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DESFIL

Development Strategies for Fragile Lands

**STRATEGIC APPROACHES FOR
LOCAL COMMUNITY INVOLVEMENT IN
NATURAL RESOURCES MANAGEMENT**

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DESFIL Project

Prepared by:
Idrissa Mbaye
Master of Forestry
Dakar, Senegal

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LIST OF ACRONYMS

CAP	Community Action Plan
CR	Rural Community/Council
DESFIL	Development Strategies for Fragile Lands
FAP	Forestry Action Plan
FSR	Farming Systems Research
GOS/FS	Government of Senegal/Forest Service
LUMP	Land-Use Management Plan
LUS	Land-Use System
MDRH	Ministry of Rural Development and Water Resources
MEPN	Ministry of Environment and Protection of Nature
NGO	Non-Governmental Organisation
NRM	Natural Resources Management
PA	Participatory Approach
PRA	Participatory Rural Appraisal
PVO	Private Voluntary Organisation
RRA	Rapid Rural Appraisal
SCS	Soil Conservation Service
SRP	Senegal Reforestation Project
US	United States of America
USFS	United States Forest Service

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A. Purpose

For the past twenty years, the Forest Service (FS) in Senegal has invested in tree planting programs to reduce land and resource degradation caused by many years of drought, desertification and poor land-use management practices. The Government of Senegal (GOS), working with donors, has put a great deal of human and financial resources into reforestation and soil conservation projects. The results, however, are far below expectations. It was found, among other negative factors blocking the results, that the local people for whom this work was primarily implemented, did not feel any interest in it, except for the wages they received as employees.

The Senegalese Forest Service (GOS/FS) and donor institutions now understand the necessity of involving local people in reforestation and NRM programs and projects. This participatory approach is now used in many forestry projects. It's a way of involving the local community, right from the start, into the decision-making process of monitoring and evaluating the impacts of these programs and projects on their environment.

This study will identify ways to get people, in public and private institutions, as well as Non-Governmental Organizations (NGOs), actively involved in Natural Resources Management Policies and Programs. During the time I spent in the US., I focused my attention on what works in this country with regard to community participation in NRM. It is not anticipated that information about how local organizations are motivated to work in the US is directly applicable in Senegal but I do hope that the GOS/FS, working with all concerned parties (men, women and institutions), will find ways to adapt some or all of the recommendations to the Senegal situation.

B. Introduction.

A growing awareness of the failure of conventional development approaches (top-down development packages) in meeting the needs of resource-poor people has led to the exploration of alternative methods of investigating resource management issues, planning, implementing, and evaluating development initiatives. A new approach is needed, one that will ensure large-scale participation of rural people in conservation of the natural resources base because of benefits it will bring to them over the long-term. Governments will take the overall responsibility for conservation but their main role will be to promote participation of rural people in finding and applying solutions. Thus, the Participatory Rural Appraisal (PRA) approach has been developed as a field-based methodology to mobilize communities (men and women) assuming that they are the primary building blocks to reverse natural resources degradation and to increase food production. The basic rationale for a participatory approach in a NRM program to foster sustainable resource management lies in the fact that in many cases, people can and will care for their own development, although preferably with government and/or non-governmental organizations assistance and action. Peoples' participation does not simply mean persuading them to carry out the task identified in a project; it means people being involved throughout the process, from identification to evaluation, with many steps in between (Falloux and Mukendi, 1988).

This paper will discuss some examples of participatory approaches as used in the United States for community involvement in tree planting, environmental protection and NRM. We will further compare these approaches with what is being done in Senegal, evaluate lessons learned that may be applicable to the Senegal situation, and finally discuss the constraints, incentives and enabling conditions that would facilitate application in Senegal.

SECTION II
PARTICIPATORY APPROACH IN ENVIRONMENT AND NRM IN THE US

A. Changes in the United States Forest Service Approach.

The United States Forest Service (USFS) is the federal agency under the US Department of Agriculture, that deals with management of forests and grasslands in the US National Forest System.

