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ORIGINAL

PROJECT EVALUATION REPORT

of

ENVIRONMENT AND NATURAL RESOURCES EXPANDED INFORMATION BASE

by

A.I.D./NSF Interim Evaluation Team

1984

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I. Introduction

Project evaluation is a normal part of all project activities of the Agency for International Development (A.I.D.). This project, "Environment and Natural Resources Expanded Information Base," began some five years ago and recently reached the point where A.I.D. felt that an interim evaluation was in order. The National Science Foundation (N.S.F.), through a contract with A.I.D., assembles teams of specialists from outside of A.I.D. to conduct such evaluations. N.S.F. assembled a four-person Interim Evaluation Team (IET) for this project. The four members have experience in the fields of environment and natural resources and have dealt with these specialities as they relate to the problems and opportunities that exist in lesser developed countries (LDCs).

The Interim Evaluation Team (IET) has identified certain critical needs that, if met, could substantially increase the likelihood of the project's overall success, increase the beneficial impacts of this project throughout the Agency for International Development (A.I.D.), and strengthen A.I D.'s position internationally dealing effectively with critical LDC environmental/natural resource problems. The project provides excellent opportunities to use the informational material it generates in many helpful and imaginative ways. Without design, it has fostered a network-building process in Washington; A.I.D. people, technical experts and other specialists consult more freely with one another.

The IET views this project as a beginning, not an end in itself. A.I.D. should be commended for its initial efforts in this field and should be strongly encouraged to strengthen such activities and to increase their visibility and usefulness. We do not believe that the environmental/natural resource problems that beleaguer LDCs are likely to disappear in the near

future and we feel that in some cases the problems may worsen. Certain common themes supporting this view surfaced repeatedly during the course of our evaluation and led to the identification of several critical needs. These needs probably can be met through actions available to the A.I.D. Administrator. In any case, the IET feels strongly that the following points need to be addressed even though not directly in our specific charge: Unfortunately, an appropriate A.I.D. audience for these information products is by no means fully in place. There are problems of inappropriate expertise, inadequate time, high staff turnover and vacancies. A few comments from those interviewed give a picture of what commonly is the situation:

o "A.I.D. needs more economists and planners fully knowledgeable about environment and development."

o "A regional project in Africa had three project directors in three years, and "each thought it should go a different way."

o A.I.D.'s total staff has declined dramatically in the last two decades, and "no one has time" to deal with the concerns or documents associated with the project. "The people out there are all managing three or four projects, doing evaluations, designing new projects. It's a constant onslaught."

o A woman in Africa had three major projects to oversee, had to respond to cables from Washington dealing with energy and forestry (subjects that were more active than the environment during a certain period), and had to review regional PID's as well. A.I.D. has few professionally trained experts in the fields of environment/natural resources. The few that it does have seem, in large part, to be an underused resource. Much of their time seems to be spent on activities that do not require a professional's full attention but rather should be the responsibility of support staff. With one exception, those

interviewed told of the trivial amount of time they can patch together to keep abreast of the literature in their field. Though their titles reflect professional training, day-to-day requirements placed on them significantly diminish the possibility that their talents will be used effectively.

Recommendation: A.I.D. should bring more expertise in this area to bear on development problems. Its strategy should include increasing the number of professionally trained environmental/natural resource specialists in the Agency. These professionals should be given significantly increased amounts of normal working time to apply their specialities to the development process. They should fill appropriate environmental/natural resources positions, and others lacking such training should be assigned to more appropriate positions.

It is admirable that A.I.D. tries to bring professionals in disciplines other than environment and natural resources to a high level of understanding of the important interrelationships of environment and development through training and published materials. Raising an awareness in A.I.D. of the importance of coupling environment and development is valuable and should have long-term benefits. But, as one person put it, "Documents alone won't turn the tide." It seems unlikely that this group of professionals from other disciplines will ever fill the needs of A.I.D. in environmental/natural resource activities in a timely and effective fashion. This seems especially true considering the magnitude of the environmental problems and the need, for example, to understand relationships of biology, chemistry and ecology to social and economic questions of sustainable development.

The earlier Interim Evaluation of June, 1983, produced by the National Park Service (NPS), on page 6, states: "... for A.I.D. to use the tools being provided by projects such as this one fully and effectively, it must

eventually establish within each Mission a better technical capability to deal with the natural resources components of development projects."

Recommendation: A.I.D. should hire new professional staff who possess a background in environment/development as demonstrated by education, publications, past employment, etc. Such action will speed up the Agency's efforts appreciably to raise environmental awareness, particularly with the high staff turnover in A.I.D. The Foreign Assistance Act was amended in 1977 to include Section 118 on Environment and Development and this presaged subsequent amendments showing increased U.S. concern for the relationships between wise environmental/ natural resources management and successful efforts in international development. Subsequent amendments have focused on the linkages between renewable energy, agriculture, biological diversity, etc. to deforestation, erosion, and other environmental problems. The importance of wise environmental/natural resources management to successful development projects seems to be well recognized by the Congress and others, as reflected in these changes to the Foreign Assistance Act (FAA). A.I.D. currently is viewed as one of the leading organizations when it comes to pursuing environmental activities actively in international development.

Thus, A.I.D. officers today need environmental/natural resources information in greater amounts, greater variety, and greater detail. The Expanded Information Base Project was started at a critical time to help with this need. The base that has been laid will be important in helping A.I.D. to address and satisfy the new and varied requirements of the FAA.

All persons interviewed recognized an increasing need for available information to assist LDCs with their growing environment and natural resources problems. Such information is needed by both A.I.D. field operations and by the LDCs themselves. An indication of this need is the

increasing number of requests from LDCs for Peace Corps Volunteers having special training in environment and natural resources.

Some concern was expressed by the NPS that A.I.D. priorities continually shift and that, in time, the Agency's interest in environmental planning might decline, especially with the diverse audience in A.I.D. and their varied perceptions of need. One interviewee said that "environmental people are not involved in the key steps of development." An example was cited of an ecologist at the regional level who was not included when it came to either drafting or reviewing Kenya's country plan (CDSS). Earlier this year, Missions did not request any International Development Interns (IDIs) in "environment and natural resources," and consequently, A.I.D.'s Manpower and Training Office did not recruit such specialists. Mission actions could be read as having a waning interest in environmental/natural resources activities. However, A.I.D.'s Administrator informed the Missions that environmental/natural resources issues will have continuing importance in Mission activities and that appropriate IDIs should be sought. The Manpower and Training Office again is recruiting these specialists.

It seems that the need for producing appropriate environmental/natural resources information for international development activities has not decreased. The rationale underlying the Expanded Information Base seems as valid today as when the project began.

The remainder of the introduction provides a capsule description of the five major points the IET was directed to assess as stated in the task statement. Greater detail on each of these points is found in the remainder of the Evaluation Report. Further, additional points of importance to the success of this project are found throughout this report even though they may not have been asked for explicitly in the task statement. The IET believes, though, that these additional points need A.I.D./NPS consideration as well.

1. Adequacy of the Project Design

The IET finds that the original project design was sound. The sequence of project documents--review papers, case studies, design aids, and information transfer--should have formed an adequate flow of new information to assist LDC's to improve their capability to conserve and manage their natural resources and environment. The variety of information that might have been conceived to satisfy this requirement is vast, and the original project design and its revisions generally made excellent selection of topics.

The project as originally designed and described in the PASA recognized that "The process of mutual learning in the undertaking of the project is of considerable but unquantifiable importance," and should be fostered if it is recognized. This referred to A.I.D. and other Federal agencies, and NPS in particular. Changes have occurred in the project and both parties have adapted to the changes. Five amendments to the original PASA have been made, mostly to add additional funds but also in the fifth amendment to make major shifts in the general design of the project's later phases. Most of those persons interviewed felt that the project design was adequately flexible to handle changes as they developed. This has been a complex project and will continue to be so but it is laying the base for important, long-term activities in A.I.D./Washington, the Missions, LDCs and other development institutions. Continued flexibility will be important for the project's success.

The only aspect of project design that appears to have been deficient is the lack of a strong effort to define precisely the audience to which the project documents were directed. This has had the effect that many documents are directed more towards LDC counterpart personnel than towards A.I.D. Mission personnel. The net result is a project direction that has changed

from the original project focus. The impact of project documents on Mission personnel, therefore, probably is less than if the audience had been more clearly defined initially.

2. Progress to Date

The National Park Service has only partly achieved project objectives as defined in the PASA Scope of Work. This appears to be not so much a problem of lack of management skill, but rather a deficiency of in-house expertise in many of the fields of interest. The project documents initially planned and those in the revised lists have been produced slowly. Only about 40% of them are complete at the time of the review. None of the design aids, which are such a crucial part of the project, have been produced in final form. The NPS has established in-house expertise in only one area of interest--coastal resources. This has led to an efficient production of documents in this area. In other areas, NPS has not established in-house expertise. This lack of technical guidance from NPS has led to inefficient or non-production of anticipated documents.

Most subcontracted products have been produced within budget or nearly so. One major subcontractor has failed and the contract canceled. The loss on this product has yet to be evaluated. Nevertheless, many products produced to date are of high quality even though they will need some editing and reorganization to be of most effective use.

However, a large number exist only in draft form, and they are not very useful in this form. Therefore, overall, the IET feels the products are of mixed quality. Unfinished products should not be considered as acceptable to A.I.D. (see Table 1). The subcontracting process for Design Aids is lagging at a time when these documents are becoming more critical for successful development of upcoming training activities in LDCs. NPS must move these subcontracts along quickly.

3. Utilization of Products

Given that many of the project documents are still under production or review, arrangements for their distribution seem to be adequate. Each document should have a one-page summary for distribution to the project mailing list so that all potential users will know about availability and potential usefulness of the documents. The Technical Bulletin should carry a systematic series of reviews of project documents.

The main plan for further distribution and utilization of the project documents appears to be the LDC training sessions of Phases V and VI. It is hoped that the new information will be transformed into course work in LDC institutions for future generations of LDC counterpart personnel training. Thus, plans to impact the LDC audience appear to be adequate. This is not the case for A.I.D. Mission personnel. The plans to further use the information developed by the project is indefinite. It appears that the opportunity to impact Mission officers will be lost. A.I.D.'s Document Center has records of who requested specific documents listed in the Natural Resources Technical Bulletins. A summary of requests might provide useful information for determining A.I.D. Mission needs.

The project should re-address the problem of transferring information to the Mission officers. It is crucial that these officers have some understanding of environmental and natural resource issues when they become engaged in planning future projects in Missions. Environmental and natural resource information should become incorporated into traditional training programs for Mission officers. The role of Environmental Officers in the Regional Bureaus should be strengthened. At present, they are too overloaded with work to be effective in all matters with which they must be concerned. A.I.D. administration should consider the feasibility of redefining the work

load of the Environmental Officers in the Regional Bureaus so that a much larger fraction of their total time is committed to these issues.

Five years after the project's beginning, the IET can identify no major or obvious changes in the environmental and natural resources management in A.I.D., or elsewhere, that can be attributed directly to this project. Few of the major documents, even in review form, have been seen by A.I.D. Mission staff. The Natural Resources Technical Bulletin, however, seems fairly successful and has potential for increased positive impact in Missions and with LDC counterparts. Publications listed in the Bulletin have been requested by A.I.D. Mission staff and LDC people as well. However, the IET cannot measure whether these documents and the Bulletin have had direct impact on the management of natural resources in LDCs by Mission staff or their LDC counterparts.

