



DESFIL
Development Strategies for Fragile Lands

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DESFIL Annual Work Plan

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Submitted by
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SECTION I PROJECT STRATEGY AND STRENGTHS

A. Technical Assistance to Bureaus and Missions

The DESFIL goal is to promote effective participation of local resource users—women and men—in the sustainable development of fragile lands. DESFIL's "bottom-up" approach to facilitating strategies for natural resource management incorporates participation by resource users in identifying fragile lands problems, the underlying causes, and the potential solutions that communities can plan and implement. A major component of DESFIL's agenda involves determining how interactions among gender, technology, policy, and local incentives influence land management.

The following attributes of the DESFIL project distinguish it from the other central projects:

- DESFIL conducts research and provides technical assistance (TA) in *both* sustainable agriculture and natural resource management. Its natural resource management (NRM) foci are community resource management, natural forests, and environmentally fragile lands.
- DESFIL is an interdisciplinary project which provides expertise in both the social and biophysical sciences.
- DESFIL's approach emphasizes local resource users' participation in defining development problems and identifying solutions.
- DESFIL's expertise also includes specialists in gender and indigenous populations. Thus, the project provides TA for natural resource development strategies that foster the stakeholders' participation that is essential for socially sustainable development.

DESFIL's work in synthesizing development lessons learned and disseminating information on fragile lands development is sponsored through the core contract by R&D/EID/RAD, R&D/WID, and LAC/DR. The project's TA services are supported with a combination of core project funds and buy-ins from bureaus and missions.

DESFIL's comparative advantages, vis-à-vis AID's other centrally organized NRM projects, are its abilities to (1) help develop sustainable agriculture and natural resource strategies for fragile lands, (2) conduct social, economic, and policy studies relative to community resource management, (3) define indicators for fragile lands development progress, and assess these in baseline and monitoring programs for project and non-project assistance, (4) assess opportunities for development assistance to facilitate adaptation of indigenous NRM practices to changing conditions, and (5) assess how cultural factors, such as gender roles and ethnic conflict, affect NRM and development assistance.

The interdisciplinary work is coordinated by a core team based in Washington, D.C., which comprises:

- Senior Project Manager Bruce Ross-Sheriff of Chemonics International, a geographer and tropical forestry specialist.
- Project Administrator Christine Brown of Chemonics, an anthropologist whose expertise is in management of development assistance projects.
- Technology Program Coordinator Bill Fiebig of Rodale Institute, an agronomist whose technical expertise is in sustainable agriculture, integrated farming systems, and natural resources management.
- Gender Analyst Valerie Estes of Datex, an anthropologist whose technical expertise is in social impact analysis for development projects, gender aspects of development projects, and participatory planning/implementation of development.
- Policy Program Coordinator/Natural Resource Economist George Johnston of Abt Associates, who will work with DESFIL intermittently in 1993, has technical expertise in natural resource policy inventory and policy impact analysis. Abt is recruiting candidates to fill the position, although funding constraints may make it necessary to limit core support for this position to approximately two-fifths time until 1994.
- Incentives Program Coordinator Nancy Forster, an anthropologist, has taken a position at the University of Wisconsin. To build on the project's strengths, comparative advantages, and complementarity with other centrally funded projects, the DESFIL incentives coordinator will be a sociologist, anthropologist, or socioeconomist with technical expertise in natural resource development, participatory rural appraisal, and the special knowledge and development needs of indigenous people; and practical experience in development assistance planning, implementation, and evaluation in Africa.

DESFIL seeks opportunities to cooperate with other centrally-funded programs in serving the bureaus and missions. The strengths of the organizations implementing DESFIL include:

- Strategic approach within regions and countries: Chemonics International has strong capabilities in development program management for long- and short-term TA worldwide. The firm has extensive agriculture and NRM experience in Africa, LAC, and Asia as well as strong collaborative and technical coordination capacity.
- Technology adaptation, spread, and development: Rodale Institute has extensive experience in sustainable agriculture and land use management. It conducts pioneering research in agroecology, has established a network of regenerative

agricultural research centers, and brings to DESFIL its substantial experience in diffusion of improved land-use technologies and information.

- **Policy and fragile lands management:** Abt Associates has a strong focus on and extensive experience in socioeconomic research, state-of-the-art policy research/synthesis, and knowledge of national policy environments in developing countries.
- **NGO strengthening:** Datex has worked with over 140 nongovernmental organizations (NGOs), mainly in Africa, providing TA and institutional strengthening for project management, financial management, technical training, and establishment of North-South partnerships. Datex manages the Environment and Natural Resources Information Center for AID.
- **Indigenous people:** In early 1993, the DESFIL core will be joined by another institutional partner. To further strengthen the project's focus on cultural dimensions of NRM, an institute or NGO with ongoing programs in rural development sociology/anthropology will become a subcontractor and provide one full-time person for the core team.

B. Research and Synthesis

The project has continued to refine the focus of its research agenda. To support DESFIL's capability to serve missions, and to describe for broad dissemination the development assistance approaches that have supported successful NRM, the project's core research and synthesis will:

- Develop and present reports that help AID programs incorporate lessons learned from the history of development interventions in sustainable agriculture and natural resource management in natural forests, arid and semi-arid environments, and steeply sloping lands.
- Analyze the effectiveness and sustainability of both long-established and new policies and practices for sustainable agriculture and forest management.
- Identify, for the major agro-ecological zones in AID-assisted counties, the policy, cultural, and socioeconomic conditions that are necessary and sufficient to enable women and men to adopt resource-conserving NRM practices at the household and community level.
- Assess methods to support indigenous peoples' adaptation of their traditional NRM practices to changing conditions, such as population increases, ethnic conflicts, and tenure disputes.

C. Networking and Dissemination

DESFIL fosters information exchange on fragile lands strategies and practices among development workers for three purposes: (1) to acquire information for DESFIL's synthesis of lessons learned in development strategies for fragile lands, (2) to hasten the progress of sustainable NRM development by facilitating direct exchange of experiences among third parties, and (3) to disseminate knowledge to NRM strategists on the necessary conditions for successful fragile lands strategies.

