stoves sold, and extent of networking with other organizations. In some cases ATS fell short of the stated numerical goals for a particular objective, but in other cases exceeded them. If all objectives on the production and demand side are given equal importance, then it may be that more than half were achieved. However, to take such a narrow view would be to miss the point that an important part of the Sub-project's purpose was to strengthen entrepreneurial capability, and this was not achieved. The narrow view would also fail to consider the interdependence among Sub-project objectives. In other words, to what extent is the significance of successes in information dissemination on improved technologies/techniques diminished by the absence of adequate production of the equipment and parts? The ATS metal stove is admittedly available to consumers through imports, but at a cost that is likely to be affordable to only a small subset of households in Lesotho. Hopefully, the production-side will one day catch up with the demand-side successes, but this was not the case during the course of the Subproject.

(Information Exchanges/Conferences)

In its Final Evaluation Cable, the Mission noted concern about the lack of information available in Lesotho on EIA activities elsewhere in Africa. The cable argued that in the absence of information exchanges (going beyond periodic newsletters), that

... it may be that opportunities were lost to modify the subactivity or shift its emphasis to take advantage of experiences learned in other sub-projects.

In light of the Mission's interest in a capital fund for small business development in Lesotho, it would seem that more extensive exchanges with the EIA Sub-project in Malawi -- one which worked directly with an intermediate financial institution -- may have been particularly useful for Lesotho.

The periodic visits by Bess and Pryor to Lesotho and the Kengo Sub-project's cookstove training for ATS staff in Kenya provided opportunities for information exchange at a personal level, but the Mission clearly feels that more was required. Pryor noted the Mission's concern on this point in his technical review (11/29/87). The Mission's cable lists several possibilities, including yearly conferences for Mission personnel and counterparts involved in EIA sub-projects. Such conferences may have been particularly useful, if they were focused on direct exchanges among the various country teams (Mission personnel, counterparts, and where applicable, resident A.I.D.-funded advisors) and involved candid discussions of successes and failures, as well as presentations on purposes and approaches. EIA and REDSO personnel could have served as moderators and resource persons, with the Mission energy officers, EIA counterparts and any resident sub-project personnel being the principal participants in the conference(s). Such conferences should probably be considered in the design of similar efforts in energy or other fields in the future.

#### LESSONS LEARNED

The Lesotho EIA Sub-project potentially offers a number of important lessons for the design and implementation of donor-funded assistance in energy, in private-sector developments, and other fields. These are outlined below.

(1) Considerations in the design of programs to strengthen the small-scale private sector:

-- strengthening the indigenous small-scale private sector is likely to be a difficult, slow process, requiring a flexible approach, addressing the obstacles on several different fronts, and requiring a long-term commitment of resources.

As the experiences of this Sub-project demonstrate, an underdeveloped local private sector may be the consequence of constraints not readily identifiable at the start. The Sub-project's effort to strengthen the artisan sector was apparently initiated in the belief that the principal constraints were inadequately trained manpower and lack of awareness of market potential. These problems did exist, but ATS' efforts to overcome them did not result in an effective response from the artisans. Most persons interviewed for this technical review now cite the non-availability of financing and the drain of skilled labor to South Africa as the major problems.

One approach which may be more effective is to make assistance to the private sector broad-based, proceeding in distinct stages over a relatively long time horizon (e.g., 5-10 years). Initial efforts might address a few problems (e.g., training needs and demonstration of market potential) and then, as required, the assistance could move into other areas (e.g., financing, improving technical or managerial efficiency). The long-term development benefits are potentially very great, but the efforts may need to be carefully refined (and perhaps fundamentally redirected) as more is learned about the nature of the obstacles to private sector development in a particular setting.

(2) Considerations in designing assistance to host-country institutions:

-- effective assistance to small, still relatively weak host-country institutions may require full-time resident technical assistance and management, at least for part of the period of assistance.