Rural America is experiencing rapid changes in its livelihood (economy, agriculture, timber and other natural resources). The USFS Chief states in a document published in June, 1990, entitled "A Strategic Plan for the 1990's: Working Together for Rural America." The Forest Service clearly has a role and responsibility to help rural America address rural development concerns and remain a vital contributor to the Nation's competitiveness (USFS, 1990). The Plan grew out of a growing awareness of the need to get rural communities involved in the USFS planning process and a self assessment of the USFS role in helping rural communities. The USFS has two dimensions:

1. First, working with communities who are responsible for managing national forests and grasslands in the National Forest System, and
2. Second, working with rural communities that are not necessarily forest managers, but are none-the-less indirectly involved with or impacted by USFS activities in their community.

In the first case, the USFS works with the community in identifying their needs assessments of how the USFS can be of assistance. A concern for water quality and/or quantity emerges as a priority concern. These concerns are identified during a planning process called a " Search Conference." It allows ranking priorities and is designed to include the people from the beginning. Some forest managers see it as very challenging and time consuming. In order to have the staff accustomed to this new approach, the USFS is holding national training sessions on the Search Conference Approach to working with communities for Regional USFS Managers. It has been realized that these sessions were necessary to inform top-level managers of the advantages of the Search Conference process. It is also a good investment to train community leaders in National Forest Management and in how to work with USFS staff and be a trainer for their community and neighboring communities. Finally, the USFS tries to interact as much as possible with other Federal Agencies (Parks, Soil Conservation Service, Fish and Wildlife, etc...) which also impact on rural community development.

In the case where the USFS interacts with communities not directly working in forest management, the Service has identified three roles:

1. Technology transfer using rural knowledge: knowing what natural resources management entails and bringing this information to people. This brings more demands/questions from the people than the USFS can answer and requires working them out with other agencies and NGOs.
2. Serving as an information office, directing people to appropriate agencies and NGOs that might be of help. The USFS has developed a broader public relation aspect by working with a wider range of subjects. It has also developed a national collaborative planning and training workshop in which other agencies, NGOs and Private Interest Groups are invited.
3. Financial role with grants and loans towards rural communities. This assistance focuses mainly on community capacity building, demonstrating the ability to develop Community Action Plans (CAP). Loans are available on a very low interest rate and with a broad framework for helping rural people.

B. The Soil Conservation Service (SCS) Approach to People's Participation

The SCS is the federal agency under the US Department of Agriculture involved with private land management whereas the USFS deals with public land management. For years, the SCS used a top-down approach where top-level management felt that because they were the "experts" and had money to give, communities would accept and adopt their recommended actions. Over the years, they have come to realize that this type of "internal planning" just did not work and have developed a new approach to community development.

In recent years, the SCS has gone to communities and solicited their active participation in identifying their problems and the solutions which were acceptable to them. They found that using a "facilitator" during these meetings resulted in developing a consensus with the community to decide on what the priorities are. They called these meetings a "Chief's Forum" where the SCS asks the community what they can do for them. The strategy to inform the communities of the SCS intentions includes going out to community leaders, posting notices for community meeting in local newspapers, at local churches, and sending personal postcards to announce these meetings. As it was noticed at the USFS, the SCS top-level management had a hard time adjusting to this new approach.

Training was provided to develop leadership skills at the community level, using what the SCS called its "leadership development kit." They worked with the community to develop a team-building process to identify the problems/needs and solutions to address these needs. They have struggled to understand "community dynamics" which has been recognized as being essential to develop a "roadmap" to problem solving. First, they use a "scoping" process to identify community leaders and existing NGOs who have established a credibility with the community. They want to know who the NGOs are and what are their "power sources" (sources which have led to their credibility: funding, activities, leadership, etc.). Next, they work with these leaders to identify training needs. Then, in an effort to establish an on-going relationship, they choose volunteers from within the community to take the lead in maintaining contacts with the SCS and collaborating NGOs. The SCS also promotes networking activities to broaden participation.