In the first quarter of 1993, the project published and disseminated an issue of its newsletter. Because of funding constraints, another issue will not be published until 1994, unless buy-ins offset sufficient core team salary costs that are now expected, thus freeing funds. As part of the DESFIL networking strategy, the project will also:

- Disseminate information bulletins relevant to DESFIL work sponsored through buy-ins, using targeted dissemination by mail.
- Aggressively market DESFIL services to missions in the Africa region.
- Substantially increase collaboration with other projects that AID has established to serve the NRM needs of its missions and bureaus, so as to increase the impact of both DESFIL and the other centrally funded projects.
- Continue to expand the Gender and Natural Resources Group to include USAID, NGOs, and research centers in Africa and LAC.
- Establish a DESFIL electronic conference on INFORUM, a worldwide AID-supported interactive computer network.
- Enhance the utility of the project's workshops by focusing on what works and does not work in fragile lands management, and on how NRM personnel in the field can have greater access to technical information, networks, and information on funding.
- Refine the targeting of project outreach by focusing information distribution on NRM development workers one level above the grassroots.

SECTION II

CHANGES VIS-A-VIS LIFE OF PROJECT PLAN

The level of effort, priorities, team structure, and activities described in this work plan for 1993 are changed in some respects from what was implied by the Life of Project (LOP) work plan approved a year earlier. Those changes are summarized here.

Level of Effort: Core funding for the project is below the level anticipated in the contracts between AID, Chemonics, and the subcontractors. This has resulted in some reduction in the level of effort from the core team for 1993. Part of the core team's salaries will need to be billed to requirements contract buy-ins; that will total about eight person-months for the five team members. In addition, the policy program coordinator position will be filled on a 40 percent of time basis. It is difficult to provide a qualified expert on such a basis, because other funding must be found for the balance of the time, which leads to scheduling conflicts. Fortunately, the subcontractor responsible for this position, Abt Associates, has two economists on staff who know DESFIL well, and have excellent qualifications, and complementary geographic expertise and language experience. Drs. George Johnston and Ismael Ouedraogo will serve in the policy coordinator position, covering DESFIL activities for Latin America and Africa, respectively. Also because of the funding constraints, no short-term consultants are expected to be provided from the core budget in 1993.

Newsletters: An issue of the DESFIL newsletter was published and distributed in the first quarter of CY 1993. To work within the funding constraints, the project does not plan to use the core budget for further issues in 1993. Rather, the team will seek to use funds from the buy-ins to the requirements contract to produce and distribute topical information bulletins to more narrowly focused audiences. Information dissemination in FY1993 will also include DESFIL reports as well as the workshops and the INFORM electronic conference described in later sections of the 1993 work plan.

Geographic Focus: In 1992, DESFIL focused its TA and research activities mainly on LAC USAID missions, while marketing activities were more intensive with the Africa Bureau. In 1993, the project will concentrate core research and TA services about equally on LAC and Africa, and marketing activities for 1993 and 1994 work will focus most intensively on the Africa missions. This is in keeping with the phased approach, implied in the contract and described in the LOP, to widening DESFIL services from the project's LAC base. The project does not plan intensive marketing efforts for the Asia, NE, and NIS regions in CY 1993.

Research Agenda: Specific topics to be addressed under the research agenda have changed, and priorities for allocation of core team time among the three themes—sustainable agriculture, forest and community resource management, and indigenous people—have changed to reflect the project's current understanding of AID programming trends and information needs. In 1993, the project will give much higher priority, and a correspondingly higher proportion of core resources, to sustainable agriculture issues. This

implies forest management will have a lesser priority, but it will continue to be a key DESFIL theme, especially in the LAC region. Investigation of indigenous peoples and indigenous knowledge issues will be treated more as a cross-cutting issue than the LOP plan implies, and will be integrated into the research on sustainable agriculture. Similarly, gender analysis will be a cross-cutting theme, thoroughly integrated into the sustainable agriculture research and the forest policy research.

The LOP plan specified two sustainable agriculture topics: Socioeconomic and Cultural Dimensions of Technology, and Critical Linkages between Productive Agricultural Lands and Fragile Lands. The former has been incorporated into a somewhat different approach—the DESFIL taxonomy, which better complements the NRM analytical agenda developed over several years by ARTS/FARA. The fragile lands policy taxonomy and the soil conservation and fertility enhancement (SCAFE) taxonomy have also been incorporated in plans for the DESFIL taxonomy. The team will develop one taxonomy that focuses on the policies, technologies, and incentives that establish the enabling environment for resource users to sustainably manage the natural resource base.

Critical Linkages between Productive Agricultural Lands and Fragile Lands, as proposed in the LOP plan, had a strong emphasis on the issues of migration and tenure. However, in the planned buy-in from AID/AFR/ARTS/FARA, tenure policies and tenure as an incentive will be one of several issues investigated. DESFIL is less likely to address migration in 1993.

SECTION III TECHNICAL ASSISTANCE

A. Africa Region

In 1992, DESFIL worked with AFR/ARTS/FARA technical staff to design a program of DESFIL assistance to missions that is structured by the bureau's NRM Organizing Framework. The role envisioned for DESFIL is to identify field-level enabling conditions necessary for widespread adoption of sustainable agriculture technologies.¹ These enabling conditions relate to interactions among policies, technologies, gender issues, and incentives that influence resource user choices regarding farming practices and fragile lands management. The goal of the buy-in proposal is to promote effective participation of local resource users in developing recommendations for sustainable community-level management of fragile lands resources.

A1. Objective of the AFR/ARTS/FARA Proposal

The objective is to collate, organize, and use a database of critical information from an inventory of NRM practices adapted to several agroecological zones.

A2. Background and Justification

For each agroecological zone, there is a substantial body of knowledge about how rural producers manage the natural resource base in pursuit of a better livelihood. Research reports also provide a wealth of wisdom. The collective body is rich with information about the economical and ecological impacts of various practices, the enabling conditions for diffusion of practices, and the programmatic options for establishing enabling conditions and diffusing practices.

The purpose of this activity is to organize existing data in such a way that USAID missions can more effectively use them to achieve their goals. The data will be organized according to the NRM Framework to more easily discern cause-and-effect relationships. Field-level data will be collected on rural producers' NRM practices using participatory rural appraisal (PRA) teams. To obtain the research data, collaborators will contact international research institutions such as ICRAF, ICRISAT, IITA, CIMMYT, and ORSTOM, as well as national and international NGOs and PVOs.