The Mission noted in its Final Evaluation that it learned from the EIA Sub-project experiences that in activities of this type, it is preferable to have full-time project management and a resident technical advisor to assist in strengthening host-country management. It may be that had ATS been adequately staffed, this gap would have been less crucial. Unfortunately, inadequate host-country staffing is a common and persistent problem. As a temporary measure, resident technical assistance may be the only means of ensuring continuity and persistence in project implementation.

(3) Setting realistic goals:

-- the Sub-project's goals were, in retrospect, ambitious and complex.

The 1985 E/DI EIA Annual Report described the Lesotho Sub-project as one which

... will increase agricultural productivity in the rural sector through the marketing and dissemination of energy technologies... Dissemination will involve the active participation of existing agencies and PVOs. GOL capabilities for continuing outreach, training and extension after the sub-project's completion will also be strengthened. Five GOL ministries and their extension network, several national parastatals and international PVOs will participate in this effort. Sub-project components include development of a nationwide dissemination program, support of a local marketing group and production of multi-fuel metal

stoves by local artisans. These outputs will be achieved through extension, surveys, production of teaching materials and workshops for staff and the general public.

These partially interdependent ends were to be achieved by a still young, and not firmly established counterpart organization with two years of assistance from A.I.D. totaling \$250,000 for short-term TA, counterpart salaries, and essential material support.

In fact, much was achieved by ATS over the course of the Subproject, particularly in information dissemination and networking. The dissemination of information on energy-saving opportunities helped develop a fertile ground for a strong demand for the ATS energy equipment and other devices (e.g., growholes). It is most unfortunate that the full benefits of this increased awareness have not been realized, due to the absence of effective response from potential local producers of these devices.

Clearly, success in the information dissemination activities would have full significance only if the supply of the ATS devices and parts was there to meet the demands thus stimulated. It would have been useful if the Sub-project's design had made allowances for ATS making the devices and parts itself, if necessary. This was explicitly considered and rejected during the midterm evaluation. In the end, ATS made the best accommodations it could when faced with inadequate response from local artisans -- in some cases making the devices itself (e.g., metal parts for many of the stone stoves), going to larger manufacturers (e.g., in the case of the metal stove), or recognizing the need for more time in overcoming bottlenecks for production for some devices (e.g., growholes). In the end, there probably should have been an explicit recognition of the need for a longer-term perspective in private-sector development -- with the EIA Sub-project setting out to accomplish what it could, but having fall-back options if major obstacles developed.

4. Need for more information exchange:

-- this Sub-project would have benefited from opportunities for more meetings and other forums for information sharing among EIA sub-projects and other activities throughout Africa.

It would have been useful for the personnel involved in this and other Sub-projects had there been, in 1986 or 1987, a workshop on EIA experiences -- a workshop geared to the interests and needs of the Sub-project counterparts, resident advisors, and Mission energy officers. Such a workshop would have provided the opportunity for counterparts and Mission energy officers to learn more about energy issues and approaches in general and to benefit from the experiences of colleagues in other countries. The potential for networking among the counterparts and Mission officers with responsibility for energy would have been particularly attractive.

## APPENDIX C

## NATIONAL ENERGY PLANNING ADVISOR - LIBERIA

## LIBERIA SUBPROJECT (698-0424.03)

## I. BACKGROUND

The subproject with Liberia, to provide a national energy-planning advisor, was one of the earlier EIA subprojects to be implemented. It had its origins in a national energy assessment performed between April 1982 and March 1983 under a contract with Oak Ridge National Laboratory and funded by the Office of Energy in the Bureau for Science and Technology (ST/EY). That assessment developed a substantial energy-sector data base and recommended that further assistance, in the form of an energy-planning advisor, could take advantage of this data base to help Liberia develop a more coherent national energy policy that would ease some of its energy-import problems.

