

61378

**THE GAMBIA NATURAL RESOURCE MANAGEMENT ACTION PROGRAM
EXECUTIVE SUMMARY**

**G. Edward Karch, Natural Resource Economist, Team Leader, E/DI
Eric Arnould, Cultural Ecologist, ARD
Chris Seubert, Agronomist, DAI**

April 10, 1989

**Natural Resources Management Support Project
(AID Project No. 698-0467)**

Contract No. AFR-0467-C-00-8054-00

**THE GAMBIA NATURAL RESOURCE MANAGEMENT ACTION PROGRAM
EXECUTIVE SUMMARY**

**G. Edward Karch, Natural Resource Economist, Team Leader, E/DI
Eric Arnould, Cultural Ecologist, ARD
Chris Seubert, Agronomist, DAI**

April 10, 1989

**Natural Resources Management Support Project
(AID Project No. 698-0467)**

Contract No. AFR-0467-C-00-8054-00

Prime Contractor:

**E/DI
140C I Street, N.W.
Suite 700
Washington, DC 20005**

Principal Subcontractor:

**Development Alternatives, Inc.
624 Ninth Street, N.W.
Sixth Floor
Washington, D.C. 20001**

THE GAMBIA NATURAL RESOURCES MANAGEMENT ACTION PROGRAM

EXECUTIVE SUMMARY

Background and Approach

The Gambia Natural Resources Management Action Program is a product of the Natural Resources Management Support Project (698-0467). The Action Program is intended to help USAID/The Gambia, the Government of The Gambia, and other donors explore ways that they can refocus projects or develop new ones to support more environmentally sustainable development. The impetus for the Action Program comes from the Africa Bureau's Plan for Natural Resources Management (PNRM) which has the overall objective of promoting actions which will lead to improved soil and water conservation, soil fertility, vegetative cover and biological diversity in major agro-ecological zones.

The Action Program for The Gambia builds on the findings of the Sahel Sub-Regional NRM Assessment that was conducted in late 1987 to identify promising natural resources management activities and describe the conditions under which they had successful outcomes. The NRM Assessment concentrated its efforts in Senegal, Mali, The Gambia and Niger on the arid/semi-arid zone and the sub-humid upland zone. It also examined the riparian and lacustrine environments of the major regional river basins. The NRM Assessment found that, despite a generally deteriorating environmental situation in the Sahel, a small but growing number of farmers are making financial and economic gains. The major question raised by these findings is how can regional governments, donors and farmers work together to diffuse these successes over a wider area? Annex 8 provides more details on this issue.

Sustainable development depends upon implementing activities that have positive, sustainable long-term impacts on soil fertility, soil conservation, vegetative cover, and germ plasm preservation. The Sahel Sub-Regional Assessment showed that many farmers are willing to invest in their resources, but that few are in a position to implement these actions without support. For example, mature Acacia albida trees dominate the farmlands of much of the millet and sorghum areas of the four countries visited, but regeneration is weak. When farmers are asked why they do not put efforts into protecting young seedlings, common responses are either that there is too much pressure on the land to protect the trees effectively, or that the pay-out period for maintaining the young trees is too long. The long-term cost of not protecting the young trees is high in terms of lost soil fertility and forage production, but it will be paid by the next generation. To overcome the farmer's dilemma, the Dosso (Niger) Acacia albida Project (UNSO) shares the costs of protecting young seedlings by giving farmers 15 cents for each seedling that survives. Other projects have provided farmers with food-for work (Keita in Mali) or free seedlings (PAFORCE, PRECOBA, PARCE).

The starting point for The Gambia Action Program was the question: what is required to achieve sustainable agricultural development within a twenty-year time frame over a significant area in a given country? The response to this question begins with the working hypothesis that there is sufficient empirical experience to develop strategies in local

resource management that can help refocus existing projects on the integration of natural resources and agricultural production activities or develop new projects or programs. It is a working document that should be used to inform both policy and programming discussions, rather than begin seen as a definitive plan for natural resources management in The Gambia.

Linkage to the GOTG Indicative Programme for Desertification Control

The Action Program uses the guidelines developed in the SSRA to identify the programs of the GOTG's Indicative Programme for Desertification Control (IPDC) which are linked to PNRM priority objectives. The IPDC programs most directly supporting PNRM objectives are those for:

- o The design and execution of land use management approaches for improved and sustained agro-pastoral production;
- o Training, public information and extension in conservation land management;
- o Reorientation and integration of land use management actions in the activities of local governmental (Village Area Councils) and non-governmental organizations (Conservation Districts, Producers Associations);
- o Supporting measures of legislation and public administration especially in the area of land tenure and local taxation authority.