¹ Definition of sustainable agriculture: Sustainability in agriculture is a dynamic process, in which agricultural practices meet human needs without destroying, and where possible, by improving the natural resource base on which agriculture depends. Sustainable agriculture has the following characteristics: It provides adequate economic returns to resource users; it maintains the natural resource base and productivity indefinitely; it has minimal adverse environmental impacts; it yields adequate production with minimal external inputs; it satisfies human needs for food and income; it provides for the social needs of farm families.

This activity will increase the Africa Bureau's understanding of (a) the political, economic, and ecological impacts on and from agricultural management practices, and (b) the process of diffusing appropriate sustainable agricultural practices for widespread adoption by natural resource users through community resource management. The research will focus on: (1) identifying, for each major agroecological zone, the biophysical and socioeconomic elements that need to be addressed; (2) analyzing the array of existing and/or newly developed agricultural management practices and their individual and aggregate impact on the natural resource base; and (3) assessing the conditions under which sustainable practices can increase productivity and maintain the resource base in each agroecological zone.

A3. Specific Activities

- Build an inventory of NRM practices (indigenous and improved) which describes conditions that relate to adoption and the cost/benefits of the practices over the short-, medium- and long-term;
- Establish a database for analyses to determine the cause-and-effect relationships between dependent and independent variables;
- Conduct an analysis to identify programmatic options for establishing the enabling conditions conducive to widespread adoption of sustainable NRM practices;
- Establish a dissemination system through newsletters, reports, electronic conferences (INFORUM), and workshops to diffuse this information; and
- Involve African social and biological scientists and field staff as members of the participatory rural appraisal teams to collect field level data for the inventory.

A4. Expected Outputs

- An inventory of practices for each agroecological zone with data on ecological and socioeconomic impacts, enabling conditions, and programmatic options for establishing the conditions conducive to widespread adoption of sustainable NRM practices.
- A matrix for several agroecological zones cataloguing conditions associated with short-, medium-, and long-term NRM practices.
- A computerized database, organized according to the NRM Framework, that is continually updated as information is collected through desktop and field studies.
- A system for disseminating information on each of the above outputs.
- The DESFIL Taxonomy—encyclopedia, manual, and workbook—which will inventory, describe, and classify NRM practices according to the agroecosystems in which they have been developed and used in a sustainable fashion. Indicators

to monitor and evaluate NRM interventions will be a secondary output of the taxonomy.

- An improved in-country capacity by African scientists and field staff to collect data for monitoring and evaluating NRM interventions for USAID missions.

In addition to the work sponsored from the bureau buy-in, the DESFIL technology program coordinator will visit selected West African countries to determine the scope for DESFIL services to USAID missions. He will (a) present proposals for specific DESFIL services to support the missions' sustainable agriculture-related strategies, (b) discuss mission support for participants in training workshops at Rodale Institute's Regenerative Agricultural Resource Center (RARC) in Thies, Senegal, and in other DESFIL-organized training sessions on sustainable agriculture and related NRM strategies, and (c) discuss the contribution that the DESFIL buy-in activities from the Africa Bureau can make to USAID mission needs.

Also in 1993, DESFIL plans to conduct a training workshop for the Farming Systems Research program (RSP) of the Burkina Faso National Research Institute (INERA). The workshop will improve RSP's capacity to design community-based NRM plans using the PRA approach. It will be conducted under the auspices of the USAID-sponsored Agricultural Research and Training Support (ARTS) project.

B. Latin America and Caribbean Region

In 1992, DESFIL service to LAC missions included the senior program manager's participation on the team preparing the concept paper for the USAID/Guatemala's Sustainable Natural Resources Management Project. This core-funded activity led to the mission's 1993 buy-in to provide TA for the PP. The PP may suggest a continuing role for DESFIL support to the project.

The DESFIL resource economist led a regional analysis of key policies in forest management, agriculture and livestock, land tenure and colonization, protected and reserved areas, wildlife protection and trade, coastal zone management, environmental management, macroeconomics, and population. This work, together with work on the *Green Book*—a natural resource management policy sourcebook—provided the foundation for the anticipated 1993 AID/ROCAP/RENARM buy-in to DESFIL. A workshop was conducted on the environmental policy source book for the biannual conference of ROCAP/RENARM in Guatemala, attended by about 70 staff from AID, contracting agencies, and development and environmental organizations.

Also in 1992, DESFIL provided TA to the El Salvador Mission to redesign its Natural Resource Management Project (PROMESA). DESFIL provided TA to USAID/Honduras to design the National Environmental Protection Fund (Fundación VIDA) Project, which will support a new Honduran nongovernmental, nonprofit foundation that will strengthen the Honduran nonprofit private sector's capacity in NRM and environmental protection.

DESFIL organized and sponsored, jointly with the ACCESS project, a workshop on tenure issues in forest management in Latin America and the Caribbean. Also, two seminars organized by the Gender and Natural Resources Group addressed LAC region issues: "Working with Amazonian NGOs in the Global Climate Change Project" and "Conservation-Based Empowerment in Interaction's LAC Program."

In 1993, LAC missions are revising their action plans, narrowing down strategic objectives from five to three. This exercise will be completed by June 1993. Thus, NRM objectives, such as USAID/Guatemala's *improved management of the natural resource base*, will be increasingly important to the several missions that include them in their top three objectives.

DESFIL plans to provide TA to LAC missions that will (1) continue the NRM policy analyses, and (2) plan development assistance to enable local resource users to sustainably manage production from natural forests. To do this, DESFIL will work with LAC/DR to identify those missions with NRM as a strategic objective. The team will then prepare proposals for TA to selected missions and undertake a scoping trip to present the proposals, revise them, and/or identify other ways in which DESFIL can serve the mission's needs for NRM strategies, programs, or projects. This activity is expected to lead to provision of TA from core funds in some cases, and to buy-ins from missions in other cases.