Approved in June 1983, the project was supported by \$250,000 in EIA funds obligated on July 29th, with an another \$101,700 in local funds contributed by the Government of Liberia (GOL). A.I.D. provided additional assistance from the ST/EY Energy Policy Development and Conservation Project (936-5728) in the form of funds to support 1.5 person-years of short-term assistance. A.I.D. further assisted the subproject by providing mission funds to support a field installation not covered under subproject funding, and a final workshop where one of the subproject's major accomplishments was presented to the Government. The Resident Energy Advisor, whose services were secured through Oak Ridge National Laboratory via a PASA (Participating Agency Service Agreement) with the Department of Energy, arrived in October 1983. Subproject activities began shortly thereafter and continued through October 1985, with the National Energy Committee (NEC) as the cooperating counterpart organization.

When the subproject was conceived in 1982, it was assumed that, in common with many other developing countries, Liberia was suffering from energy (i.e., fuel) shortages in the rural areas, hence the original statement of purpose of the subproject included an emphasis on renewable-energy technologies. The Resident Energy Advisor, however, saw no evidence of such a problem. There seemed to be no rural fuel shortage, no shortage in urban cooking-fuel supply seemed evident, and although there had been no program of improvement in cookstove efficiency, charcoal was cheap and in good supply. The power sector, on the other hand, showed serious problems. Thus, the subproject activities shifted toward national energy planning and addressing the problems of the Liberian Petroleum Refining Company and the Liberian Electric Company.

In November 1985, the Resident Energy Advisor submitted to A.I.D. an "Overview Report"(note a) summarizing activities under the subproject, and the following April, A.I.D. conducted a formal evaluation.(note b)

This analysis is not meant to second-guess that evaluation, but to supplement it by providing a perspective from the vantage point of one year later. In the context of the present evaluation of the overall EIA Project, this subproject presents an opportunity to point up some lessons that may prove valuable in design of other similar regional projects. While the analysis draws on both the overview report and the "Final Evaluation", it is based on extensive interviews with most of the parties concerned in the execution of this subproject - current and former staff of USAID/Monrovia; the former Resident Energy Advisor, Dr. William F. Barron; his Liberian counterpart, the Assistant Minister of Energy, Ministry of Land, Mines and Energy, who was also Secretary of the NEC, Dr. E. Meidi-Himie Neufville; the staff of the NEC Secretariat, including the current Acting Secretary, Jacob S. Sandikie - and on other documentation available.

#### A. Goal and Purpose

The subproject was designed for the purpose of assisting the Government of Liberia (GOL) to formulate a National Energy Plan, to develop pilot/demonstration activities in renewable-energy technologies, and to institutionalize the government's capacity for energy planning and assessment. The Subproject Approval Request Cable (SPARC) stated, "The proposed long-term energy adviser will help transform energy assessment into a national energy plan detailing policies to be undertaken to promote energy conservation, substitution of renewable domestic products for oil imports, and better, more efficient management of [the] energy sector through, in part, a larger role for the private sector."(c)

Specifically, the Energy Advisor was expected to "collaborate with the secretariat and technical subcommittee of the NEC in developing a National Energy Plan." This was meant to include assisting the NEC staff in "formulating and drafting policy options for the energy plan to be presented to the NEC ... and drafting the final energy plan in accordance with the NEC's decision." (note d) As noted in the SPARC, this activity dealt primarily with petroleum - supply, demand, pricing, transportation - and the role of the private sector.

In addition to responsibilities dealing with the National Energy Plan, the advisor was responsible for "formulating and developing study designs and pilot projects in areas identified by the energy assessment," along with the usual responsibilities for identifying the need for and securing the services of experts in pertinent fields, and maintaining contact with other donors and USAID.

The specific goals of the subproject were:

- adoption of a National Energy Plan by the National Energy Committee;
- strengthening the capacity of the NEC to engage in energy planning and assessment on its own; and
- initiation of one or more pilot projects and/or studies in the area of renewable-energy resources,

Its overall goal, however, was the institutionalizing of two processes - the periodic gathering of energy data, and energy planning on a national and regional basis.