The importance of human relations has been emphasized these past few years. Regional offices at the local level are managed by "technical experts" who were not normally trained in human relations. The SCS found that without these skills, technical advice often did not get out to the community as needed. Even though it proved to be difficult at first, the SCS has developed the training capacity at this level. They emphasized the importance of good "social skills" which must complement the technical skills of their regional offices in an effort to train trainers. After 60 years of feeling that the SCS managed soil, water, trees, plants and animals, they realized that people are first and foremost the target of their interventions. They found that an effective approach is to identify "constituency groups" who have similar interests in managing natural resources. These groups consist of community members, NGOs and other groups that meet to establish a common vision, identify goals and objectives, and then the SCS assist this "alliance" in managing their own projects.

Two successful examples of the SCS approach to people's participation were the 1985 and 1990 farm bills. Under these bills, farmers have been given federal benefits if they managed their "erodible lands" by developing environmentally sound land-use management plans (LUMPs). The SCS provides technical assistance to farmers to develop a LUMP. The major impact from lessons learned has been for the SCS to show farmers that it was to their economic benefit to manage these lands over time. In this case, the SCS has used what they called an "adoption/diffusion approach" where they find farmers who will try new farming practices and then assist these farmers how to train others. The SCS found that, although this approach was costly, farmers listened better to other farmers and that the Agency's role was to listen to the community and let them come up with solutions.

C. Celebrating Special Events

Celebrating Arbor Day and Earth Day is another way of getting peoples' awareness of environmental degradation and promoting popular engagement on natural resources management and conservation activities. Arbor Day was first celebrated in the United States on April 10, 1872, with the planting of more than one million trees in the degraded Great Plains of Nebraska. Arbor Day targets fostering schools to encourage stewardship among children.

Declared in 1970 by the United Nations, Earth Day has inspired millions of Americans to work in support of improving the environment. More than twenty million people participated in the first event which gave birth to a modern and active American environmental movement. Earth Day intends to inform the public about critical problems and challenges facing our environment and the need for individuals to work together to create solutions. The Earth Day message reads: "The time has come to build partnerships for a better future, not only for ourselves, but for generations to come" (American Forests, 1994).

D. Grants for Environmental Protection

At the Federal level, the Government has created a "Corporation for National Service" that will distribute grants and scholarships to support, among other projects, community-based environmental programs. *Urban Forestry* programs already show how

important citizens' actions and education contribute to the health of community forest ecosystems. *Philadelphia Green*, *Minnesota's Twin Cities Tree Trust*, and *Washington DC's Trees for the City* are some working examples of community services (Fields, 1994).

Urban Forestry provides school systems with a hands-on approach to help students understand the importance of protecting the environment. In turn, education money will prove to be the perfect tool for attaining the urban forestry movement's goal. By learning how best to assist teachers, *Urban Forestry* can both educate a generation and green the community. The long-term goal is to create citizens for whom good citizenship means tree planting and tree care. The community forest thereby becomes a living school for teaching green citizenship. Some urban forestry programs will take school children to Summer Camps to learn about trees (species identification, estimation of tree height, etc.) while enjoying Summer Camp activities (Fields, 1993).

Another example of peoples' engagement, coupled this time with a disaster relief program, is when residents in Miami and Dade counties in Florida went on campaign to inform the people on ways to regenerate their environment lost to Hurricane Andrew (Robbins, 1994).

SECTION III

THE PARTICIPATORY APPROACH IN SENEGAL

A. The Senegal Forestry Action Plan (FAP), a Prospective Into the 21st Century

The Forest Service in Senegal (GOS/FS) is in charge of management of National Forest Resources, Wildlife Management, Fresh Water Fisheries, and Soil Conservation Programs.