Review of draft documents by Regional Bureau personnel, their participation in the Council on Environment and Development (COED) and the Sector Council, and their exposure to an increased number of project related environmental/natural resources specialists over the past five years has kept the environmental/natural resources issues prominent within A.I.D. Washington activities. Now, the project is really at its "take off" point in its information dissemination and training activities. This is a critical part of the project and it should be followed closely by the Sector Council as it develops and not be allowed to lag in its implementation. There is even some indication that the commitment of A.I.D. to environmental matters may actually have declined during the life of the project. We make this statement in spite of the fact that the project has definitely raised awareness of environmental and natural resource issues within A.I.D., both in Washington and in the Missions. But environmental concerns have been added to the workloads of

individuals who are already fully committed to other duties in the Missions and in the Regional Bureaus. There is no effective administrative organization of environment/development issues within operating branches of A.I.D. The leadership has come from a very small and dedicated group of S/T officers and an overworked and dedicated group of Regional Bureau officers. This coterie of environmental administrators is simply too thin at present to have enough of an impact on project development activities within A.I.D. Changes in the present state of management of environmental and natural resources management in A.I.D. are definitely called for.

4. Project Coordination

It seems fair to say that the project has involved such a major task of coordination within itself between A.I.D., NPS, and its subcontractors that little energy has been left to achieve ideal coordination with other agencies. We find only a few examples of coordination with such groups as other Federal agencies, the Peace Corps, World Bank, etc. Too few non-A.I.D. institutions have been brought into the organized workings of the Sector Council. The need exists for closer involvement of such organizations as the Peace Corps, MAB, OES, OAS, IBRD, IDB and UNEP with the Sector Council on Energy and Natural Resources for this project's products to achieve their full potential. The inclusion of such organizations from this point on in the project (and perhaps others) should improve environmental/natural resources information dissemination and should foster the incorporation of such information into project planning and project implementation in numerous LDCs. There has been good coordination between the project and the Organization of American States, especially related to the activities that involved OAS in one of the project documents.

The Sector Council today seems to be the appropriate center for project coordination activities. It is IET's firm impression that COED's role of "board of directors" for overseeing the project has not been fulfilled in an effective manner. A need exists to include representatives from A.I.D.'s Office of Manpower and Training in the Sector Council especially as the project's training component starts. Consideration also should be given to membership of the A.I.D./USDA Office of International Cooperation and Development, and A.I.D.'s offices dealing with the technical publications library and A.I.D. Research and Development Abstracts.

5. Future Directions

A. In addition to training materials that are already contemplated, some consideration should be given to the potential use of the AAAS volume on Resource Inventory and Baseline Study Methods. This is a complex guidebook at present that needs to be broken into discrete subject matter areas for further information transfer. The best vehicle for this would be a series of training programs. At least four general training programs could be developed on the basis of this material: the Ecosystem Concept in Natural Resource Planning, Baselines and Resource Inventories in Aquatic Ecosystems, Soils as a Natural Resource, Plant Resources and their Management and Utilization, Wildlife Resource Management and Inventories. This is a valuable document and the opportunity to use it effectively for the ultimate project purpose should not be lost. It is probably too unwieldy to be effective in its present form.

We feel there is a real need to develop further case studies and design aids based upon them in two major areas of project concern. These are the Humid Tropics and Rangelands. In the first case, there is an excellent review paper that the project has produced. But the project has not developed any case studies or design aids to go along with this paper. It should. A large

number of excellent case studies in rangelands management could be developed and design aids derived from them would be helpful in a large part of the A.I.D. world. The case studies so far produced are weak and it is too early to know what type of product will be produced as design aids. Certainly a much more effective set of design aids could be produced, if there were a good series of case studies to support them.

B. The Natural Resource Technical Bulletins fill a real need and should be continued beyond the life of the present project. We recommend that ST/FNR take over this task as a continuing contribution to developing awareness about environmental and natural resource issues within A.I.D. Washington and its Missions (see p. 63).

C. The future relationship between A.I.D. and NPS is a difficult question to evaluate properly. A.I.D. and NPS should continue to work together for the remaining two years of the project. At that time, this relationship should be reexamined closely during the project's final evaluation.

NPS has largely managed the project with skill and energy, and no doubt there will continue to be interaction between NPS and A.I.D. on future projects. This cooperation should focus on areas where NPS has in-house expertise. The original conception of the A.I.D. project managers to select a contractor who had in-house capacity to pursue the project was a good one. The potential for future cooperation with NPS is conditioned by the fact that NPS has developed only limited in-house expertise on matters of the greatest interest to A.I.D. in the environmental and natural resource management field. In the final analysis, it appears that NPS has not committed itself to developing a permanent organization capable of technical, as well as managerial, oversight of broadly based environmental and natural resource projects in the international field.

D. The project has not produced any unplanned information for publication. The documents scheduled for publication will have to be the basis for review articles and brochures that may be appropriately prepared by A.I.D.'s Office of Technical Review. Some examples are mentioned in the body of this report.

E. NPS would seem to have a limited capacity for collecting information on natural resource development from other A.I.D. projects and preparing it for publication and dissemination, for the reasons noted above. Information NPS might collect could easily be adapted for inclusion in the Technical Bulletin.

II. Adequacy of Project Design

A. Audience Identification

A.I.D. has some 4000 to 5000 Foreign Service personnel. Of these, about one-third are in the professional category. A.I.D. has experienced an estimated 80 percent turnover in these employees since 1980. The professionals are split about 50/50 between "generalists" (mostly MA/MS and PhDs with backgrounds in such fields as foreign policy, economics or international relations) and "technical" people (mostly MS and PhDs typically in such fields as public health, nutrition, agronomy or agricultural economics). Probably a large percentage of the professionals could understand the various environmental/natural resources issues, if they had adequate time to learn a new field in the load of daily chores they handle. "These are very busy people," we were told by many interviewed. "By and large, they don't have time to review materials." Another interviewee said they have a "paper overload," and that this includes a plethora of directives from above on too many subjects.

One person interviewed felt that many of the professionals really would not care enough about the subject of environment and natural resources to learn about it. Finally, one person expressed concern that A.I.D.'s interest in environmental problems is "wavering." The interviewee said A.I.D. seems to "move with the problems--from population, to tropical deforestation, to the Sahel, and maybe biological diversity will be next." If true, this suggests that the need for A.I.D. literature linking environment and development is very important. A more accurate definition is needed of the existing audience, the potential audience, and the desired audience.

Also, A.I.D. provides no career paths in environment and natural resources. Consequently, professionals aspiring to high positions in A.I.D. commonly move out of technical activities after a few years.

Recommendation: A.I.D. should establish a career path in such technical areas as environment and natural resources. By doing so, the likelihood that a "critical mass" of specialists would be assembled and maintained could be improved. Without a career path, such individuals are almost assured that their input in long-range planning of A.I.D. activities will be minimized.

In any case, the project has been hamstrung to a certain extent (though surely not to the point of being crippled) by confusion about the perceived audiences or targets of Expanded Information Base documents and by confusion about who those targets are. Obviously, to whatever extent the documents have not, or do not in the future, match the needs, desires, or capabilities of the recipients, they will be ineffective in achieving their purpose.

While it is important to tailor the documents to the audience, the second variable in the matchup should not be ignored, the audience itself. The audience can be changed deliberately, and in fact is constantly undergoing change. The changing audience may be a common aspect of any long-term project.

During the course of the project, a shift seems to have occurred in the target audience from A.I.D. Mission officers to LDC counterparts. This major change in project direction merits full consideration, because the impact that project documents have depends a great deal on the audience for which they are intended. We consider the problems caused by audience definition to be a management problem that NPS/A.I.D. share to some degree, but the main responsibility rests on the contractor.

The audience orignially intended for the products of this project consisted of A.I.D. personnel in the Bureaus and Missions. The original PASA defines the audience in these terms, and none of the amendments to the PASA alter it. In general, NPS project managers and ST/FNR project managers

perceive that the project documents must impact on the development planning routines of A.I.D. Missions to be effective. Nevertheless, the IET heard statements that "there is no standard audience" and the documents will be "cost-effective only if they appeal to a broadened audience." Many aspects of the project seem to bypass the target audience in the Missions and seem to appeal to or be directed towards LDC personnel. In some respects, the intended audience seems to have shifted from Mission officers to LDC personnel. Some examples of this are cited below.

The chief means of direct communication between project personnel and the Missions are the Technical Bulletins, and some feedback about the content of the Technical Bulletin was obtained from a questionnaire that accompanied the first issue. Respondents listed a range of topics on environmental issues as topics for future issues of the Bulletin. They asked for fact sheets, project reports, case studies, how-to manuals, sources of expertise, etc., that would be useful in preparation of development plans (see Appendix 4). One NPS member commenting on this response said "...the project is not really conceived to provide this type of material." This statement is an amazing one coming as it does from a member of the NPS management team. One must ask why the project didn't shift gears to produce the kind of information most needed by their target audience.

Instead, project management has allowed the type of products being produced to determine the target audience. The Technical Bulletins appeal both to LDC personnel and to Mission officers. A more directed effort to insure that the Technical Bulletin content was aimed at the needs of Mission officers might have made the Bulletin a more effective path of communication between the Expanded Information Base project and A.I.D. Missions.

A.I.D. Mission officers want help in designing projects that will be acceptable in Washington. Thus, design aids are most likely to meet their needs. One NPS member remarked that if he didn't have the design aids, he would have difficulty in justifying the review papers and case studies, and h looks to the design aids to be useful to the Missions beyond the life of the project. Unfortunately, the project has not yet produced its first design aid. Without user-oriented documents, the project has no way to impact the process of project design in the Missions.

The project, especially in Phases V and VI, apparently has developed a tendency to look beyond the Missions to LDC personnel and institutions. The specified purpose of Phase V is to "train the trainers." This means LDC personnel, primarily. Phase VI is designed to assist in development of LDC institutions as future training sites involving LDC personnel. However laudable this goal may be, Phases V and VI will shift the focus of the project away from the primary audience that it was designed to serve.

We can only speculate about the reasons for the shift in emphasis that has occurred. Certainly, it can be difficult to attract the attention of some Mission officers to questions of environmental sensitivity in development project design. Those assigned responsibility for environmental considerations are over-committed with two or three other high priority assignments; they usually are not technically trained. Possibly, the NPS finds it difficult to relate to Bureaus and Missions because of lack of experience in dealing with A.I.D. Thus, perhaps, it was easier for the project to reach out towards LDC users "to broaden" its audience.

However, the primary audience remains the A.I.D. Missions, for there the crucial decisions about integrating environmental considerations into development planning must be made. The success of the project will finally be

judged by the degree to which the documents and training activities that it generates help the Mission officers design sustainable development projects.

Recommendation: The A.I.D./NPS project managers should re-examine the direction that the project is taking. They should re-emphasize the goal of providing A.I.D. Mission officers with information relevant to their planning activities.

Recommendation: Project managers should concentrate their efforts on producing sound design aids. The direction, energy, and resources that are directed towards Phases V and VI should be reconsidered in this light.

Of course, the documents were prepared by different people and are different in content, style, level of expertise, etc. It is inappropriate to generalize, therefore, and especially difficult to do so when seeking to pinpoint responsibility for confusion about the primary audiences or ineffectiveness in matching documents to them. This problem will be discussed further in comments about the contents of individual documents.

Following are some basic questions that sum up the issue of audience identification and the appropriateness of the documents vis-a-vis their recipients:

- Who are the primary (and secondary) recipients of the documents?
- Are the documents tailored to their needs, in terms of style and content?
- Are the documents tailored to their expertise, in terms of style and content?
- Can the recipients be more carefully defined, in terms of needs and expertise?

- o Can the documents, with adaptations--such as excerpting, summarizing, translating, editing, and so forth--be better matched to their recipients? To what extent is this necessary?
- o Should recipients themselves be changed--by increasing their numbers, replacement, changing qualification requirements, education, and policy directives?