#### B. Counterpart Institution

The subproject provided cooperation with the National Energy Committee, an interministerial committee with a Secretariat in the Department of Energy of the Ministry of Land Mines and Energy (MLME). Established in 1980 for the purpose of assisting the government in developing appropriate energy policies, the NEC had as its primary aim alleviation of "Liberia's chronic balance of payments problems and [boosting] its overall economic development ... through well designed programs that will reduce inefficiencies in Liberia's energy sector and ... promote the substitution of domestic resources for imported oil whenever this can be done economically." (note e) The member agencies comprising the NEC are:(note f)

Ministries:

- Lands, Mines and Energy (Chair)
- Planning and Economic Affairs
- Commerce, Industry and Transportation
- Rural Development
- Agriculture
- Internal Affairs

Government corporations and authorities:

- Liberian Electricity Corporation
- Liberian Petroleum Refining Company
- Forest Development Authority

Secretariat of the National Energy Committee:

- Bureau of Hydrocarbon, MLME

#### C. Earlier Experience

This subproject can be considered a logical second phase of A.I.D.'s energy activities in Liberia, the first phase of which began in 1982, when ST/EY funded ORNL to assist the Government of Liberia in performing a national energy assessment. That assessment, which served as the basis for the subsequent World

Bank country energy assessment, also resulted in the collection of a substantial data base that seemed a good foundation for energy-policy development; thus, it noted the need for a resident energy advisor to assist the NEC in taking advantage of this opportunity.

The government was pleased with both the process and the results of the energy assessment, and approached the mission with a request for technical assistance in the suggested follow-on phase. Furthermore, in view of the excellent working relationship that had been established by the ORNL project head (Dr. William F. Barron) with his counterparts in the NEC, the government specifically requested his services as the Resident Energy Advisor. With this background of positive results, good working relationships, a substantial data base, and a specific goal, the EIA subproject got off to a good start.

## II. Discussion and Conclusions

A review of the Liberian subproject of EIA leaves one with a sense of important accomplishments towards achieving the project goals, a recognition of potential benefits yet to be achieved, and a sense of frustration that insufficient forward progress has yet been made toward realizing these potential benefits. It also illustrates the important role played in a project's achievements by good interpersonal relationships between project expatriate managers and counterpart personnel and by the interest and support from the USAID mission staff.

### A. Accomplishments

This subproject can be considered a success in several ways. The USAID Project Officer at the time summed it up by praising the Integrated National Energy Plan (INEP) and the Buchanan workshop as the primary outputs of the project. The INEP certainly represents the first comprehensive attempt at coherent national energy planning in Liberia, and was adopted by the NEC, at the workshop, as official GOL policy. The workshop, which took place largely as a result of specific encouragement and additional financial support by the Mission, provided an invaluable opportunity for GOL personnel and donor representatives to discuss national energy economics, planning, and policy issues in a professional setting. Furthermore, it demonstrated the vitality of the NEC because it was organized and run by the NEC.

The subproject was certainly a success in that not only was its primary purpose achieved, but so were the major goals that were set out in the SPARC and the Statement of Work for the Resident Energy Advisor.

- Working with the NEC, the Resident Energy Advisor did indeed help the government "transform energy assessment into a national energy plan detailing policies to be undertaken to promote energy conservation, substitution of renewable domestic products for oil imports, and better, more efficient management of [the] energy sector . . .," in the words of the SPARC.(note c) Furthermore, the resultant Integrated National Energy Plan (INEP) was adopted by the NEC and has been the basis for further efforts by the NEC to institute a variety of conservation measures.

- Several studies were initiated and completed. Major studies included an analysis of wood-fired electric power plants in rural areas, an analysis of major hydroelectric proposals in Liberia, and an important study of the Liberian Petroleum Refinery Company (LPRC) that served as the basis for recommendations for significant changes in LPRC operation.
- The NEC and the Resident Energy Advisor provided cooperation with the World Bank in the latter's country energy assessment (which drew heavily on the earlier assessment, which was managed, incidentally, by Dr. Barron and his counterpart, Dr. Neufville, Secretary of the NEC).
- The Resident Energy Advisor is to be credited with strengthening the NEC as an institution to be reckoned with in Liberian energy-policy formulation and energy planning. The strengthening of the NEC was demonstrated by the final workshop, and by the fact that the NEC continues to exist and function and play a useful role.