In consultation with LAC/DR, DESFIL plans to synthesize results from case studies of how tropical timber trade and pricing policies influence sustainability of natural forests. The analysis will address market effects on both economic and ecological sustainability of natural forest management. The synthesis report will become the main discussion paper for a DESFIL-organized workshop in which the case study investigators from Bolivia, Ecuador, and Costa Rica will cooperate with World Bank investigators who have recently undertaken similar studies in Chile, Argentina, and Brazil, and with colleagues developing ecocertification and labelling legislation. After the workshop, DESFIL and a LAC/DR NRM expert will produce a report that articulates recommendations for trade and pricing policies that can help support sustainable forest management in the LAC region.

Other DESFIL services planned for the LAC region in 1993 include:

- For USAID/Guatemala, a DESFIL team, including the gender analyst and resource economist, and three consultants, designed a NRM project for the Guatemalan Highlands that will build on NRM and sustainable agriculture activities begun under the Highlands Agricultural Development (HAD) project. This will combine mission buy-in and core contract-sponsored TA.
- The gender analyst will produce a gender supplement for the VIDA project design done in 1992 for USAID/Honduras. This report will describe (1) governmental and NGO entities with experience in gender and the environment, and (2) recommendations for the integration of gender into project design and implementation. This work is funded through a mission buy-in.

- DESFIL anticipates a buy-in from ROCAP/RENARM to further develop the policy encyclopedia, test a manual on how to conduct policy inventories, and develop a workbook for decision makers that describes how to use the inventories.

C. NIS, Asia, Near East

In 1992, DESFIL submitted to the NIS Task Force a concept paper for DESFIL support to the NIS missions. In 1993, DESFIL will interview NIS Task Force personnel and track DIS forward planning documents to identify possible areas for DESFIL support to missions. As possibilities are found, concept papers will be submitted to the relevant officers to ascertain the scope for NIS buy-ins. If interest is indicated, DESFIL will follow up with draft SOWs and, if appropriate, with a scoping trip to the region.

In the Asia region, DESFIL's approach to serving the missions will be to interview bureau officers and to track agriculture, forestry, agroforestry, and other NRM projects (both ongoing and developing) to identify opportunities for DESFIL to provide planning, monitoring, or evaluation services. Where opportunities are identified, concept papers or SOWs will be prepared to indicate how the relevant mission or bureau office could use the project's interdisciplinary approach. When a mission or bureau buy-in for TA is developed, and when the fieldwork is complete, DESFIL core team members participating on the TA team will use core funds to add days and within-region airfares to visit missions for discussion of concept papers or draft SOWs for DESFIL service.

DESFIL's approach to serving the Near East region in 1993 will be similar to its approach for the Asia region.

SECTION IV RESEARCH AND SYNTHESIS

A. Sustainable Agriculture

To achieve sustainable agricultural systems, the primary objective of NRM interventions must be to protect the soil surface from water and wind erosion, and to maintain a high organic matter content which subsequently increases the water retention capacity of the soil. An increase in organic matter content also improves soil structure and fertility. NRM interventions require substantial investments by limited-resource users. The farming systems and land use patterns throughout the developing countries assisted by AID are becoming more complex as they continue to change. Many interacting internal and external factors affect who uses the land, how it is used, what techniques are used, and what are the objectives.

Good technology that is appropriate for sustaining the environment and productivity may be widely known and understood, yet still go unadopted. Barriers to adoption reside in the absence of adequate incentives, including unestablished or insecure property and tenure, low prices or excessive price instability resulting in low, and unstable surpluses available for investment. Technology interacts with other key elements (policy and incentives) to help determine fragile lands management strategies.

In Sub-Saharan Africa, conservation strategies are needed that will not only reduce soil loss by water and wind erosion and limit the movement of soil nutrients and organic matter, but also be compatible with existing traditional farming practices. These NRM strategies have to be technically and economically feasible, and socially acceptable to resource users—women and men—and to the local community as a whole. A "bottom-up approach" has to be adopted where local environmental and socioeconomic conditions, and indigenous knowledge about farming practices of the women and men who use the land, are incorporated into the NRM interventions. Recommended NRM practices must be closely linked with traditional farming techniques like mulching, ridging, mixed cropping, and crop rotations (or shifting cultivation). Additionally, conservation practices like minimum tillage, terracing, cover cropping, intercropping, and agroforestry have to be introduced through an adaptive research approach that considers area-specific conditions and clearly defines the short-term costs and benefits of conservation measures.

The feasible and sustainable area-specific NRM recommendations should consider: (a) natural or environmental factors such as climate, topography, soil type, weeds, rodents, pests, and diseases; (b) socioeconomic factors like land tenure, population pressure, farm sizes, credit and extension services, markets and marketing institutions, infrastructure, resource constraints (land, labor, and capital), and farmers' (women and men) goals and inclinations; and (c) national policies on land use, crop and livestock production, food, and prices.

Above all, each NRM strategy should not be developed in isolation, but rather as an integral part of an existing land use or farming system. Farmer circumstances cited above

and direct involvement of farmers (women and men) in the planning and decision-making processes are prerequisites to the sustainable management of fragile lands.

A1. Objective

The objective of this research is to (a) identify and evaluate factors (policy, technology, gender, and incentives) which affect adaptation and/or adoption of NRM interventions that can lead to sustainable management of fragile lands; (b) analyze technologies by their biophysical and socioeconomic characteristics; and (c) highlight the tradeoffs (cost/benefits) inherent in each technology over the short-, medium-, and long-term.

A2. Activities and Products

In 1992, DESFIL research activities of the technology program focused on sustainable agriculture and factors related to sustainable agricultural development in LAC and Africa. Activities included a review of literature on (a) factors conducive to sustainable agricultural development in Africa; and (b) lessons learned from NRM interventions in Africa.

A discussion paper was drafted which assesses (a) factors or preconditions conducive to sustainable agricultural development, (b) issues to consider when promoting sustainable agriculture and NRM, and (c) incentives that could improve resource user participation in planning, designing, and implementing NRM interventions in Africa.

The objective of the discussion paper is to evaluate (a) enabling conditions for sustainable agricultural development; (b) production systems, incentives, and policies that affect adoption rates, and (c) incentives for resource users to participate in community-based fragile lands management. The paper will provide the rationale for the DESFIL taxonomy which is to link policy, technology, and incentives which provide an enabling environment for developing NRM strategies that are technically, socially, and economically sustainable. The discussion paper will be circulated for comments to AID/R&D/EID/RAD and the AFR/ARTS/FARA division, finalized and submitted to CDIE, and distributed to NRM personnel working in the Africa Bureau and missions.