Following are some examples, taken from documents and interviews, of the confusion about who the audience is:

o The Project Paper defines recipients in very general terms. The total emphasis is on A.I.D. Regional Bureaus and Missions, in general, with no mention of individuals. Only one mention is made to dissemination of information to interested persons in A.I.D., developing countries, and other development assistance organizations. When workshops are discussed, however, there are references to "host country colleagues" as participants, or to "LDC counterparts, if desired."

o The PASA between A.I.D. and NPS states that the purpose of the project is to provide useful information to "Regional Bureaus and, implicitly, Missions...." "Information must be communicated to "A.I.D. staff." Workshops are aimed at A.I.D. personnel and "host country colleagues." It is notable for not mentioning LDC personnel in any specific manner. Natural resource information useful for project planning and design was to be made more accessible and actively communicated to A.I.D. staff.

o The Interim Evaluation of June 1983 makes a number of references to Missions as targets, but it also notes that the Technical Bulletin and Review Papers were being used by A.I.D. and LDCs and points out that Phase IV is to "introduce A.I.D. Missions and host country counterparts to the Review Papers, Case Studies, and Project Design Aids...."

o As the project took shape, the purpose of the project was clear but a certain vagueness existed about just what sorts of A.I.D. and/or LDC people would be recipients of the information. One person commented, "We didn't know that well what we were dealing with." Even to this day, there is at least some continuing disagreement among project managers on this point.

o Different interviewees characterized the audience in these ways:

Country development planning officers and those people charged with the development of projects (not their implementation).

LDC people were considered at first a "secondary audience."

A.I.D. suggested in connection with one document that the audience be broadened to include someone who might operate a project, according to an NPS official.

A.I.D. project managers and their LDC counterparts.

A.I.D. Mission planners.

A.I.D. and other Washington people are not considered an audience.

Among the LDC targets mentioned were officials of countries' Departments of Natural Resources.

o A good deal of confusion existed when it came to clarifying the audience for subcontractors. Said one interviewee: "It was very difficult in dealing with the contractors for them to understand the audience, and the right technical level for the documents, and to address issues of use to the recipients." Another said: "In every case, it was very different between what you wanted and what the contractor thought you wanted."

Closely related to the identity of the recipients is the type of people they are. Consensus seems to exist that both A.I.D. and LDC recipients can be considered university trained, and that they include economists, political scientists, and technically oriented people like engineers and agricultural experts.

For whatever reason--absence of, or nonadherence to, policy or directive--no uniformity exists in the way environmental and natural resource responsibilities are assigned to people in A.I.D. Missions. One A.I.D. official said the Agency has few environmental professionals. "We are staffed with generalists and a delusion that by giving them the right information they can handle any projects" and that, in any case, they can get technical help if they need it. It was this person's view that A.I.D. would do better to hire professionals directly or on personal services contracts.

It was pointed out by many that most Mission officers are economists, engineers, agriculturalists, and the like, and they are assigned "collateral" duties with respect to the environment. They have all types of degrees and they may be "operating in a field they're unfamiliar with." To a lot of these people, "forestry and natural resources is a new fad that will come and go."

Clearly, the Mission recipients are varied, ranging from people with neither training nor interest in environmental considerations to well-qualified environmental officers specifically requested and assigned to Missions or Regional Bureaus in furtherance of policy interests. In a number of cases, environmental responsibility has been assigned to agriculture officers, or to health people, or it may be lodged with energy (as in Pakistan) or technology (as in Honduras).

Few Mission environmental officers have professional environmental training. The role of an environmental officer may shift from person to person within a Mission; it may be carried out by someone managing or associated with the program or project itself; in one case a Mission Director himself assumed the role because he knew more about the subject than anyone else. In some cases, a Director might want to address a specific ecological issue and hire someone to do that directly or by contract. In addition to

having other expertise (which may not mesh well with environmental problems), the Mission officers have many other problems to deal with.

A.I.D. has the potential to move to another higher plateau in terms of environmental awareness, responsibility, etc. But, to accomplish this, there is a prerequisite that more economists and planners become fully knowledgeable about environment and development. An improved understanding will be required by Mission directors, and program officers, but particularly economists.

Recommendation: A.I.D. should make a strong effort to bring development economists and planners "on board," i.e., to recognize that environmental concerns should not be separated from economic development. Bringing them on board in the training and information transfer process requires that the training be an effective blend of environmental management and development economics.

Similarly, mixed comments were received on the role played by agriculture officers in A.I.D. and efforts to integrate agriculture and environment. On the positive side, one interviewee said, "in some cases, the Missions are ahead of Washington, with sustainable agriculture programs, etc. In the field, we're getting an entirely different type of agriculture officer, ex-Peace Corps people and so forth, more open and more oriented to rural development." On the negative side, the separation of agriculture was stressed: "If it isn't a new strain of corn or wheat or rice, they're not too interested . . . it has to be done on a personal basis."

As far as LDC audiences are concerned, the project did not try to take into account the types of organizations or the types of individuals who might or should be the targets. Would the LDC people be administrators, engineers, project planners, project managers, general planners, environmental advisors, agricultural officials, or other agency officials? Would their organizations

be government agencies (for natural resources, agriculture, forestry, planning), academic institutions, or research organizations? What are their expressed needs?

Nor did the project seek to distinguish between A.I.D. and LDC audiences, yet such distinctions could have various implications for the documents themselves--for example, their content, vocabulary, tone, or language of translation, if any. One person interviewed said that, in some cases, the LDC people may be more expert than their counterparts within A.I.D.

While the attributes of the LDC audience were not analyzed, the general characterization of Mission officers was well known to the ST/FNR project manager and to members of the COED who were responsible for project oversight from the project's beginning. Close interaction between the A.I.D. project manager and NPS should have provided NPS with sufficient information about the intended audience so the documents produced could have been directed more accurately towards the Mission officers and their needs. The gap that developed between original project design and its mid-term expression was not, in our judgement, due to inadequate project design.

Some sort of market analysis of target audiences seems appropriate and feasible now. Perhaps, this could be incorporated with an effort to monitor the response to, and demand for, the documents generated by the project. Of course, the project can serve to <u>establish</u> an audience or market as well as supply the demands of an existing audience. Certain project documents already have been used in discussions with other donor organizations originally not specifically identified in the project goal. This fallout from the project is important and such activities should continue to be encouraged.

Recommendation: That management of the Expanded Information Base project supplement the design of the project with an improved definition or characterization of the audiences (including at least an informal market analysis) and then clarify what this means in terms of the documents provided and their distribution.

B. NPS Selection and its In-House Expertise

A.I.D. project designers evidently were mistaken about the capability of the NPS to carry out the project with their own staff. Originally it was contemplated that NPS would use only its own technical expertise, but when the limitations of NPS became clear, subcontracting was adopted as a mechanism for preparation of the documents. Clearly this was a project design fault and considerable time could have been saved and anxiety avoided if the problem had been recognized in advance. Nevertheless, it also is a measure of the adaptability of the project managers and COED.

Several other options were available. It would serve no purpose in hindsight to judge whether or not one of them should have been chosen in preference to NPS; but it might be of some benefit if changes in the project are considered for the future. Thus in addition to the option of remaining with NPS:

o A.I.D. could hire or contract directly for the people needed to prepare the documents by strenthening its own staff with additional expertise.

o A.I.D. could go to a different contractor, either a Government agency other than NPS or a private contractor (which itself might have to turn to subcontractors to cover the full range of subjects).

o NPS staff could be strengthened sufficiently to take on the document preparation task itself, rather than going to subcontracting.

NPS staff lack LDC experience. In a relevant comment, an A.I.D. official said, "NPS has limited LDC experience. We probably should have gotten them out more." NPS has tried to talk with Mission people as they come through Washington to make up for NPS' own travel restrictions. A related point is whether or not, given the role that NPS was assigned, it needed strengthened expertise to oversee the documents' preparation. It has been strengthened in part.

The Expanded Information Base project is an ambitious effort to effect information transfer from technical experts to general officers of A.I.D. The differences in language, idiom, viewpoint, etc., between technical experts and generalist planners and project developers is vast. The original project design probably did not anticipate how great a task it was to effect this information transfer. In all probability, it would have been virtually impossible to anticipate fully the energy and inventiveness that would be required. The fact that several documents effectively made this transfer is a compliment to the project managers.

The NPS has chosen to operate this project by temporary assignment of its staff and by acquiring temporary staff to fulfill certain specialized functions (e.g., Coastal Zone Management; Training). It has, in fact, failed to institutionalize its capacity to provide effective management of integrated international environmental development projects. It has no core of experts that will remain with NPS International Division after this project completes its funding cycle. Therefore, in the future, NPS will be in a no more strengthened position to respond to a PASA such as this one than it was in 1979.

C. Inadequate Description of Desired Products

Closely related to the problem of inadequate audience definition is that of insufficiently clear description of the documents sought from the project. Conflicting opinions existed and exist in A.I.D., NPS and outside as to what the final products should be. Consequently, the documents are to some extent a "mixed bag" and include some unexpected results, some disappointing (as will be discussed below).

It is true that the project design envisioned a logical sequence of document categories--i.e., review papers, case studies, and design aids. The fundamental idea was sound. But, there was a lack of sufficient clarity about the nature of the documents themselves. This relates to such aspects as the degree of academic or scientific orientation and expertise, the level of specificity in the material, length of documents, and various aspects of packaging. For example, there could have been a more careful sorting out of documents that should include highly specific research, those that should concentrate on examples from developing countries, and those that should focus on applications.

It was suggested that people having a strong academic learning were not necessarily the best ones to prepare the documents, that more practical, management-oriented material would have been more useful. Another interviewee suggested that the documents might have better served to create a medium between the technical experts and management people, so the documents could be utilized better in decisionmaking. This might have been possible if the documents desired had been more carefully described in the project design.

Since a major thrust of the project is now directed towards LDC personnel, the question of adequate project design to effect information transfer to LDC counterparts must be considered. The initial project design

did not anticipate the need for document translation to the working languages of host countries.

The Expanded Information Base project is an English-medium project, both in terms of much of the research it reviews and upon which it is based, and the language of the final products. English is appropriate if the intended audience is A.I.D. On the other hand, some participants now believe that the ultimate audience is LDC personnel. Furthermore, several products are directed specifically at the LDC audience. This being the case, the limitations imposed by use of English medium must be noted. Similarly, inclusion of additional foreign references in the reports would have improved the documents' usefulness in LDCs.

Obviously, the Spanish medium would be appropriate in most of South and Central America, French in most of West and North Africa, and Portuguese in some parts of South America and Africa. And, while English is widely spoken and read by university-educated people in Asia, the language of business and governments in this region is the indigenous or official language of the country concerned; this has become progressively more true as Asian countries have developed their own educational and governmental systems in the post-colonial era.

The only efforts to provide LDC-compatible translations of project documents appear to be the summary of the Humid Tropics review paper in Spanish, and a Spanish edition of the OAS case study and guidelines which is planned. No other firm plans to bridge the language gap seem to exist, although the merits of doing so are acknowledged by the project manager.

D. Links with the Office of Manpower and Training

The Project Paper (PP) states that the PP would be circulated for review to the A.I.D. Office of Manpower and Training. That idea had merit but the

links between project management and that office over the five-year activity apparently were spotty at best.

Recommendation: ST/FNR should make the Manpower and Training Office a formal member of the COED or the Sector Council.

III. Assessment of A.I.D. Project Activities

A. ST/FNR

NPS people expressed different opinions as to whether A.I.D.'s program management allowed sufficient flexibility to maximize adaptation to changing needs or perceptions. One person felt that the flexibility of the project was valuable. Another observed the project was given a track to run on and did not have the flexibility needed to respond to questions about social and economic factors and about relevance. "There were no contingency loops built in," the NPS person said. "The Project Paper was designed for engineers, and we're trying to do policy analysis." He added that it has been difficult to "seize on opportunities," and this is needed in an environmental world that is changing so fast.