Other specific activities worth noting as accomplishments of this subproject include:

- Data collection and analysis. These continued under the NEC with a variety of studies besides the ones mentioned above, including an energy balance for 1984. The NEC has continued this activity beyond the subproject PACD, publishing an energy balance for 1986.
- Policy evaluations in addition to the INEP. These involved the public-sector response to electricity shortfalls, the viability of the Liberian Petroleum Refinery Corporation, and a critical review of the World Bank energy assessment.
- Liaison with the United Nations, the World Bank, the Delegation of the European Economic Community, and other donor countries.
- Training and professional development of GOL personnel.

The 1986 evaluation report noted that "USAID technical assistance in the energy sector has been of measurable benefit to the Government of Liberia." (note b) It is abundantly clear, from the record and from our interviews with A.I.D. staff, ORNL personnel, and with Liberian participants that the significant accomplishments of this subproject can be attributed largely to the excellent working relationship established by the Resident Energy Advisor with his Liberian counterparts.

Notwithstanding these positive statements, there have been some basic problems with this subproject that have stood in the way of realizing the potential benefit of some of its activities, the full benefit of others, and some of the goals originally envisaged.

#### **B. Problem Areas - Project Design and Institutional Change**

In common with the design of the KENCO subproject (Appendix A), the design of this subproject suffered from an underestimate of the time required to

achieve the project's purpose - in this case, institutional change. This is almost inevitably a problem with any project that involves institutional change, but where technical issues are concerned, such as in energy projects, there seems to be a tendency to assume that change will follow automatically once the necessary data have been gathered and presented and the technologies explained. Institutional change, however, is slow in taking place, particularly where there are entrenched institutions that are - or perceive themselves to be - threatened by those changes.

1. **The Liberian Electric Company** - In Liberia, the institutional change needed to make significant impact on petroleum consumption by the electricity generating utility has not been achieved; the Liberian Electric Company (LEC) has been loathe to take advantage of the findings of the NEC under the subproject and will probably continue to resist change, at least partly as a consequence of its control by the Ministry of Defense. (One of our interlocutors commented that the LEC seems to be trying to break down the power sector.) The broader social change in general public attitudes toward energy conservation has also yet to be felt, both on the part of the general public and by the public sector, probably as a result of the lack of response by the latter. The NEC recommendations for banning use of air conditioners and changing office hours in public buildings during periods of electricity shortfall, for example, have elicited only an announcement and an appeal on the part of the government, with no noticeable changes. While a longer project-activity period, with a lengthier presence of the Resident Energy Advisor, might not have succeeded in strengthening the NEC to the point where it could have effected significant change in LEC policies, it might well have served to accelerate this change. Two years is too short a period to expect to effect such a change in the national energy-planning process.

2. **The Integrated National Energy Program and the NEC** - The Integrated National Energy Program for Liberia, adopted by the NEC, had as its objectives the following:

- providing reliable energy services at reasonable prices throughout Liberia;
- reducing the nation's dependence on imported oil through development of domestic energy resources and generator efficiency in fuel use; and
- encouraging the development of institutions that provide effective Liberian management of energy activities.

It proposed to meet these objectives not only with physical resources but also with the institutional changes needed. While the NEC has indeed had some influence, there is a long way to go.

The LEC sees its role as providing reliable energy at reasonable prices through the grid and promotes large-scale hydroelectric facilities, for example, to help meet this objective. It is slow, therefore, to follow the NEC's recommendation to develop microhydroelectric installations for local use in rural areas as a short- or medium-term solution to meet local needs until the grid supply becomes available. In the case of the proposed 35-kW

microhydroelectric facility at Yandahoun, for instance, it was not until the A.I.D. mission provided project funds (outside this subproject) that the LEC provided the necessary engineering services that enabled the project to go forward.