In 1993, DESFIL will develop a taxonomy which will include the inventory of NRM practices and their biophysical and socioeconomic aspects—positive and negative—relating to adoption and their cost/benefits over the short-, medium-, and long-term. Conditions conducive to community-based NRM will be a key topic of the inventory. As data is collected, analyzed, and entered into the inventory, it is anticipated that the hard copy version will resemble an encyclopedia of land management practices adapted to the agroecological conditions in which they were developed and used. A manual will be developed concurrently to describe the methodology used to conduct the inventory. A workbook will describe how to use the taxonomy to develop strategies for sustainable management of fragile lands.

A workshop will be conducted in Washington, D.C. to refine the taxonomy and to develop a practical notebook format for fieldwork and a computer database format for outreach. This activity will be supported by the anticipated buy-in from AFR/ARTS/FARA.

Rodale Institute will help DESFIL install an electronic computer conference network (INFORUM) to maintain interaction regarding the DESFIL taxonomy for collaborating researchers addressing (a) sustainable agriculture in developing countries, and (b) NRM development interventions in Africa. After INFORUM is introduced at the workshop, it will operate continuously.

After the workshop, comments and suggestions will be added to refine the taxonomy and a report will be sent to selected USAID missions in Africa to show how the taxonomy can contribute to mission objectives, and to solicit buy-ins for its adaptation and application in mission programs. Supported by the Africa Bureau and/or mission buy-ins, DESFIL will work with consultants and personnel of local NGOs and agencies, using PRA methods in farmers' fields to verify the utility of the taxonomy approach to planning sustainable agriculture development. These activities will provide training in sustainable agriculture development planning—data collection, analysis and interpretation—for PVO/NGOs and host-country staff.

Indigenous peoples, their communities, and local knowledge of sustainable agriculture will be addressed throughout these activities, as these issues were written into the Africa buy-in proposal as the information base of the sustainable agriculture research program. First, local knowledge and traditional NRM practices are to be the foundation of information for the inventory concerning technologies and community resource management. Second, the participatory rural appraisals center on indigenous peoples and their communities and their abilities to plan and implement community-based NRM plans. The proposed approach makes local knowledge and traditional management practices the starting point for developing NRM recommendations, as the understanding of existing agricultural systems must precede interventions.

A3. Gender Issues

The gender analyst and other DESFIL core staff will share responsibility for placing special emphasis on gender issues in the activities supported by the AFR/ARTS/FARA buy-in. The approach for this work is described below.

The objective of DESFIL's research on gender aspects of development strategies is to develop and disseminate information on gender-differentiated roles, capabilities, and development experiences that will enhance the effectiveness of sustainable agriculture and NRM projects and programs. More specifically the project aims (a) to help indigenous women resource users gain a more central role as decision makers in the development process, and (b) to incorporate the sustainable agriculture and knowledge of indigenous women about fragile lands management into the DESFIL taxonomy.

Much of DESFIL's gender analysis in 1993 will focus on sustainable agriculture in Africa. Desertification and rural exodus have altered the historic role of women in Sub-Saharan Africa. As a result, women today are performing different tasks and playing an essential part in ecological rehabilitation and local-level NRM.

However, their formal status in society is incongruous with their new level of responsibility. Increasingly, women are asking for sufficient land to meet their food and monetary requirements; they are seeking access to farm machinery and therefore, credit facilities; and they wish to take part in the decisions that affect community life.

Training is needed in activities where women are now involved. Extension work is too often aimed exclusively at men. In addition, development interventions should aim to lighten women's day-to-day workload and diversify productive and other activities enabling them to find new sources of income.

The rapid degradation of the land is accompanied by productivity declines. Land scarcity and demographic pressures make it impossible to offset these declines by continuing to bring unexploited land into production. The usual trend is to cultivate fragile lands. Traditional methods of extensive land use are therefore no longer sustainable, and to succeed, rehabilitation measures must assure that resource users are able to invest in the improvement of fragile lands.

Women's resource allocation rights are an often neglected part of the land tenure equation. Men and women bear different work burdens and are subject to different incentives. For example, women's work could be sharply reduced by greater community production of fuelwood, because they do the brunt of the collection. Men, on the other hand, with decision-making authority on allocation of land resources, may be less motivated to invest in firewood production. Greater security of land tenure would not necessarily resolve such resource allocation problems unless the concept of greater security were broadened to include both sexes, rather than just the distinction between the "household" and the "community."

DESFIL's gender analysis activities in Africa in 1993 will be structured within the context of the AFR/ARTS/FARA buy-in. The project will address the following issues and research questions:

- Regarding opportunities and constraints for women resources users to participate fully in development planning and implementing sustainable NRM interventions:

Q: What policies have effectively enhanced women's access to resources and their participation in NRM decision making?

Q: What local and national institutions have enabled women to participate more fully in NRM decision making? Why were those institutions successful? What conditions have constrained them and how have the constraints been resolved?

- Regarding natural resource knowledge and practices of indigenous households (women and men) and their communities and the potential of this information for developing sustainable NRM interventions:

Q: What are the traditional NRM practices of women in their production systems? What are the effects—positive and negative—on the natural resource base?

Q: What is women's traditional knowledge base about the ecosystem?

Q: How have these capabilities been utilized in designing social, economic, and ecologically sound, sustainable NRM interventions?

Regarding economic survival strategies of women as household and community members and the potential for sustainable NRM interventions which improve their economic bases:

Q: What are the current economic survival strategies of women in their respective households and communities? What is the interaction—positive and negative—between these activities and the environment? How is household labor organized to carry out these activities?

Q: How does the division of labor and knowledge within households and the community affect the design and implementation of local income-generating programs? What are the implications of introducing sustainable NRM interventions to these households and their communities?

DESFIL's research under the AFR/ARTS/FARA buy-in will assess the enabling conditions needed for widespread adoption of sustainable NRM interventions which are technically sound, and socially and economically acceptable to both women and men resource users.