ST/FNR has held numerous meetings with NPS during the project's lifetime. Because this is a "team" effort (A.I.D. and NPS), it seems that both parties need to meet to determine: how bureaucratic problems can be minimized so as to facilitate project activities, and what are the clear similarities and differences between A.I.D. and NPS in their philosophy of international development. IET interviews surfaced these issues, and though these may be minor problem areas now, they may tend to grow with time as field training plans get underway. Open discussion on the points now seems appropriate.

B. COED

Although one or two people expressed the view that the COED was and has continued to be effective in its role as "board of directors" for overseeing the project, it is IET's firm impression that this role has not been fulfilled in an effective manner over the last few years. It seems clear that a revitalized, and perhaps expanded, Sector Council could perform two functions important to the success of the project:

1. Oversight of its implementation. The Sector Council could perform a valuable service in reviewing further project activities, including decisions on adaptations and translations of documents, dissemination strategies, subject matter for other documents, and training programs.

2. Improved communication. The Council could serve as a valuable mechanism for expanding the dissemination of project documents outside A.I.D. as well as generally spreading word of the project to other organizations.

The potential for the above would be even greater if membership of the Sector Council were expanded to include representatives of other branches of A.I.D. and of outside organizations, even if only on an ad hoc basis, for example, by inviting their representatives to a meeting to discuss a particular document or documents and obtain their views. Such organizations could include the Peace Corps, MAB, OES, OAS, IBRD, IDB, and UNEP.

Recommendation: The Sector Council should meet more frequently, provide closer scrutiny of project activities and documents, and expand its membership so as to improve coordination on environmental matters and broader dissemination of project documents.

C. Document Review

Evidently, A.I.D. personnel are short on both technical expertise and time when it comes to reviewing the project documents. They may be able to make comments on packaging and presentation, but as far as technical or substantive review is concerned, the results have been poor. Other duties have higher priority than reviewing the documents. And sometimes, the deadline given for a review is unrealistically short.

One interviewee complained that only a week or two was available to review the large Coastal Resources document. Another said "the review work imposes a large burden on a small staff, that reviews are not done promptly,

and that their bosses prefer them to work on their regular regional affairs." "We do it basically on our own time," said one A.I.D. person, noting that it takes a block of time set aside and this is difficult to do during regular office hours. The result is "some delay and the products suffer some."

ST/AGR seems to pay little attention to the kinds of environment/natural resource issues with which the project deals. The best input from agricultural personnel has come from the Missions. FAO has been a good technical reviewer of these documents.

According to one A.I.D. interviewee, neither the project nor the documents have a high priority at the Agency. Considering the size of the draft documents, the extreme pressure of other assignments, and the relatively short review time, it is not surprising that the project is not viewed as being of high priority in the Regional Bureaus; consequently, their reviews come in late. Concise summaries are needed in all documents to assist the reviewers and probably increase their interest. When discussions moved to the Technical Bulletin, comments were more favorable. (For further discussion of the Technical Bulletin, see page 57.)

ST/FNR already has suggested that an evaluation form be sent out with all publications to assist in the review purpose. Such a form would be beneficial even for the rough drafts that are circulated to Regional Bureaus.

IV. Assessment of NPS Project Activities

A. Factors Affecting Production of Completed Studies

The NPS has brought a high level of management expertise to the project, and these skills are largely responsible for many of the excellent products that the project has produced. A few examples are worth citing.

The completed reports on the Humid Tropics (NRC/NAS), Legal and Social Institutions (I.I.E.D.), Resource Inventory and Baseline Study Methods (AAAS), and Case Studies of Regional Development in Latin America (OAS) are all comprehensive documents. NPS arranged to produce each of these documents with a well-established, experienced, and competent organization. After the subcontracts were let, NPS management personnel carried through with the subcontractors until a completed product was produced. The large, intimidating AAAS document involved a time-consuming effort, because of its complexity and because AAAS had more limited experience in assembling groups of diverse experts to produce such studies. That the final report will soon be published attests to the perseverance and management skill of NPS personnel.

The production of the OAS report is a good example of coordinated effort between NPS management and the subcontractor. Both organizations operated through able project managers in this case. The cycle of planning objectives, developing a draft report, obtaining feedback from the field and integrating it into the final report, and production of the final draft was completed in a timely manner.

A different example of NPS skill is the production of Case Studies, Guidelines, and Design Aids for the Coastal Areas. In this case, NPS identified a number of subcontractors to obtain the desired subject matter coverage. NPS let the subcontracts, coordinated document production, and

oversaw subproduct integration into a comprehensive final document. While quality variations exist among the individual case studies, the final product is a synthesis of environmental factors in coastal zone management practices and is an excellent example of what project documents can be. A key to successful management of this effort was that NPS obtained the services of a project manager who possessed subject matter expertise in coastal zone management. This project manager gave NPS an in-house expert to communicate effectively with the individual subcontractors who were preparing case studies. A common format was developed for the products. And, the project manager was able to achieve an effective translation in language and viewpoint from technical experts to target audience that will make for effective information transfer. This truly was a major accomplishment.

Some deficiencies that have developed probably are related to the following. Initially, the NPS International staff was very "thin" and it had limited subcontracting experience. NPS lacked in-house expertise in many pertinent areas of environmental planning. NPS had limited experience overseas, especially in dealing with LDCs and with international development organizations such as A.I.D. It had little direct knowledge of how A.I.D. operates overseas, and its approach to natural resources management differed from that of A.I.D.

Inexperience in contracting shows up most directly in delays in producing project documents. The IET must express concern about the status of production of project documents. A few are complete, or in an advanced state such that their final versions can be anticipated at an early date. (These include two review papers listed in Table 1.) Others are ready for final printing (indicated in Table 1 by *). But, a surprisingly large number of documents exist in draft form only. Many of these documents are crucial

background for Phases V and VI; and, it seems likely that they will not be ready in time to be employed effectively in the design training sessions that are contemplated for later this year. Some documents do not seem to exist at all. (These are underlined in Table 1.)

Table 1 shows that some 40% of Phases I, II, III, and IV documents now is complete, 30% is in draft form, 13% contracted but not yet available, 17% has not yet been contracted, and 10% is not yet due. This limited state of readiness in support of Phases V and VI must remain of great concern until steps are taken to bring more project documents to a completed stage. Nevertheless, one A.I.D. manager believes that 90% of the Phase I, II, III, and IV products are completed and, therefore, that the project is in position to proceed directly to Phases V and VI.

The only product that is complete for the Humid Tropics theme is the NRC/NAS review paper. Everyone seems to agree that this theme is still a high priority area, yet there seems to be no progression to case studies, guidelines, and design aids since the review paper was published in 1982. A contractor has not been selected yet to produce the design aids. This delay must reflect a breakdown in management capacity. It seems likely that a major reason for the lack of progress is that NPS has no in-house subject matter expertise in Humid Tropics resource management and, unlike the situation with Coastal Areas, they have not retained such expertise to help direct the production of project documents.

Much the same situation exists with the Rangelands theme. Here, the only product to date is a "draft" copy of the review paper. It is not clear when, or if, a final copy will be published. No case studies, guidelines, or design aids exist for the Rangelands theme, although the panel has been told that a contractor has been selected to produce design aids. Management has not been

able to cope with production requirements pertinent to the Rangelands theme. Again, NPS has no in-house subject matter expertise in this area and has not retained such expertise to direct production.

The IET panel is quite concerned about the two deficiencies cited above, because case studies and design aids will form the basis for Phase V and VI activities. Preliminary design sessions for Phase V are scheduled for October-November 1984. It seems unlikely, considering the present rate of production, that preparations for these sessions will be supported by project documents in the thematic areas of Humid Tropics and Rangelands.

The NPS has experienced several problems, not of its own making, that affect the slow delivery of finished products. The subcontractors have been slow to complete their work. The subcontractors have had further difficulty in focusing on the problems, issues and audience that the project is designed to serve. Review by A.I.D. often has been slow. Furthermore, A.I.D. reviewers have been unable to provide much technical appraisal of draft documents. All of the above have required more time and energy on the part of NPS than originally might have been anticipated. Part of this problem is the normal learning process in managing a project as complex as this one. In the final analysis, however, it is the responsibility of the NPS to produce products in a timely manner. It seems that many instances exist in which this obligation has not been fulfilled adequately.

Recommendation: Increased effort should be focused on stimulating the revision of draft documents, and insuring that final drafts become available in a more timely manner for final reproduction. If technical reviews cannot be obtained within NPS or A.I.D., outside consultants should be engaged to provide such reviews and to eliminate this factor in the slow rate of production.

Table 1. Production Status of Project Documents (to 1 May 1984)

Title	Contract	Draft	Complete
I. Review Papers			
A. Ecological Aspects of Development in the Humid Tropics - NAS	1980		1982
B. Legal, Regulatory, and Institutional Aspects of Environmental & Natural Resources - IIED	1980		1981
1. A Country Study of Venezuela			1981
2. A Country Study of Sudan			1981
3. A Country Study of Ghana			1981
4. A Country Study of Malaysia			1981
C. Resource Inventory and Baseline Study Methods for Developing Countries - AAAS	1981	1983*	
D. Natural Resource Trends in East Africa - Clark U.	1982	Not Available	
E. Ecological Use and Management of Rangeland Resources in Developing Countries - W.I.	—	(1984)	
II. Case Studies and Guidelines			
A. Case Studies in Integrated Regional Development Planning in Latin America - OAS	1981	1983*	
1. Mexico		1983*	
2. Ecuador		1983*	
3. Argentina		1983*	
4. Panama		1983*	
5. Bolivia		1983*	
6. Dominican Republic		1983*	
B. Guidelines for Designing and Implementing Regional Development Planning Studies - OAS (Included in IIA)		1983*	
C. Resource Management and Development in Coastal Areas - RPI		1983	
1. Changes in Watershed Land Use: Agricultural Runoff - Clark U.		Not Available	
2. Coral and Sand Mining - IRF		(1983)	
3. Coastal Zone Management Studies: Indonesia - LSU		(1983)	
4. Impacts of Freshwater Diversions on the Coastal Ecosystems of Selected U.S. Rivers -- MM		Not Available	
5. Aquaculture Technology - U. Miami		(1984)	
6. Coastal Fisheries Management - IRF		(1983)	
7. Beach Erosion - RPI		1983*	
8. Institutional Arrangements for Coastal Resources Management - RPI		?	
9. Island Ecosystems - IRF		Not Available	

Title	Contract	Draft	Complete
III. Design Aids			
A. Guidelines for Coastal Resources Development and Management - RPI		(1984)	
B. Design Aids for Coastal Resources Development and Management - NPS (To be drawn from III.A)		Not Available	
C. Ecological Use and Management of Rangeland Resources - WI		Not Contracted	
D. Principles and Methods in Developing Humid Tropical Regions While Protecting Natural Resources - WI (?)		Not Contracted	
IV. Information Transfer and Dissemination			
A. Natural Resource Technical Bulletin			
1. Volume 1			1981
2. Volume 2			1982
3. Volume 3			1982
4. Volume 4			1983
5. Volume 5			1984
6. Volume 6			
7. Volume 7			
8. Volume 8			

Notes:

* following a date indicates final draft is complete, ready for printing.

( ) enclosing date indicates preliminary unedited draft only.

B. Subcontractors' Appropriateness

A legitimate question exists as to whether it was appropriate or wise, in choosing subcontractors to produce the documents, to opt for purely scientific or academic expertise, as was done in most cases. (A notable exception was the OAS case studies document.) An alternative would have been to give the job to resource planners, project managers, and the like--people who need to assimilate, or have assimilated, appropriate scientific knowledge, but who are in a position to relate that knowledge to actual experience in managing a resource or resource project. As one interviewee put it, "it's a question of how you cut the informational material." It can be, as well, the difference between a document that dwells on the life history of a riparian animal and a document that pinpoints the problems associated with an oil and gas facility in coastal areas. Another approach would be to have the planners phrase the questions and then get the answers from academe.