Other recommendations of the INEP included energy-resource inventories (woodfuel, hydroelectric sites) and experiments to evaluate the potential for woodfuel plantations. The NEC is the logical organization to carry out these recommendations but has no funds with which to do so or with which to implement demonstration projects.

3. The NEC - while greatly strengthened by subproject activity, the NEC still finds itself in a position of less direct influence on energy policy than would be best for attacking the country's energy problems. Nominal membership in the NEC of the various ministries is no guarantee of commitment to NEC recommendations - although the Ministry of Planning is represented on the NEC, for example, energy does not appear in official economic planning. Indeed, according to one of our informants, energy received only a "casual mention" in the last five-year plan.

The question of how to increase the effectiveness of the NEC was a subject for discussion throughout the subproject activity. At the final Energy Implementation Workshop held in Buchanan in September, 1985, a recommendation was made to elevate the committee to the status of a commission, although a consensus was not reached on where the Commission should be located within the governmental organizational structure. The move seems to have been dropped since the workshop, and the NEC remains a committee. There is some feeling on the part of the Secretariat, however, that under the present circumstances the NEC probably has somewhat more influence now, as a committee than it would have as a commission, for a variety of reasons. For example, as a committee, the NEC exercises considerable influence in determining its membership and has generally succeeded in maintaining a group that works well together on tough policy issues. Under the terms of the proposed commission status, that ability would be greatly diminished.

Until the government comes to grips with this issue the full impact of the beneficial influence of the NEC will not be felt.

### III. CONCLUSIONS

Aside from the accomplishments noted in Section A above, this subproject was a significant success for one cogent reason implied in the discussion of institutional problems in the preceding section. Despite those problems, despite the unsettled nature of the political situation in Liberia since before the inception of the subproject, and despite the departure from the country of most of the senior staff of the NEC Secretariat largely as a result of the political situation, the NEC continues to exist, to function, and to have a significant role in energy-planning activities in Liberia. It provides an

institutional locus for outside donor agencies to seek advice and information on energy activities in Liberia; it functions as a collector and source of energy data; it continues to perform technical studies; and it provides a meeting ground for discussion and coordination of energy-related activities of the GOL.

The subproject final evaluation performed in April 1986 noted that, "Both the Resident Energy Advisor, William Barron, and his counterpart, E. Meidi-Himie Neufville showed exceptional dedication to improving GOL energy planning capability, and worked in close collaboration throughout the two year life of the project," and called these good personal and professional counterpart relationships the key to success of this technical-assistance program. (note b) It should be added that these relationships and collaboration also extended to all the staff of the NEC Secretariat, including those who remain in Liberia to carry on the work of the NEC.

This evaluation would disagree with that assessment only in noting that good counterpart relationships constitute only one of the four conditions necessary to be met for a successful bilateral project. The other three are skilled technical assistance, a competent and dedicated counterpart institution, and Mission interest and support. The Liberian subproject was fortunate in meeting all four of these conditions.

NOTES

a. Barron, William F., Ph.D. 1985. "Overview Report on Technical Assistance in Energy Analysis and Policy Evaluation Provided by USAID to the Government of Liberia (November 1983 to October 1985)." November 1985.

b. "Final Evaluation of Energy Initiatives for Africa (EIA) Subproject (698-0424.03) National Energy Planning Advisor - Liberia." April 22 - April 29, 1986.

c. Monrovia 05256, 6 June 83.

d. PIO/T, August 3, 1983. Statement of Work.

e. National Energy Committee. 1985. "Report on the First Energy Implementation Workshop Held in Buchanan, Grand Bassa County, R.L. September 4 - 6, 1985." October 2.

f. Oak Ridge National Laboratory. 1983. "An Assessment of Energy Options for Liberia." ORNL-5989, p. 3.