B. Natural Forest Management

B1. Natural Forest Management and Forest Products

B1(a). Objective

The objective is to identify and evaluate alternatives for managing natural forests to generate income while permitting forest regeneration and biodiversity maintenance.

B1(b). Activities and Products

In 1992, the DESFIL policy coordinator assessed forest management policies in the refinement of the environmental policy sourcebook (the *Green Book*). This work contributed to development of LAC research on timber pricing and trade policies that affect sustainable forest management.

In 1993, DESFIL will work with the LAC/DR natural resources expert to synthesize the investigations of pricing and trade policies in three LAC countries. The activity is described on page 9.

B2. Community Forest Management

This aspect of DESFIL's research has two objectives: (1) to evaluate and promote conditions in which local communities can sustainably manage forest resources, and (2) to develop guidelines for development interventions that help local resource users adapt their NRM practices to changing conditions.

B2(a). Activities and Products

Tenure Issues in Forest Management in LAC. In 1992, a joint DESFIL/ACCESS workshop, "Tenure Issues in Forest Management in Latin America and the Caribbean," brought together managers of 11 geographically defined resource management areas (RMAs) in the LAC region. The goal of the workshop was to assess incentives which shape resource user behaviors in RMAs and migrant sending areas, thereby devising more effective means to counteract deforestation. A major objective was to exchange experiences on how the characteristics of tenure regimes affect use of forest resources under varying biological, economic, and sociocultural conditions. DESFIL disseminated a statement of workshop findings and prepared a report that integrates the workshop findings with recent research on tenure and forest management. That report was published by the Land Tenure Center at the University of Wisconsin.²

Community Forest Management in Africa. The DESFIL taxonomy will serve as a framework to inventory interventions in community forest management in Africa that have been sponsored or investigated by international donors and NGOs/PVOs. In the final quarter of 1993, a paper will be prepared describing lessons learned and suggesting guidelines for development assistance in community forest management.

Issues Paper on Integration of Gender into Community Resource Management. After the workshop on tenure issues, the DESFIL librarian prepared two bibliographies. One, an annotated presentation of key documents addressing community-based natural resource management (CRM), should be widely useful and will be disseminated through CDIE. The other, an edited description of documents currently available through CDIE, will be used by DESFIL analysts.

Of the 35 case studies in the bibliography, only 11 contain any reference to gender. Of these, only two report "successful" outcomes (i.e., the plan to include women was carried out and the well-being of community members, including women, was improved). This indicates that gender is not being included as an essential variable in AID's CRM projects. Consequently, as a part of its emphasis on addressing the effective participation of local resource users, DESFIL has begun research for an issues paper and bibliography on integrating gender in CRM. The paper has been framed, and an initial bibliography organized that will be completed in 1993. In conjunction with the study, DESFIL will

² The published report, titled *Tenure Regimes and Forest Management: Case Studies in Latin America*, was being distributed in April 1993. Advance copies are available to AID from DESFIL.

sponsor multi-institutional discussion seminars to provide information for the analysis, and a final presentation workshop to review the recommendations.

C. Indigenous People

DESFIL will seek to provide TA through buy-ins to projects where the role of indigenous people living on fragile lands is an issue in developing NRM interventions. An example is the NRM project under development by USAID/Bolivia, where indigenous peoples' traditional approaches to use of lowland forests may no longer be sustainable as pressures increase for alternative allocation of resources. DESFIL will draft SOWs and present them to AID missions for planning/monitoring/evaluation services that can support the missions' objectives and enhance development of the taxonomy in the areas of indigenous people and community forest management.

In 1993, DESFIL will initiate research on management experiences of indigenous communities that are confronting changing conditions, such as population increase, changes in tenure, ethnic conflicts, construction of roads and other infrastructure, and changing markets. The analysis will address gender differences in indigenous people's strategies. Data will be disaggregated by gender, and hypotheses regarding adaptation to change will be analyzed in terms of gender roles. Results will be reported in a paper synthesizing lessons learned from development interventions that are intended to enhance indigenous community resource management.

As part of this research, a special study on the sustainable agriculture and fragile lands management knowledge of indigenous women and men will be carried out with the results incorporated in the discussion paper.

SECTION V
NETWORKING AND DISSEMINATION

A. Gender and Natural Resources Group (GNRG)

DEFIL created the GNRG in 1992 as a forum for cooperation and information exchange among development professionals concerned with gender and natural resource issues. Participants represent AID, multilateral donors, other AID-sponsored projects, NGOs, and the academic community. Current membership is over 300. Activities of the group include monthly seminars and monthly bulletin boards, and the formation of ad hoc working subgroups.

The group assists AID/R&D/WID efforts in natural resource development by (1) identifying critical research gaps; (2) helping to avoid duplication in research and technical assistance efforts, particularly those funded by AID; and (3) providing a source of relevant reference materials and outstanding technical specialists.

In 1993, DEFIL will continue to coordinate the group, expanding its activities to provide such assistance to AID/R&D/WID as organizing ad hoc advisory groups from the membership to work on special issues and transmitting to WID cross-institutional information on activities related to gender and the environment.

Objectives and Activities. The GNRG aims to assist AID by (a) developing a system to efficiently exchange natural resource information among development professionals working with gender issues, both within AID and between AID and the broader development community. This will help avoid overlap or duplication in research and TA efforts, particularly among AID-funded projects, and by (b) using the network to gather relevant reference materials and identify outstanding technical specialists in the field.

In 1993, DEFIL will organize at least 10 monthly seminars on gender and natural resources and produce and distribute at least 10 bulletins on gender and natural resources. DEFIL will facilitate organization of ad hoc advisory groups on special issues designated by AID/R&D/WID.

B. DEFIL Electronic Conference: INFORUM

DEFIL will initiate a continuing electronic conference on INFORUM (International Forum for the Development of Sustainable Land Use Systems), an international information exchange facility supported by the Rodale Institute, a DEFIL subcontractor. INFORUM, funded in part by AID/R&D, now operating in some 33 countries, continues to expand in the regions of AID operations. It is a global information exchange facility which integrates print and electronic media, using electronic mail, electronic conferencing, and electronic databases to facilitate widespread access to technical information and exchange of practical experience in development.