In the case of a number of subcontractors, NPS had difficulty and lost time when confronted with the unique institutional and personal style of academia. In connection with a particular subcontractor, one NPS interviewee said, "It was hard to get them to understand the management use of scientific information and what A.I.D.'s trying to do out there." This person suggested that it would have been better, and would be better in the future, to start not with the scientists but with people in a "middle position," between scientists and those responsible for management. Thus, one would try to identify management or project needs "and then go back to get scientific help when we know exactly what questions to ask them. You start from a management point of view and try to get smart."

NPS selected most subcontractors to prepare specific studies by using the "request for proposals" (RFP) process. NAS and IIED were sole-source

contractors, but they were believed to be far above others in their ability to respond to special needs--NAS for the humid tropics, and IIED for legal and institutional issues. Winrock, U. of Miami, LSU, and RPI all were A.I.D. selected Indefinite Quantity Contractors (IQCs) and, as such, were easy to use because IQCs are able to provide quick response with minimal bureaucratic paperwork. Certain other IQCs were not used because of their high overhead costs. OAS and Earthcare had cooperative agreements with NPS and, therefore, no RFPs were required for their tasks.

Recommendation: NPS should seek subcontractors for other activities within this project who possess in-house expertise sufficient to carry out and manage the project in those substantive areas that are crucial to the completion of the project. For example, A.I.D. has developed centers of excellence in various international development areas at perhaps 75 to 100 U.S. universities. These institutions should be examined carefully for use as future contractors.

Recommendation: Wherever the contractor does not possess enough subject matter expertise in-house to manage one of the major thematic aspects of the project, the contractor should retain a suitable outside expert to assist in management of products in that area.

V. Assessment of Information Products

Any comments on the documents should be prefaced by a reminder that only a few of those called for in the project have become final, and a number are not in draft stage for inspection by the IET. Therefore, this assessment necessarily is based on incomplete information. Also, it has not been possible to make a thorough analysis of each document in terms of its accuracy, soundness, relevance, or applicability in the field.

What is the purpose of the documents? The underlying general purpose is to help A.I.D. fulfill the mandates of the Foreign Assistance Act and of internal policies and regulations. More specifically, a primary purpose could be to provide the kind of information that A.I.D. Missions and LDC people need to understand the environmental ramifications of a development project and take appropriate actions.

It is precisely with respect to this primary purpose that many commenters expressed misgivings about the documents. The main thrust of the criticism is that the documents do not provide the kinds of specific, practical information that is needed to plan and manage field projects. These were some of the comments on this point:

o "The information has to be specific and particular. There's a tendency to summarize and generalize."

o "The documents need to relate to a specific intervention."

o "Some of the documents are too academic. They are of utility to scientists but not to A.I.D. or LDC counterparts. They can be used in universities for research. And technical officers in the Missions might use them if they have a personal interest in the subject. But, they don't tell the guy in the field what to do."

o "No book will be read in a Mission. A document has to help them on a specific project, or help them create a good new project. They just can't go through it all." (A type of exception was noted: Any document would be used if it related to a specific mandate to focus on the subject, such as a policy directive from Washington as interpreted by a Mission director.)

o A document should be "user-friendly" and go "directly to topics of interest." Some background expertise should be provided. It should cover general obstacles but not constitute "a recipe for designing a project."

o A fully and properly indexed document would enable a reader to locate perhaps in a single paragraph, what he or she needs to know about designing a project to meet a particular problem or need. (There is no index in the NAS/NRC review paper on humid tropics, in the IIED review paper on institutional aspects, or in the draft of the Winrock review paper on rangelands.)

o A person representing an international organization dealing with similar environmental issues felt such long documents might be viewed by LDC counterparts as "knowledge imperialism." This person said that her organization always required "a one-page summary for any report, and that A.I.D. should require such summaries of its reports." In addition, a need was cited for including the beneficial and adverse economic impacts of linking environmental/natural resource concerns with economic development.

o The format and style of the documents is critically important and should be thought of early in project design. Whether NPS or A.I.D. considered this early on is not clear, but no two reports are of similar design. However, the disadvantage is that the final publications lack uniformity or the appearance of being products of a single project.

o NPS has experience in writing for National Park visitors and uses a "6th grade level of writing" for that purpose. No evidence exists that a particular level of writing was requested of subcontractors or that it was received.

Secondary purposes--or serendipitous effects--of documents should not be ignored. They can serve the purposes of consciousness raising, creating a demand for more environmental information, promoting personal and institutional linkages, publicizing other documents or programs, and so forth. For example, one interviewee said, "there's a hidden agenda that's implicit--selling the notion of conservation is blended into the whole project. Maybe the biggest feedback is to get systems of thinking going."

There seems to be only a small number of A.I.D. technical reports listed in the contracted studies. A.I.D.'s technical library is computerized, so data retrieval of literature is reasonably easy. Many of these A.I.D. documents do not exist in other libraries and, thus, it is a unique information resource.

Recommendation: A.I.D./NPS should provide subcontractors with computer print-out material from the A.I.D. technical library so as to take maximum benefit of this special LDC information resource. We do not think this has been done by either A.I.D. or NPS.

A. Review Papers

As originally envisioned, it was not contemplated that the lengthy review papers serve as field guides or for other similiar purposes. One can question their usefulness for practical application, and a number of comments have done that. One problem with generalizations is that the review papers are not uniform in length, style, clarity, ease of use, or identifiable audience. One positive comment was that "the thick documents may be needed to lend

credibility" to A.I.D. environmental acitivites. However, many other ecological and environmental treatises are available and presumably could serve that purpose. Also, in a positive vein, the review papers can be thought of as necessary precursors to development of case studies and design aids.

A number of positive and negative appraisals of individual reviewed papers were made by the people interviewed of individual review papers. At least one person expressed considerable disappointment in the review papers of NAS/NRC, IIED, and AAAS. One thought they could only be useful for training purposes.

1. Humid Tropics Review Paper

The NAS/NRC document is widely thought of as a good product, but there were doubts about its utility, the demand for it, and its capability to raise consciousness about the humid tropics development problems. One interviewee suggested that the NAS/NRC paper, written at a more theoretical level, is appropriate for the higher-level A.I.D. Mission people or research organizations, including those in LDC's.

This volume, produced under subcontract with NAS-NRC in 1982, is one of the first project documents completed. It is a 6" x 9" paperback 297 pages in length. It summarizes the climate, vegetation, soils, and main ecological concepts that are pertinent to management of natural resources in the humid tropics; this is done in less than 40 pages of text. The other major chapters cover: evaluation of natural resources, conservation of genetic resources, tropical agricultural, forested lands, soils, and tropical water resources. For each of these substantive areas the report describes the major characteristics, explains the ecological context, notes the limitations on development imposed by the system, cites development potentials and

alternative uses, and discusses opportunities for research relevant to integration of environmental values and development objectives. Each section contains a summary, references and suggested background readings. A set of appendices provides detailed information on methods of resource assessment, baseline study methods, procedures for ecological evaluation, examples of forest inventories, data on tropical fruits and vegetables used for food, soil classification and assessment methods, etc.

This volume is nearly all that a review paper should be, and should represent the master vision for the humid tropics theme. It is perhaps written at a somewhat higher technical level than will be easily digested by the uninitiated generalist and it needs to be amplified by pertinent case studies and design aids in order for effective information transfer to occur. But it is a very good guide for development of these secondary documents.

Since this volume was completed in 1982, it is unfortunate that rapid development of case studies and design aids did not follow. A major opportunity to capitalize on this work seems to have been lost by the project managers. Instead a large gap exists between the review paper and the training sessions contemplated for Phase V.

Recommendation: A.I.D./NPS should use the NAS/NRC Review Paper on Humid Tropics as the basis for formulating design aids and training programs for the Humid Tropics theme.

This document represents, to a large extent, the high-quality products commonly generated by the NAS/NRC. It is well written, has a good format, and is technically appropriate. Also, it has already been widely distributed and, therefore, undoubtedly is meeting informational needs.

However, by what method are potential users of the document made aware of this report being a product of the A.I.D./NPS project? Few people will read a preface to a large document, and to our knowledge, this is the only place where reference to the A.I.D./NPS project is presented.

There seems to be little need to comment on the completeness of the review paper. It seems that many of the important topics on development in the humid tropics have been addressed. Unfortunately, there will be no case studies for the humid tropics; however, this type of material may be available elsewhere.

2. Legal and Institutional -- Legal, Regulatory, and Institutional Aspects of Environmental and Natural Resource Management in Developing Countries.

Some A.I.D. concern exists about studying non-A.I.D. countries. Malaysia and Venezuela were selected for preliminary study because they represented quite different levels in development of environmental/natural resources understanding and different cultural and governmental backgrounds. The countries selected were believed to provide a broad spectrum in which to fit some other LDC experiences. For example, Venezuela has highly developed rules and regulations whereas some of the other countries do not. With respect to the IIED paper, several favorable comments were counterbalanced with an observation that, while the legal base and institutional structure related to development are more important than the technical aspects, the document "does not convey to the reader a true sense of the problems. . . it is not well linked to the process of development. In reality, multiple legal systems interact with a project's design, and Mission people find themselves lost in a sea of legal institutions. It's like an outsider looking in. People won't know whom to go to to resolve their problems." It is a "bland" document.

Possibly, a professional editor could help present this information in a more useful manner.

3. Resource Inventory and Baseline Study Methods for Developing Countries

The purpose of this review paper is to help planners become familiar with the terminology and methods available for making resource inventories and conducting baseline studies (terms that are defined in the text). It is a state of the art review, ambitious and consequently massive. It is a volume of 539 pages with table of contents (7-1/2 pages), 51 figures, 36 tables, and index (17 pages). There are five parts, an introduction and synthesis chapter and separate discussions of aquatic ecosystems, soils, plants, and wildlife.

The synthesis chapter is 54 pages in length. It develops the idea that study methods should be discussed within the framework of ecology and the functioning of ecosystems (i.e., the interplay between biota and abiotic factors in nature). It makes the general point that "whether a resource is sustainable depends on ecosystem functioning...." Therefore, "the most fundamental resource...is the system's functioning...." The approach is not project oriented, or even biome- or biogeographic zone-oriented. The authors feel that they could not have discussed all of the varied environments that exist in developing countries nor anticipate the equal variety of development projects likely to take place within them. So it is a generalized, although very intricate, work.

The four substantive chapters range from 102 to 132 pages in length. Each contains numerous references to the literature and a bibliography (ranging from 145 entries for Wildlife to 360 entries for Aquatic Ecosystems). While scientific jargon is kept to a minimum, these chapters are technical summaries of principles and methods relevant to developmental planning. For example, Aquatic Ecosystems devotes one-fourth of its space to

describing physical, chemical, and biological properties and how they are related in terms of the functional aspects of the system. The remaining three-quarters describes contemporary technological methods of sampling, measuring, or analyzing each of the properties. In discussing ecosystem indices (a technical term), a number of alternative statistical procedures are used. These include multiple variable analysis, cluster analysis, cluster analysis and dendrograms, component analysis, etc. So, the level of technical competence required to understand the text is significant. The chapter on Soils is similarly detailed. It covers various systems of soil classification (each with its own terminology); schemes of land capability classification; methods of soil surveying and mapping--including the use of Landsat imagery, its technical basis, and translation of data to maps; and field and laboratory methods of study, characterization, and testing. This manual introduces the reader to the complete range of techniques available to conduct baseline and monitoring studies and summarizes it in relatively short space. But the substance is certainly technical.