The Action Program recommends support to the IPDC through the use of sustained investment in local natural resources management strategies and supporting measures in applied research, policy dialogue, technical assistance, training, and environmental monitoring. A geographical concentration on the rural divisions of The Gambia is recommended, because village-based resource management strategies have the best chance to succeed in these areas

Local Resource Management Strategies

The Local Resource Management Strategies (LRMS) are approaches to sustainable development composed of successful initiatives observed during the Sahel Sub-Regional Assessment and from other regional experiences (See Chapter 3). They provide proposals for implementation of the guidelines outlined in the IPDC. The technical, organizational and financial elements of these initiatives are combined with extension, training and technical assistance to spread their use over time to a significant portion of the population in the rural divisions of The Gambia. The Local Resource Management Strategies contain technologies which have demonstrated the capacity to improve yields of food, forage, wood, and other products, and protect endangered habitats and species under Sahelian conditions.

The strategies emphasize the use of technologies which improve the sustainable natural resources upon which agriculture and forestry in The Gambia are based. They are implemented starting with selected contact farmers to verify technologies and adjust incentives and implementation methods before broader deployment. Economic incentives are provided to farmers on the condition that they follow a management plan and share custodial responsibility with the GOTG for the conservation and improvement of soils and vegetation. Additional incentives to adhere to the plan are provided through local modification of land and resource tenure and access codes.

To ensure that the strategy is employed on a broad enough scale to affect most of the land within a village's control, local organizations are strengthened to serve as sources of agricultural credit and inputs, marketing assistance, and extension services. Farmers failing to follow the plan will not have access to these benefits.

Each of the strategic elements, and combinations of many of them, had to have been observed in the field before they were incorporated into a Local Management Strategy. For the purposes of cost-benefit analysis, total costs of the strategies have been used to evaluate the financial viability of each strategy (these spreadsheets are available on micro-computer diskettes at USAID/The Gambia). In some areas of The Gambia, however, Local Management Strategy can be incorporated into existing programs (Save the Children, Catholic Relief Services, the Gambia Soil and Water Conservation Management Unit, Action-Aid, German-Gambian Forestry Project, EEC Upper River Division Project) with minimal new investments.

In other cases, Local Management Strategies can be used to help structure the implementation of new projects (e.g., USAID Agriculture and Natural Resources Management Sector Grant). In other areas, a local development agency, such as the GOTG or a PVO, can use the Local Management Strategies as a framework to plan and structure its interaction with farmer groups and national programs in a way which integrates both short-term production and longer-term resource conservation objectives. The financial costs of natural resources activities can be reduced by grafting them onto on-going programs and projects.

Four Local Resource Management Strategies are presented (Chapter 4) which follow SSRA guidelines for sustainable development. The four strategies are the:

- o **Mixed Farming Strategy** - An approach targeting 100,000 hectares over 20 years. The strategy is implemented by local farmer groups which receive loans, training and extension services for near-term investment in sesame, vegetable, and cereals production, improvements of soil conservation and fertility, and water retention, medium-term investment in composting and windbreaks, and longer-term investment in natural and village forest management. A combination of cash crop sales, grain price hedging and forestry and forage crops provides the economic engine for the strategy and financial incentives for farmer adherence to the land management plan. Total cost to the GOTG and donors is \$5.368 million. Loan funds of \$8.104 million are needed as well.

- o **Biodiversity Protection Strategies** - An approach targeting 1,300 hectares. Farmer groups receive loans, training and extension services for near-term investment in National Park development fertilizer, improved beekeeping, multi-purpose tree stands, and sesame production; medium-term investments in fruit trees, windbreaks and improved use of manure, and longer-term investment in activities related to development of National Park woodlot management. Cereal banks and returns from beekeeping, sesame production, tree product sales, and tourism provide the financial basis for the strategy. Total cost to the GOTG and donors is about \$82 thousand. In addition, \$121 thousand in loan funds must be provided.
- o **Forage Management Strategies** - An approach targeting 4,300 hectares. Farmer groups adhere to a land management plan that provides for intensive management of crop residues and forage trees with cereal production a secondary focus. Forage, grazing fees, and hedging cereals provide the financial returns to farmers and to the farmer groups which sanction the management plan. Total cost to the GOTG and donors is about \$242 thousand with an additional \$402 thousand in loan funds.
- o **Woodlands Local Management Strategies** - An approach which targets 100,000 hectares of the 452,646 ha of forest lands in The Gambia. Farmer groups would adhere to management plans to conserve soil and water, improve tree composition and enhance forage availability. Poles, firewood, forage and other forest products are sold for the financial gain for farmers and producers groups, Local Area Councils, and the Forestry Department. Total cost to the GOTG and donors is about \$5.368 million with an additional \$4.983 million in loan funds.