DESFIL's electronic conference on INFORUM will provide rapid worldwide dissemination and feedback during development of the generic and country-specific DESFIL taxonomies. This will be especially useful to DESFIL in promoting incorporation of gender perspectives in NRM strategies, and learning current or unpublished gender-related experiences and lessons learned from NRM development professionals.

DESFIL will extend the effect of its networking initiatives by linking them to each other. For example, through INFORUM, the GNRG network will be extended to development workers outside the Washington area. The DESFIL Electronic Conference will include the issues addressed and the analytical products of the GNRG, and direct access by the groups' participants will be facilitated.

The DESFIL Electronic Conference on INFORUM, which will be operational by April 1993, will begin setting up the structure for the planning workshop on the DESFIL taxonomy. Following are some conference topics to be included through the INFORUM network:

- Studies of conditions for sustainable community forest management, and lessons learned in NRM interventions that involve indigenous people;
- Development of the DESFIL Taxonomy on policies, technologies, and incentives leading to the recommendations for sustainable NRM practices; and
- Activities and outputs from the GNRG activity.

C. National and International Organizations

Strong collaborative linkages will be developed between DESFIL, international and national NGOs and PVOs, and international research institutions such as ICRAF, ICRISAT, IITA, and CIMMYT through the AFR/ARTS/FARA buy-in activity in sustainable agriculture. A major source of data will be their research and development reports which deal with sustainable agricultural development and NRM issues.

Contacts with the European Tropical Forest Research Network (ETFRN) and the International Centre for Research in Agroforestry (ICRAF) have been established to provide an exchange of information and services to support DESFIL research in natural forest management in Africa.

Discussions have been held between DESFIL and the International Centre of Insect Physiology and Ecology (ICIPE) concerning collaborative research and training activities in Africa in data collection and analysis of indigenous knowledge, sustainable agriculture, socioeconomic issues relating to integrated pest management, and the role of women in agricultural and pastoral systems. A SOW and/or proposal will be discussed during a site visit to Kenya by the TPC during the third quarter of FY 1993.

SECTION VI
SUMMARY OF ACTIVITIES AND SCHEDULE

<u>Activities</u>	<u>Products/results</u>	<u>Dates</u>
Sustainable agriculture		
1. Inventory indigenous and improved NRM practices in agriculture in Sub-Saharan Africa.	1. Matrix for several agroecological zones describing biophysical & social effects and enabling conditions for alternative NRM practices.	1. January 1993 - March 1994
2. Analyze cause-effect relationships between biophysical and socioeconomic conditions and resource users' adaptation/adoption of sustainable practices.	2. Identification of programmatic options for establishing conditions conducive to widespread adoption of sustainable practices (incorporated into the inventory component of the taxonomy).	2. October - December 1993
3. Visit selected African countries to determine scope for DESFIL services to USAID missions.	3a) Proposals for DESFIL support for missions' sustainable agriculture-related strategies. 3b) Discussions on mission support for DESFIL-organized training. 3c) Discussions on how DESFIL can serve mission needs through activities sponsored by the AFR/ARTS/FARA buy-in.	3. April - May 1993
4. Establish a system to disseminate information generated for DESFIL taxonomy through newsletters, reports, electronic conferences, workshops. a) Establish INFORUM. b) Conduct planning workshop. c) Produce newsletter article, workshops in host counties, and INFORUM reports.	4. Feedback on accuracy, sufficiency, utility of the taxonomy. a) INFORUM operational. b) Refined taxonomy, working formats for fieldwork, and computer database. c) Published article, workshop materials, more complete and accurate database.	4a) April 1993 4b) December 1993 4c) December 1993-February 1994
5. Undertake field studies in selected African countries-African development personnel and DESFIL team conduct participatory rural appraisals to collect and analyze data for country-specific inventories.	5a) Personnel of NGOs and participating government agencies gain expertise in use of PRA for formulating development strategies for sustainable agriculture in fragile lands, and for monitoring and evaluation of NRM interventions.	5. January - March 1994

<u>Activities</u>	<u>Products/results</u>	<u>Dates</u>
	5b) Country-specific components of the DESFIL taxonomy-encyclopedia, manual, and workbook.	
	5c) Specification of indicators to monitor for evaluation of interventions in sustainable agriculture and related NRM.	
Forest management and community resource management activities		
6. Design a NRM project for the Guatemalan Highlands.	6. Contribution to USAID project paper.	6. February - March 1993
7. Produce gender supplement for VIDA design.	7. Report on entities with experience in gender and the environment, and integration of gender into project design and implementation.	7. April 1993
8. Disseminate report on tenure issues affecting tropical forest management in LAC. Incorporate feedback into DESFIL taxonomies on natural forest and community resource management.	8. Feedback for revision of drafts of natural forest management and community resource management aspects of taxonomies.	8. April - July 1993
9. Investigate development experience in integrating gender into community resource management	9. Issues paper, two discussion seminars, and presentation workshop.	9. June - September 1993
10. Synthesize case studies & conduct workshop on how timber price and trade policies and other market variables affect forest sustainability.	10. Discussion paper before workshop, conclusions/recommendations paper after workshop.	10. August - October 1993
Indigenous people's participation in development strategies		
11. Investigate development experience with integration of indigenous women's & men's knowledge of sustainable agriculture into strategies for development of fragile lands in Africa.	11. Report to be disseminated through the electronic conference and targeted mailing to bureaus, missions, and development professionals, and article for first-quarter 1994 DESFIL newsletter.	11. June - November 1993
Networking and dissemination		
12. Support and foster expansion of the Gender and Natural Resources Group.	12. GNRG meetings, bulletins, reports. GNRG active membership expanded in Africa and LAC.	12. January - December 1993

Activities

13. Organize ad hoc subgroups of the Gender and Natural Resources Group as needed by AID.

14. Produce DESFIL newsletter.

Activities to market DESFIL services

See item #3, above.

15. Prepare SOWs for buy-ins from Missions concerned with indigenous people living in lowland forests.

16. Interview NIS Task Force personnel & track NIS planning. Submit concept papers for buy-ins. Follow up with draft SOWs and, if appropriate, with a scoping trip to the region.

17. Interview NE and Asia Bureau Officers and track agriculture, forestry, agroforestry, and other NRM projects. Identify opportunities for DESFIL services. Prepare concept papers/ SOWs.