The contributors have described the methodologies in an effort to effect information transfer to host country personnel. They cite the need to expand training in developing country institutions, so that host country personnel will be encouraged to carry out the resource inventories and baseline studies. This volume, then, is directed at LDC personnel and not A.I.D. Mission officers. LDC personnel have requested materials pertinent to making natural resource inventories, and for them, the AAAS volume will be an important document. It is, in fact, not suitable for Mission officers to digest, however excellent a document it is for its intended audience. It is too large and intimidating. This review paper, however, should provide excellent background material for training courses for LDC counterpart

personnel and host institutions, where the audience is technically trained. The paper reflects the difficult birth to which a number of people referred.

Recommendation: A.I.D./NPS should develop a training program for LDC personnel and institutions based on Resource Inventory and Baseline Study Methods for Developing Countries.

Even though this review paper is probably too technical for consumption by Mission personnel, many of the general concepts contained in it would be extremely valuable to them to increase their awareness of the environmental aspects of development planning. This material could be abstracted in forms that are suitable to Mission officers and presented to them in the form of articles in the Technical Bulletin, in a series of video tape presentations, or in short, general written documents that could be distributed to the Missions.

Recommendation: A.I.D./NPS should consider the feasibility of developing additional materials from the Resource Inventory review paper for the benefit of the less-technically trained A.I.D. Bureau and Mission environmental officers that will assist them in development planning.

The major sections (Aquatic Ecosystems, Soils, Plants, and Wildlife) perhaps should be reordered, placing the section on Aquatic Ecosystems after the other three sections. These latter three sections deal, to a large extent, with terrestrial ecosystems.

The report is quite large, which could limit its usefulness. Maybe, two separate volumes should be produced, one on resource inventory and baseline study methods for terrestrial ecosystems (including the sections on soils, plants, and wildlife), and the other for aquatic ecosystems.

One important topic that is not directly covered involves resource inventory and baseline study methods that are explicitly directed toward

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domestic livestock. Although some of the information represented for wildlife will also apply to domestic livestock, A.I.D. might prefer to have a section that explicitly addresses domestic livestock questions. In many LDC organizations, wildlife is dealt with within forestry, while domestic livestock is dealt with in agriculture. People interested in one topic may not refer to the other topic to gain the necessary knowledge.

Under the section on plants, little information is presented on resource inventory and baseline study methods for trees and forest overstories. Many useful techniques are available to inventory standing biomass, determine growth rates, and evaluate product value. It seems that these topics were not included as part of the objective of the report.

In general, valuable technical information is presented in the report. In fact, the information presented may be too technical for the intended audiences, although people trained in renewable natural resources should find the report of great use. (For general information, a number of students from developing countries have requested information regarding the availability of the report. It will be a valuable working tool for many of these people, assuming that it will not be priced out of their reach.) The format of the final report will be critical in determining the type of people that might find it of use.

4. National Resource Trends in East Africa

Although the subcontractor, Clark University, is well known for its environmental/natural resources work in Africa, its draft report to NPS was considered unacceptable and has been returned for major revision. A reasonable data base was supposed to exist, according to Clark University and others, from which natural resource trends in East Africa could be extracted. However, an adequate data base does not exist for macro-analysis

and, therefore, the effort to develop trends was not successful. Most of the East Africa data are site specific. NPS expectations of what Clark University would prepare fell far short of the mark.

NPS established at least two new delivery dates for the revised draft but the subcontractor missed these. NPS terminated this contract on May 22, 1984, and has asked for all material developed to date to be submitted to NPS. The future of this review paper is not clear but NPS may take the material as it stands now to Africa for local review while NPS is setting up arrangements for the training phase.

5. Rangelands Review Paper

This document exists only as an unreviewed draft of 180 typed pages. The panel is unaware of any firm plans to revise and publish this document in a form that will make it available for general distribution.

The content of the draft document limits its usefulness as a summary of rangeland biogeographic systems, since only about 28 pages of the text are devoted to summarizing the characteristics of such systems. Seven major rangeland systems are described: savannas, deciduous grassland forests, desert shrublands, seasonally flooded wetlands, tropical rainforests, Mediterranean shrublands, and montane forests. The basic characteristics--climate, geographic occurrence, vegetation, natural herbivorous animal populations, and main rangeland species--are briefly described. But none of the underlying ecological forces that make the systems operate and behave as they do are discussed. Nothing but the most descriptive references are provided. The major thrust of the review is illustrated by the following chapter heading summaries: history, definition, and process of integrated resource use and planning; resource assessment, information acquisition and analysis, and people; role and use of domestic livestock and wildlife

resources; rangeland management and improvement, vegetation characteristics, animal control, water resource development; regulatory and legal institutions, agency infrastructure, personnel, transportation and marketing, finance and banking, and education for rangeland management. Slightly more than three-fourths of the volume is devoted to rangeland management.

This document may provide a useful summary of many factors involved in rangeland management issues. It may represent the state-of-the-art on these issues. From the standpoint of the ecological contexts within which rangeland management must operate and which impact on development project planning, the substance of the document will be less fulfilling. It is mainly short on principles that can be amplified and applied to case studies, guidelines, and design aids. Thus, the preparation of these secondary documents will have to involve a good deal of substantive research in order for them to be useful. The basis will not be found here.

In general, the review paper is technically accurate and, for the intended audiences, well written. Although the presentation is somewhat uneven in parts, the report does contain important information for both A.I.D. Mission personnel and LDC counterparts.

The term rangelands may be too restrictive in terms of the topics discussed in the report. Foresters, watershed managers, and others involved in the management of renewable natural resources in developing countries should also find the material of great interest and importance. But, they may not study the document because of a feeling that it deals, for the most part, with range management and animal science. It is impossible to separate the latter topics from forestry, watershed management, etc.

The report outlines important approaches to integrated, multiple use management. Unfortunately, though, little mention is made of the role of

trees growing on these rangelands. Trees are not only grown for primary wood products, but also to provide critical cover and shade for domestic livestock and wildlife species, especially in arid and semi-arid zones. Revegetating rangelands with plant species other than grasses and forbs should be an option for managers.

Issues of concern to those responsible for the management of dryland (i.e., arid and semi-arid) ecosystems are presented, although in some respects, differentation from issues related to humid ecosystems is unclear. Quite possibly, this is a problem for formatting.

The references should be organized into a single bibliography, perhaps, to be presented by general topics, at the end of the text materials. Also, only those references that are readily available or easily obtained by A.I.D. Mission personnel and LDC counterparts probably should be listed. It is questionable whether someone in a developing country would be able to obtain a copy of Handbooks for the Southwestern Region of the USDA Forest Service. Presenting an annotated bibliography is an excellent idea.

B. Case Studies

For the most part, the concept of using case studies was applauded. One person said there "has not been enough effort to use such information or knowledge that builds on the mistakes that have been made." He cited the Mahaweili Sri Lanka project that, upon investigation, turned out to have serious drawbacks. He said, "it takes those kinds of things being discussed and understood by everyone from interns to the Administrator."

1. Resource Management and Development in Coastal Areas

This unit consists of a set of guidelines entitled "Tropical Coastal Resources: A Guidebook for Their Sustained Utilization" and nine case studies. All exist only in draft form at the time of the review, and two or

three were not available for examination. The plans for final publication of this set of Guidelines and Case Studies is unclear and, in particular, the format in which they will be made available to the Missions and Bureaus has not been specified.

The guidelines are an excellent effort to pull the case studies together and to summarize their fundamental lessons. The following major environmental niches are included: Coral Reefs, Mangrove Forests, Beaches, Estuaries, and Sea Grass Beds. A feature of the guidelines is that they are keyed to the AAAS manual for inventory and monitoring methods. This should make them especially valuable. The approach is the only example we have found of integration between one set of project documents and another. This approach should be encouraged in future documents.

The Guidelines are divided into three major sections: an introductory section that explains the concept of "integrated planning" for resource development, a section on managing development of coastal resources, and a section on urbanization and industrial development in the coastal zone. Part I introduces the concept of coastal resource "modules" that include, for each environmental niche, a summary of natural process information that is appropriate background for planning needs. Each module refers to the AAAS manual for an inventory of information that is needed for planning coastal development projects and provides a check list of recommended information. The modules describe the potential impacts and damages that may be associated with development activities in that part of the coastal zone. A concise set of guidelines is presented to minimize negative outcomes for each activity. The facts, guidelines, and methods of amelioration are given in very short, staccato format. They are readable and, generally, they possess a minimum of technical jargon. They are written about as simply and clearly as could be

expected from technical experts. They are in a form that will be understandable by any technically trained person. Training programs for A.I.D. Mission officers could make up the information transfer gap.

Beach Erosion

- Study is quite long, but generally well-written and broken up with diagrams which make reading easier. Such diagrams and pictures are very important for easy understanding, but get a bit too technical or complicated for the lay reader at times. The organization is clear, allowing certain sections to be dwelt upon or skipped as desired. The summary contains a list of "golden rules" which is helpful for introduction and review.

Coral Harvesting and Sand Mining

- Again, study findings are listed in beginning and in a separate section at the end. This provides a nice closed structure for information presentation. Diagrams and pictures have been used well, but even more would not detract from the substance. At times, jargon becomes a bit too technical (maybe requiring glossary?). Also, contains some cost information which should be incorporated wherever possible for each case study--costs of damage amelioration, costs of restoration, costs of alternative technologies, etc.--as is best known.

River Flow Changes

- Organization of this case study is considerably different from the preceding two: rather than moving from general analysis to specific case studies and deriving guidelines, this study explains the general history of the paper itself and then analyzes eleven case studies in some depth. First, an extended explanation of the importance of freshwater inflow to estuarine productivity/sustainability (e.g.,

saline wedge, comparison of biological productivity of freshwater - estuarine - marine systems) to introduce the important points to consider in the case studies would be useful. Eleven case studies are too many for a paper of this length--five or six representative examples with the most comprehensive information bases should be chosen (e.g., example 2.8 is only 2 pages long). Given the objective of these case studies, why is this entire analysis on U.S. river flows, legislation, etc.? Is there no good information on developing country systems?

Guidelines should be summarized and repeated in the summary as in the other studies. Text should be edited for length and to clarify vague sections.

Lessons from the Caribbean

- Again, study findings are up front; diagrams and figures are well-used; case studies are good examples of different approaches; analysis is well-written and not too long.

2. OAS Case Studies: Integrated Regional Development Planning in Latin America

This document generally was given high marks by interviewees. The presentation and writing are clear and relatively easy to use. One person suggested that the document is appropriate for use by A.I.D. and LDC audiences, and for use in teaching. Case studies were described as hard to find and the chance to tap into OAS' long-term experience was appreciated.

Nevertheless, one person said that "the content of the case studies is not quite in line with actual project needs." And another questioned the relevance of studying the projects of one agency to learn lessons for another, since different agencies do different kinds of work on different kinds of

projects. Further, another person said that "case studies in country A or region A bear no value in dealing with problems in country B or region B."

It was pointed out that the OAS concept is that environmental matters should be considered part of the whole development process, not as a separate sector. If this is, or were to be, the policy of A.I.D. with respect to this project, what would be the implications for various documents being produced?

This document will be produced in English and Spanish whereas other project documents (except the Humid Tropics summary) now are only written in English. Certainly, the OAS Spanish version should be in wide demand in Latin America.

C. Design Aids

No Design Aids for any aspect of the project were available at the time of the review. These documents would be the most important products to effect transfer of technical information to the Mission environmental officers and their LDC counterparts. Their lack at this stage is a major deficiency of the project and an impediment to effective planning for Phase V and VI.

D. Natural Resources Technical Bulletins

The Technical Bulletins, according to PASA, were designed to transmit information to Missions that would introduce important principles of natural resources management and provide summaries of information contained in Review Papers and Case Studies.