In 1989, the GOS/FS National Plan for Drought and Desertification Control insisted on people's engagement and responsibility in NRM and the integration of desertification control in the Senegalese Economic and Social Development Program. This was a drastic change from the 1982 Forestry Development Master Plan which focused on natural resources conservation and wood production through forestry projects funded by international donor countries in which local people were only considered as manpower.

In 1993, the GOS/FS developed a Forestry Action Plan (FAP) with a broader approach to NRM integrating land-use systems that might be contradictory at first: agriculture, pastoralism, industry, etc. The FAP focused on priorities as emphasized by practices at different levels: local communities, NGOs/PVOs, Government and International donors. It insisted on community involvement and full responsibility throughout the development process, on having a coherent institutional framework (human resources, legal environment, community organization) in which forestry and rural development would be integrated in harmony. It also emphasized working with women and school children and, most important, took into account the preoccupations and priority actions of different stakeholders in order to build a coherent NRM strategy. In fact, the FAP was essentially guided by a development strategy that would be:

- *realistic*: by concentrating itself on actions for which a global consensus already exists or would not be difficult to find;
- *operational*: focusing on actions to be undertaken immediately that would contribute to developing and maintaining the dynamics in rural and urban forestry, forest management, land-use systems, fuelwood production and home energy saving;
- *decentralized*: putting its actions at the regional level in an homogeneous spatial framework that would bring back regional institutions to their legitimate functions of program management, coordination and evaluation; and
- *participatory*: a community approach will be used to ensure active participation by men and women in developing sustainable NRM programs (MDRH, 1993).

B. New NRM Approaches in Senegal.

In conjunction with donor countries and PVO/NGOs, the GOS/FS has developed a participatory approach in all its NRM programs and projects. The process has been very slow at the beginning, because top-level management was having difficulty adjusting to the bottom-up approach, and community members, used to getting paid by the GOS/FS, were expecting money or any other quick return from their investment (land, labor or capital).

It is only by learning through experience that the GOS/FS came out with a number of steps to get people actively involved. First, communities were organized into Economic Interest Groups, Village Community, Women's Groups, or Youth and Sport's Groups. The reason for this preliminary action was that once the process has started, the GOS/FS will have fewer numbers of people to deal with (the community leaders) and, if necessary, these people are trained as trainers for their community. The next step was that these groups would conceive specific projects within a Community Action Plan (CAP), to be proposed for funding to public or private institutions, with the assistance of the Rural Extension Office. People may still submit project proposals as private individuals, but groups will be preferred.

The GOS/FS has been working on various approaches to people's involvement in most of its new NRM projects. Some examples are:

- ***The Matching Grant program*** of the Senegal Reforestation Project (SRP) was a way of lowering the financial risks associated with reforestation through a partial reimbursement of cost (50%) after a successful tree establishment. These consisted of individual or community woodlots, agroforestry and/or soil conservation practices.
- ***The Private Sector Development Program*** (within the SRP) encouraged small enterprises to work with city and rural councils on roadside tree planting, woodlots and city park establishment. The money was provided in the form of grants to the city or rural councils through the banking network system. It was found that using the banking system was sometimes a lengthy procedure and, in some cases, was costing as much as the amount of money to be delivered. For managers at the Project office, this was considered as part of the capacity-building process, allowing local people to manage part of the community budget through the bank.
- ***The Media and Training Programs.*** The community capacity building process had to go through a large multimedia information and training support. These supports were developed to facilitate understanding of the Matching Grant and Private Sector Development Programs. Using television, national and regional radio stations, newspapers, posters and field visits, the media campaign was launched to reach the village farmers in their fields. Training was also provided to top management as well as field agents in the Rural Extension Centers and to community leaders and pilot farmers. The training package consisted of long and short-term training for foresters and other Ministry personnel in subjects deemed as necessary (Forest Economics and Policy, Marketing, etc.), study tours for technicians and farmers in Sub-Saharan countries to visit similar projects and discuss with their counterparts. But the major section was on in-country seminars for field technicians, farmers, community leaders, and the private sector on technical subjects (Reforestation, Agroforestry,...),

Communication, and Small Business/Enterprise Management applied to natural resources. With the impact of the media and training approach, the Matching Grant and Private Sector Development which started in a very slow pace during the first two years, gained a wide understanding and acceptance. By the end of its fifth year of implementation, the SRP was receiving more contracts from farmers than it could effectively manage from its head-office.