18. Visit selected USAID missions in LAC and Africa to present proposals for DESFIL service to missions and to develop SOWs for DESFIL services responsive to mission needs.

Products/results

13. Recommendations for AID units on approaches to incorporate gender into natural resource programming.

14. Newsletter edition, bulletins.

15. CY 1994 buy-in.

16. CY 1994 buy-in.

17. CY 1994 buy-in.

18. CY 1994 buy-ins.

Dates

13. When requested by R&D/WID or other units.

14. When funding is available. (There may be no newsletter until January 1994).

15. September 1993

16. June, October, December 1993

17. May - October 1993

18. August and December, 1993.

DESFIL 1993 Budget Reduced to Level of Anticipated Obligations

Item	Pr mnth	Multiplier	Oct 91 thru												Subtotal Mar-Dec of 1993	Total Oct 91 thru Dec 93
			Feb 93	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Senior Project Manager	6,563	2.46		15,318	16,125	16,125	16,125	16,125	16,125	16,125	16,125	On buy-in	On buy-in	16,125	128,190	
Policy Prog. Coord. (assumes 2/5 time)	6,347	2.86		10,725	Not on board	7,261	7,261	7,261	7,261	On buy-in	On buy-in	7,261	7,261	7,261	54,291	
Technology Program Coordinator	4,228	2.53		10,700	10,700	10,700	10,700	10,700	10,700	On buy-in	On buy-in	On buy-in	On buy-in	10,700	64,202	
Incentives Program Coordinator	6,086	2.06		Not on board	Not on board	12,566	12,566	12,566	12,566	12,566	12,566	On buy-in	On buy-in	On buy-in	75,394	
Gender Analyst	4,550	2.19		9,987	9,987	9,987	9,987	9,987	9,987	9,987	9,987	9,987	9,987	9,987	99,867	
Editor and Computer Support	3,954	2.46		883	883	883	883	883	883	883	883	883	883	883	8,831	
Administrative support (for GNRG)	3,333	2.19		0	0	0	0	0	0	0	0	0	0	0	0	
Abt admin. support	3,333	2.86		0	0	0	0	0	0	0	0	0	0	0	0	
Rodale Snr.Mngr.	5,331	2.53		0	0	0	0	0	0	0	0	0	0	0	0	
Chemonics short term TA	6,347	2.46		0	0	0	0	0	0	0	0	0	0	0	0	
Abt short term TA	6,347	2.86		0	0	0	0	0	0	0	0	0	0	0	0	
Datex short term TA	4,500	2.81		0	0	0	0	0	0	0	0	0	0	0	0	
Total burdened payroll			716,738	47,613	37,695	57,521	57,521	57,521	39,560	39,560	30,696	18,131	44,956	430,774	1,147,512	
Other Costs																
	Price@	Multiplier														
Incurred by Rodale (months)	300	1.11		333	333	333	333	333	333	333	333	On buy-in	333	333	2,997	
Incurred by Abt (months)	300	1.40		420	420	420	420	420	420	420	420	420	420	420	4,204	
Incurred by Datex (months)	500	1.33		665	665	665	665	665	665	665	665	665	665	665	6,651	
Incurred by IDA (months, relocate costs in July)	300	1.32						5,680	396	396	396	396	396	396	7,661	
Incurred directly by Chemonics																
Seminars/conferences/workshops	13,514	1.11		0	225	225	225	1,200	15,000	2,250	2,498	225	225	22,073		
Travel & perdiem (trips abroad)	See note below	1.11		0	10,739	10,739	0	0	0	0	0	0	0	21,479		
Office supplies (paper, etc) (months)	300	1.11		333	333	333	333	333	333	333	333	333	333	3,330		
Newsletter supplies (issues)	2,000	1.11		0	0	0	0	0	0	0	0	0	0	0		
Newsletter postage (issues)	1,200	1.11		0	0	0	0	0	0	0	0	0	0	0		
DBA (2.79% x salaries while overseas)	132	1.11		0	16	16	16	16	16	16	16	16	16	147		
SOS	125	1.11		15	15	15	15	15	15	15	15	15	15	154		
Travel docs & medical (trips abroad)	300	1.11		0	0	0	333	0	0	333	0	0	0	666		
Communications (months)	700	1.11		777	777	777	777	777	777	777	777	777	777	7,770		
Reproduction (months)	500	1.11		555	555	555	555	555	555	555	555	555	555	5,550		
Office rent & maintenance (months)	840	1.11		932	932	932	932	932	932	932	932	932	970	9,399		
Support services (translation, etc) (months)	100	1.11		111	111	111	111	111	111	111	111	111	111	1,110		
Technical materials (months)	75	1.11		83	83	83	83	83	83	83	83	83	83	833		
Total:			250,081	4,226	15,206	15,206	4,800	11,122	19,638	7,221	6,803	4,900	4,900	94,023	344,104	
Total costs through December 1993			966,819	51,839	52,901	72,727	62,321	68,643	59,188	46,781	37,499	23,031	49,856	524,797	1,491,616	

Notes regarding anticipated R&D/WID funds obligation in CY 1993:

The R&D/WID funds to be obligated in CY 1993 are expected to total 188,000. However, the WID officer has indicated that this is intended to cover, not only WID-related expenses during 1993, but also the salary of the gender analyst during January through September 1994. This means reserving \$94,384 for CY 1994. Thus \$93,616 is the portion of this anticipated obligation that the project plans to use in CY 1993.

Assumptions in estimation of travel & perdiem cost per "marketing" trip

	Africa	LAC
Return airfare, travel to three countries coach class	6,900	1,200
Perdiem in average capital city x 15 days/trip	2,775	1,830
Airfare + perdiem	9,675	3,030

Obligations anticipated thru Dec 93	
From AID/R&D/EID:	
Obligated in CY 1991	215,000
Obligated in CY 1992	400,000
Already obligated in CY 1993	200,000
Expected additional in CY 1993	300,000
From AID/R&D/WID	
Obligated CY 1991	75,000
Obligated CY 1992	78,000
Expected CY 1993 (see notes at left)	93,616
From LAC/DR	
Obligated in CY 1992	100,000
Expected in CY 1993	30,000
Total Total:	1,491,616

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