The four Local Management Strategies are presented here as approaches which require refinement and adjustment to fit local circumstances as they are implemented by development agencies. The Local Management Strategies should be adjusted to fit local circumstances. Some components of the Local Resource Management Strategies may need to be deleted or others added depending upon local needs.

Research Conclusions and Recommendations

The GOTG is fortunate to have a baseline for monitoring of changes in water resources, forests, and land-use through the efforts of several recent projects and studies. It does not, however, have a long-term research strategy. There is a vital need to consolidate the research information base on desertification and natural resources management and to use it to guide research programming. The decision about what restructured set of programs best addresses the country's research needs should not be made without the results of a long-term research strategy study. In the interim, applied research opportunities include:

- o applied in-field research to adapt and refine techniques of soil fertility management, soil and water conservation and improvement of natural vegetation management to the different natural and socioeconomic conditions in areas of concentrated development activity;
- o field studies to identify natural resources management interventions in the riverain, riparian and pastoral environments excluded from the SSRA.

Natural Resources Policy

The GOTG and donors should follow a two-tier approach to improve natural resources management policy. One tier is the modification or local negotiation of resource access and use codes on the basis of existing legislation to support development programs. The second tier is use of policy dialogue to modify national codes relating to forests and wildlife. Policy modification is underway at both levels through existing development projects, but improved application of existing legislation is required to show that local management can enhance resource use, increase production and protect the environment against further degradation. Enforcement of existing legislation and some minor changes in resource use policy are needed immediately.

Donors should not wait for statutory change to start program discussions with GOTG. The SSRA experience shows that field actions and ad hoc tenure modifications lead to statutory change over time. Sustained field initiatives of the type outlined in the Local Management Strategies are the major way that consensus can be formed about the benefits of locally-defined use rights linked to local resource management plans. Parks protection, land tenure, tree tenure, tree product harvesting, forage access and fire management are some of the key areas of policy which need to be incorporated in negotiation of local initiatives.

The Forestry and Wildlife Departments have roles as protectors of the natural resources base and as promoters of its rational use. Current institutional incentives for the Forestry and Wildlife Departments are not strong enough for them to effectively carry out these roles. If local resource management areas (e.g., Resource Conservation Districts) are to spread beyond their points of initial testing, policies and implementing agencies will have to change towards greater local supervision and responsibility for resource use and protection. The Forestry Department needs to be supported to enable it to manage Forest Parks and regulate the use of other lands through user fees, licensing and promotion of better resource management.

Donor Coordination

Donor coordination in the area of natural resources management lags behind that which exists in neighboring countries such as Mali. Two areas are central to donor coordination for natural resources management purposes--policy dialogue to encourage institutional reform and support to implementation of the Indicative Programme for Desertification Control. Donor effort is needed to reinforce the current GOTG initiatives to test and implement policy changes to move to a user fee and sustained use approach to

resource management through integrated Local Management Strategies and a more holistic approach to extension.

The second major area for donor coordination should be the joint monitoring and review of the Local Management Strategies. As implementation of the Local Management Strategies is intended to develop models of broader application, donor roundtables with the GOTG should continue to be regular affairs examining both technical approaches and the implications of the results of Local Management Strategies for further donor assistance.

Monitoring and Modifying the Action Program

The Action Program provides strategies for natural resources management in The Gambia that addresses the major concerns of three groups: the GOTG, the farmers and the donors. Before there is widespread adoption of Local Management Strategies, farmers must be reasonably confident that technologies and other conditions are viable and do not entail excessive risk. Host governments need to have some assurance that modification of national laws in the context of Local Management Strategies will not lead to further degradation of the resource base and that on-farm recurring costs can be covered by benefits. Donors must have a way of monitoring the impacts of their investments.

Perhaps the best way to institutionalize the monitoring and adjustment process is to train technicians and managers in natural resources management. At least in the near-term, even the best strategies will have an effect over limited areas where development projects are active. Monitoring and evaluation units of existing projects and research organizations should be able to assess change in these areas. This effort needs to be seconded by a broad, but relatively inexpensive, monitoring approach that can be maintained for decades. This effort, and broader programmatic monitoring, probably needs to be undertaken by the Project Planning and Monitoring Unit (PPMU) which serves both the Ministry of Agriculture and the Ministry of Water Resources, Fisheries and Forestry.