Each Bulletin is eight printed pages, double columns in an attractive combination of black print, blue-gray highlights, and yellow background. The articles seem very readable in a language and style that minimizes technical jargon and that should be suitable for consumption by the general reader. They are restricted to an English-language audience.

The actual content of the Technical Bulletins that have appeared to date is summarized in the table below:

NPS/A.I.D. Project News and Reviews	16%
Natural Resources Management Principles	28
Summaries of Technical Articles and Symposia	13
Bibliographies of Natural Resource Information	34
Editorial Space and Other	9

The material directed to the original target audience of the Technical Bulletins is, thus, about one-half of the total space available. Summaries of technical articles and symposium proceedings and, in particular, the bibliographies of natural resource information are certainly useful additions. These items appeal especially to the LDC users. They are easy to pass out, they can stimulate personal contacts and feedback, and they serve to reaffirm what A.I.D. is doing. Since they comprise a large fraction of the total available space, the LDC user audience is reinforced as a primary target of this project document; this represents a shift away from the original definition of the primary audience. Future issues of the Technical Bulletin might include a larger fraction of space devoted to the needs of Mission officers.

The Technical Bulletin can stimulate people's interest in seeking more substantial documents. Indeed, a major use, perhaps the major use, of the Bulletins has been its service in facilitating orders of other documents through lists of reference material. Comments have suggested a healthy interest in order documents, although Bulletin No. 4 reported that "in the case of the references, the demand has not been as high as one might expect." One A.I.D. person from the field said she "frequently used the Bulletin to alert people to publications and help respond to questions by

showing where full answers were available. I could let them know that this was not just a personal interest of mine," she said. The Bulletins contain an interesting variety of material, have been fairly clearly written, and have used a fairly attractive design.

These bulletins, which may well be the most valuable products to be generated by the A.I.D./NPS project, are generally well written and factual. It may be helpful to prepare Spanish and French versions of the Bulletins, especially to reach LDC counterparts.

It may be possible to dedicate individual issues of the Bulletin to a particular topic of interest. For example, if a number of development projects are being proposed in a particular region or on a specific topic, a Bulletin that addresses the environmental concerns of these projects could be extremely timely.

The section on current information for development workers is particularly valuable. However, it seems that the majority of the references are from English sources. It may be helpful to expand the searches for references to non-English sources, although this no doubt would increase the cost of the Bulletin.

The positive comments should not be taken to mean that some improvements could not be made, but the Bulletins seem clearly to be on a good track. The important questions relate to the future of the Bulletin which has, in a way unlike any other project documents, valuable attributes of flexibility.

In planning the future of the Technical Bulletin, decisions must be made on all these aspects:

o Whether or not to continue beyond the nine issues called for in the project.

o Frequency of publication.

o Whether publication should be on a regular or periodic schedule.

o What organization should be in charge of the Bulletin's production and responsible for its editorial content.

o Content.

o Matters of format and design.

o Matters of style and level of expertise.

o Languages in which Bulletin should be published.

o Audiences and methods of distribution.

Following are a few comments made by the people interviewed, followed by a few of the IET's thoughts about the Bulletin's future:

It seemed evident, from the many favorable general appraisals of the Bulletin by those interviewed (as noted above), that continuation of the Bulletin is desirable. Beyond that, there were only a few brief suggestions for changes. One person suggested it should come out quarterly, another thought perhaps monthly. "It comes out too infrequently," said one. "It could do a lot with a 1-to-2-page feature article. It should be a real locomotor." Several people suggested it appear in other languages, especially Spanish and possibly French. "English limits its usefulness," said one person.

Recommendation: A.I.D./NPS should publish the Technical Bulletin regularly on a quarterly basis at least. It should be published in Spanish and French as well as English, and an analysis should be undertaken to evaluate the desirability of using other languages as well.

NPS should retain responsibility for the Bulletin in the first instance if the present A.I.D./NPS arrangement continues; otherwise, different publishing arrangements should be considered. NPS, or whomever might assume responsibility, should try to keep the Technical Bulletin separate from the

Forest Service publication (an option noted in the Scope of Work), because this could lead to unnecessary bureacratic confusion or conflict. On the other hand, the publisher of the Bulletin should consider inclusion of articles publicizing relevant documents of other Federal agencies such as the Forest Service as well as articles written on request by people at other agencies, as appropriate to meet A.I.D.'s needs in fulfilling its mandate.

As far as the content of the Bulletin is concerned, in addition to what was mentioned above, the editors could give consideration to a number of other possibilities--including news about projects and their environmental aspects, comments about successes or mistakes made; news about LDC or A.I.D. Mission or Regional Bureau people in the environmental field if it is particularly helpful in any way; relevant comments of LDC people or others; news about technical specialists and their availability, and so forth.

Recommendation: A separate one-page executive summary of project documents, abbreviated case studies, abbreviated guidelines, and other material including fact sheets on specific subjects and "how-to" material should be inserted and distributed with the Technical Bulletin.

o The Bulletin's producer should consider additional formats, including the use of three columns rather than two for example, and other format and stylistic changes that could enhance its overall appearance.

At the same time, the above mentioned survey suggested that quite a few readers would welcome additional technical content. Such material could be amalgamated with the more general articles or be separated so as not to intimidate the larger readership.

o Both the results of the survey and several comments during interviews raise the question of whether each issue of the Bulletin should be confined to a single topic. Out of 26 responses to this question in the survey, 17 said

"yes," 9 "no." Several obvious advantages in doing so exist. It is complicated for readers to locate articles they need for a specific purpose when the articles are mixed in a publication with other material. The publication cannot be filed under a single subject heading. Also, devotion to a single subject would allow for broader, more useful coverage in a convenient place. Of course, other subjects would be ignored, but more frequent publication could minimize this problem. Among the difficulties would be accumulating, in a timely way, enough good material on the subject chosen.

One option would be to handle some of the Bulletins this alternative way and others in the current fashion. Still another option would be to use the inside four pages of the eight-page Bulletin for a single topic or theme. In this way, it could be removed and used or filed according to need.

The Link Between Earthcare Network (ECN) and Project Management

The Technical Bulletins are the key to communication with the Missions, but they have appeared irregularly since the inaugural issue in 1981. Two were published in 1982 and only one in 1983. None had appeared in 1984, up to the time of the panel review. (The IET subsequently received number 5.) Project visibility would have been greater had the Technical Bulletins been published more regularly.

While the production schedule is the responsibility of the ECN, the NPS and A.I.D. project managers have shared responsibility for determining content and review of draft copy. Thus, the link between the project managers and ECN is an important element determining the frequency of production, as well as content and direction of the Technical Bulletins. Responsibility for publication delays seems to be a shared responsibility. While coordination between three different groups is difficult, greater emphasis on strengthening this link would have a beneficial effect on the production schedule.

The value of the Technical Bulletins may extend beyond the life of this project, because they have the potential for creating and maintaining an awareness about environmental concerns with the Mission officers. Therefore, ST/FNR should consider the possibility of institutionalizing the Technical Bulletins as part of its service to the Missions. Persons interviewed suggested that the Technical Bulletin should be produced on a quarterly or a semi-annual basis in order to provide good communication with the Missions.

Recommendation: A.I.D./NPS project managers should strengthen their tie with Earthcare Network and provide improved oversight for production of the Technical Bulletins. Future production delays should be avoided, and the Technical Bulletin should be issued on a quarterly basis at least.

Recommendation: ST/FNR should consider the feasibility of producing the Technical Bulletins as a service to A.I.D. after the present project ends.

VI. Assessment of Information Dissemination Strategies

NPS has developed several mechanisms to disseminate various information products. This is an important element for this project and each approach should be developed to reach its full potential.

A. Cables

Increased use of cables could help alert Missions to important findings or the availability of particular project documents. It would be important for the cables to have wide distribution.

B. Technical Bulletin

No problems in distributing the Bulletin were mentioned. A.I.D. should determine if all prime audience components are being reached. Consideration should be given to expanding the audience to the extent appropriate but, since the Bulletin is free, care should be taken to confine distribution to those likely to read or use the Bulletin.

C. Documents

Distribution of each document should be assessed carefully and consideration should be given to all appropriate break-outs or spinoffs. These could include a one- or two-page summary (which could be inserted in the Bulletin, as noted); longer components such as individual chapters, summaries, findings and recommendations; abridgements; lessons learned; practical guidance material, as appropriate with reference to needs or demand. Translations of documents or components also should be considered.

Small documents should be emphasized. Interviewees indicated that larger documents are not read, but just end up on the shelf. On the other hand, one person suggested that many recipients were waiting eagerly for the document on marine resources despite its size.

Recommendation: All documents produced by the project need to have a concise, one-page summary prepared as well as a 20-25 page expanded summary, and these summaries should be published in English, Spanish, and French. Inexpensive abbreviations of this sort could be distributed widely by A.I.D. Washington and the Missions and, thereby, expand the audience and increase interest in the overall project. Where translations to other languages seem valuable, such an activity could be handled directly by the appropriate Mission.

Document dissemination is directly related to audience identification, of course. To some extent, audience interest can be created. For example, consultation with LDC institutions generally interested in, or doing work in the field of a particular document can help develop a new audience. "It's hard to disseminate documents to people unless they are involved. They become shelf items otherwise."

Several people also suggested that, as much as feasible, documents be made available free to LDC counterparts because of foreign currency problems, since they are not likely to spend their own money on publications, etc.

Consideration should be given to making all the documents the same length and width and with the same type of cover, thereby giving them a uniformity that would enhance recognition, a "presence" on the shelf, and permit them to be mutually supportive.

D. Regional Workshops/Videotapes

The original PASA Scope of Work contemplated four regional workshops for A.I.D. personnel and host country counterparts. This effort is described under the Phase IV Information Transfer and Dissemination activity. PASA Amendment 5 states that the purpose of the workshops would be to "orient A.I.D. Mission staff to the substance of the material developed in earlier

phases and to field test the utility and relevance of the materials." Thus, the amendment, as well as several comments by people interviewed, indicate that the host country counterparts are no longer to be included.

It also was indicated that the workshops activity has had low budgets and has been delayed. Originally, publications for the workshops were contemplated, but a videotape was finally settled on (perhaps to be shown at the Mission directors' weekly staff meetings). The videotape idea may be a better approach, as it could be used to introduce other relevant materials and relate them to the tasks being performed at the Missions.

There must be clarification of whether host country counterparts are to participate in the workshops, whether workshops are to be held in countries rather than regions, and whether such changes represent a serious dilution of the earlier program design.

The information and material generated through the project documents can be packaged in a number of ways, and one of the most promising, as mentioned by several interviewees, is videotape. Also mentioned were slide-tape shows and "technology-assisted learning" methods such as self-learning modules. One person said a videotape, or whatever, could be "slipped into training courses, or seminars, or senior staff meetings" and show, for example, "the lessons learned in 25 years of basin planning in Latin America." Or, voice tapes could be linked to shots of a project, or to one of the documents, showing when and how to use it. "It's really a selling job," said one person. But, another warned, "A videotape won't help if there's a basic problem with the document."

E. Person-to-Person Document Dissemination

The potential for person-to-person dissemination of documents, or of information about the project, is considerable and has already been used.

The Technical Bulletin has been passed out on a personal basis. Several A.I.D. people said they "had distributed documents to LDC counterparts," and one said that "Mission environmental officers can distribute multiple copies to LDC people."

One A.I.D. officer said that people "become interested and want to use the available information on the basis of the publications and the individual (what comes with the body)." She said she presented a "show-and-tell" and supplemented it with information and the name of someone who could be contacted. In that way, she said, she was able to "persuade them that we were not sentimental obstructionists but hard-core realists. Then, the documentation becomes more meaningful." It was an illustration of the value, often perhaps the necessity, of personal contact.

One interviewee stated that, "A.I.D. needs to put an economist on the road who can show how the lack of environment/development concerns in development projects ultimately costs money." That kind of information transfer--person-to-person--was cited by several persons as an important element in assuring that this project is successful. The transfer of information probably can be effective where a "middle-man" is involved, someone with combined experience and knowledge of economics and environment/natural resources.

In addition, considerable potential exists for personal contacts with other donor institutions, for example, through OECD and the Development Assistance Committee. Such contacts can serve to identify, and make available, documents such as guidelines, case studies, etc.

Recommendation: Increased person-to-person dissemination of project documents should be a charge of members of COED and/or the Sector Council.

F. General

Perhaps the most important thing to remember is that the best conceivable strategy for disseminating documents will be of no avail--in fact, the project itself will be of no avail--unless there are people out there in sufficient numbers and with sufficient interest and expertise and authority to receive and use the documents. To assess the situation regarding document dissemination, A.I.D. should develop a system for obtaining feedback on both distribution and use. One person described the lack of such feedback as "the big missing link" in the project. (To be sure, there was the survey of Technical Bulletin recipients.)

Broader dissemination and coordination--secondary audiences

While there might be no logic in trying to aim project documents beyond primary audiences (A.I.D. and LDC), the benefits of broader dissemination need not be ignored and can be facilitated. Possible recipients include other people in A.I.D. (such as higher administration in Washington and in Missions), other international development organizations, private or nonprofit organizations, and academic institutions, including those in LDC's. Perhaps other possibilities include people involved in the Environmental Planning and Management Project, personal service contractors, and the International Development Intern Program, as well as other A.I.D. projects (see Project Paper, page 13).

For example, the OAS project document, the NAS project document, and the Technical Bulletins evidently have been distributed widely and used outside the basic audience framework. Examples include the World Bank briefing on the OAS document; the extended dissemination of the Technical Bulletin; the fact that other organizations publish and disseminate project documents on their own; the availability of documents in libraries and through ARDA, etc.; and the broad distribution of the NAS document.

Said one person interviewed: "It's a big plus for the project that we've introduced A.I.D. to the scientific community. Regional officers have used scientists that we introduced them to. They have more people to go to and use." The Gambia River project was cited as an example of the benefits of this. "It's a network-building process." IET views this as a very positive outcome of the project.

The interviewee added that in the LDC's, "a lot of information has gone out to people who wouldn't have it otherwise--information on approaching development from an ecological viewpoint." And, "there's something for everyone in the documents." A.I.D./NPS should continue to identify potential secondary audiences. There will always be more that can be done even though constraints will exist due to the time available, budget, and interest and willingness of publishing contractors (and other organizations) to participate in distribution and publicity.

VII. Assessment of Plans for Training

The training phase of the project may be its most important component because it is action-oriented and potentially very useful. Apparently, however, there has been a lack of systematic attention to training plans, probably for several reasons. Certainly it has been necessary to focus on getting the documents published. "Training had been put on the back burner," said one person. "It had a low priority and its budget was too constrained." A.I.D. has an internal problem with training programs in determining who pays for the training program development.

Recommendation: A.I.D.'s Office of Manpower and Training should incorporate significant parts of this project's materials in their normal training activities.

Recommendation: A.I.D./NPS should find a mechanism to tie training activities into the A.I.D./USDA Office of International Cooperation and Development's training and training information dissemination activities.

A problem seems to exist in A.I.D. that is hampering moving the training along in a timely fashion. Clearances by Missions for NPS staff visits to further the training activities have been turned down. The Philippines and Indonesian Missions as of 4/17/84 had refused NPS visits. Support seems needed at a higher level than ST/FNR to clear this problem.

Recommendation: A.I.D./NPS should pay careful attention to selection of individuals and institutions in LDC's for participation in Phase V and VI training activities. Explicit criteria should be established in matching training objectives to institutional capabilities.

Just as superb documents are virtually useless without the right audience to use them, so are superb programs virtually useless without the right trainees to take advantage of them. It is all too easy in such programs to

end up with trainees who have no real personal interest in carrying the work forward, or have no status at their home institution to enable them to carry on with followup. The importance of trainee selection is recognized in the Scope of Work that is part of the PASA. Solid links to LDC institutions will keep the products of this project alive, even if A.I.D. staff turnover remains high.

Equally important is the continued need for providing training mechanisms for Missions themselves. Recognizing that high staff turnover may continue in A.I.D., environmental/natural resources training programs will not lose their value for the forseeable future.

VIII. List of Conclusions

Recommendation: A.I.D. should bring more expertise in this area to bear on development problems. Its strategy should include increasing the number of professionally trained environmental/natural resource specialists in the Agency. These professionals should be given significantly increased amounts of normal working time to apply their specialities to the development process. They should fill appropriate environmental/natural resources positions, and others lacking such training should be assigned to more appropriate positions. (Chapter I, Page 4)

Recommendation: A.I.D. should hire new professional staff who possess a background in environment/development as demonstrated by education, publications, past employment, etc. Such action will speed up the Agency's efforts appreciably to raise environmental awareness, particularly with the high staff turnover in A.I.D. (Chapter I, Page 5)

Recommendation: A.I.D. should establish a career path in such technical areas as environment and natural resources. By doing so, the likelihood that a "critical mass" of specialists would be assembled and maintained could be improved. Without a career path, such individuals are almost assured that their input in long-range planning of A.I.D. activities will be minimized. (Chapter II, Page 16)

Recommendation: The A.I.D./NPS project managers should re-examine the direction that the project is taking. They should re-emphasize the goal of providing A.I.D. Mission officers with information relevant to their planning activities. (Chapter II, Page 19)

Recommendation: Project Managers should concentrate their efforts on producing sound design aids. The direction, energy, and resources that are directed towards Phases V and VI should be reconsidered in this light. (Chapter II, Page 19)

5

Recommendation: A.I.D. should make a strong effort to bring development economists and planners "on-board," i.e., to recognize that environmental concerns should not be separated from economic development. (Chapter II, Page 23).

6

Recommendation: That management of the Expanded Information Base project supplement the design of the project with an improved definition or characterization of the audiences (including at least an informal market analysis) and then clarify what this means in terms of the documents produced and their distribution. (Chapter II, Page 25).

7

Recommendation: ST/FNR should make the Manpower and Training Office a formal member of the COED or the Sector Council. (Chapter II, Page 29)

8

Recommendation: The Sector Council should meet more frequently, provide closer scrutiny of project activities and documents, and expand its membership so as to improve coordination on environmental matters and broader dissemination of project documents. (Chapter III, Page 31)

9

Recommendation: Increased effort should be focused on stimulating the revision of draft documents, and insuring that final drafts become available in a more timely manner for final reproduction. If technical reviews cannot be obtained within NPS or A.I.D., outside consultants should be engaged to provide such reviews and to eliminate this factor in the slow rate of production. (Chapter IV, Page 36) 10

Recommendation: NPS should seek subcontractors for other activities within this project who possess in-house expertise sufficient to carry out and manage the project in those substantive areas that are crucial to the completion of the project. For example, A.I.D. has developed centers of excellence in various international development areas at perhaps 75 to 100 U.S. universities. These institutions should be examined carefully for use as future contractors. (Chapter IV, Page 40) 11

Recommendation: Wherever the contractor does not possess enough subject matter expertise in-house to manage one of the major thematic aspects of the project, the contractor should retain a suitable outside expert to assist in management of products in that area. (Chapter IV, Page 40) 12

Recommendation: A.I.D./NPS should provide subcontractors with computer print-out material from the A.I.D. technical library so as to take maximum benefit of this special LDC information resource. (Chapter V, Page 43) 13

Recommendation: A.I.D./NPS should use the NAS/NRC Review Paper on Humid Tropics as the basis for formulating design aids and training programs for the Humid Tropics theme. (Chapter V, Page 45) 14

Recommendation: A.I.D./NPS should develop a training program for LDC personnel and institutions based on Resource Inventory and Baseline Study Methods for Developing Countries. (Chapter V, Page 49) 15

Recommendation: A.I.D./NPS should consider the feasibility of developing additional materials from the Resource Inventory review paper for the benefit of the less-technically trained A.I.D. Bureau and Mission environmental officers that will assist them in development planning. (Chapter V, Page 49) 16

Recommendation: A.I.D./NPS should publish the Technical Bulletin regularly on a quarterly basis at least. It should be published in Spanish and French as well as English, and an analysis should be undertaken to evaluate the desirability of using other languages as well. (Chapter V, Page 60) 17.

Recommendation: A separate one-page executive summary of project documents, abbreviated case studies, abbreviated guidelines, and other material including fact sheets on specific subjects and "how-to" material should be inserted and distributed with the Technical Bulletin. (Chapter V, Page 61) 18.

Recommendation: A.I.D./NPS project managers should strengthen their ties with Earthcare Network and provide improved oversight for production of Technical Bulletins. Future production delays should be avoided, and the Technical Bulletin should be issued on a quarterly basis at least. (Chapter V, Page 63) 19.

Recommendation: ST/FNR should consider the feasibility of producing the Technical Bulletins as a service to A.I.D., after the present project ends. (Chapter V, Page 63) 20

Recommendation: All documents produced by the project need to have a concise, one-page summary prepared as well as a 20-25 page expanded summary, and these summaries should be published in English, Spanish, and French. Inexpensive abbreviations of this sort could be distributed widely by A.I.D. Washington and the Missions and, thereby, expand the audience and increase interest in the overall project. Where translations to other languages seem valuable, such an activity could be handled directly by the appropriate Mission. (Chapter VI, Page 65) 21

Recommendation: Increased person-to-person dissemination of project documents should be a charge of members of the COED and/or the Sector Council. (Chapter VI, Page 67) 22

Recommendation: A.I.D.'s Office of Manpower and Training should incorporate significant parts of this project's materials in their normal training activities. (Chapter VII, Page 70) 23

Recommendation: A.I.D./NPS should find a mechanism to tie training activities into the A.I.D./USDA Office of International Cooperation and Development's training and training information dissemination activities. (Chapter VII, Page 70) 24

Recommendation: A.I.D./NPS should pay careful attention to selection of individuals and institutions in LDC's for participation in Phase V and VI training activities. Explicit criteria should be established in matching training objectives to training institutional capabilities. (Chapter VII, Page 70)

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Appendix 1: Acknowledgements

The Interim Evaluation Team (IET) interviewed about 25 individuals from the Agency for International Development (A.I.D.), the National Park Service (NPS), and other associated organizations during the evaluation. All members of IET were present during interviews. A few interviews were conducted by telephone. Some people were contacted several times for additional information. All individuals contacted are listed in Appendix 1.

The IET appreciates the assistance given so freely by A.I.D. and NPS during the evaluation. The IET's work was made much easier because of the candid and open approach taken by those interviewed. Views expressed were constructive, and showed thoughtfulness and concern for assuring that A.I.D./NPS provide the right kind of information in environmental/natural resources matters to A.I.D. professionals and lesser developed country (LDC) counterparts. The IET has quoted many of those who were interviewed. The IET feels that in doing so we might breathe some life into a document that otherwise could be dull. None of those persons interviewed viewed the issues of this project as being dull. Without exception, all of those interviewed felt strongly that a large need exists for environmental/natural resources information that can assist A.I.D. and LDC counterparts to address a wide range of difficult problems throughout the world.

The IET gained many impressions during the evaluation, from the interviews and from some 3000 pages of A.I.D./NPS documents and contractor reports. It is quite possible, however, that the IET impressions are inaccurate in some cases--especially considering the IET's short exposure to the workings of A.I.D. and the NPS. Nevertheless, even if our observations are incorrect it may be likely that this is how other outsiders see A.I.D. and the NPS as well. A.I.D./NPS might then wish to consider the possibility that such false impressions persist and to seek remedies.

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