- *The Dabo Project* in Southern Senegal is testing local communities' ability to manage National Forests along with the GOS/FS staff. From the lessons learned, decisions will lead to involving neighboring populations in the management of National Forests.
- *In the Peanut Basin*, people were trained in seedling production and agroforestry practices. Now that they have mature trees in their woodlots, they are asking for access to a structured wood product market.

These are only a few examples of people's involvement that resulted from the first-hand knowledge of NRM options by rural communities. Another illustration of the PA is the CBNRM test project working with Rural Councils (CR). Before any action is taken, the project helps the CR in conceiving a Community Action Plan (CAP) that would provide the essential guidelines for any development activity to take place in the community territory.

The CAP would include:

- identification of the problems and their causes;
- assessment of the nature and scope of necessary interventions;
- consideration of the scale of intervention: local, regional or Government;
- consideration of the inputs required to solve the problem;
- identification of parties responsible for supplying inputs;
- monitoring and evaluation of activities to achieve desired results, and
- establishing feedback and continued interaction with Government as necessary.

To attain these objectives, it was necessary to establish certain enabling conditions.

SECTION IV ENABLING CONDITIONS

Lessons learned from on-going and final evaluations of many NRM projects led the GOS/FS to the idea that it was necessary to establish certain enabling conditions for community involvement, most of which, if not all, would imply government investment.

- ***Rehabilitation of the Natural Resource Base:***

Depending on the scale of actions necessary, investment requirements will be funded at the local, regional or government level on a cost sharing basis.

- ***Decentralized Management:***

Using local participation and indigenous knowledge along with new technologies, caring not to destroy existing local institutions (village elders, religious groups...) but instead, working with them.

- ***Land Security:***

Understanding traditional land use and land tenure systems will help avoid conflicts with community members.

- ***Women's Access to Resources:***

In many reforestation and NRM programs, women's groups are identified as the most successful, even though they are not granted full access to resources. By improving this situation (mainly access to land and capital), results in NRM will certainly become much more effective.

- ***Technical Assistance:***

Extension services must provide technical assistance on a regular basis, with intervention if and only if necessary, in order to let people try to develop local solutions of their own to their local problems. This is where "social skills" become very important to technicians: knowing how to approach people so that they will let you know about their preoccupations and needs.

- ***Access to Market/Availability of Credit:***

Access to market will be a strong incentive to sustained production. Credits must be made available to communities which have shown management capacity to help them increase their productivity while maintaining their natural resource base.

- ***Information and Training:***

Technologies and practices are changing very rapidly. Therefore, GOS/FS managers and technicians need to understand traditional systems and why/how they are changing before looking for new practices. Forestry field agents as well as community leaders and pilot

farmers will be informed of and trained if necessary to acquire new practices. Training may be formal but it could also consist of farmer-to-farmer visits and exchange programs, on-site visits of successful experiences and failures for lessons to be learned from.

- ***Upgrading of Competencies:***

Through research and on-farm interdisciplinary training, extension agents and farmers will learn from each other.

- ***Incentives and Prizes:***

Honoring successful farmers with diplomas and prizes during public events (Independence Day, Arbor Day celebration...) will develop a competitive spirit among farmers and communities. Awards could consist of equipment and material that would alleviate labor-intensive chores of men and women in rural settings (donkey carts, animal traction equipment, milling machines, energy-saving wood stoves, water pumps, etc...).

SECTION V
NEW ACTIONS NEEDED: RECOMMENDATIONS

A. *Working with NGOs/PVOs.*

The economic crisis in Senegal has resulted in scaled down Public Services in all sectors, reducing their ability to provide services and to carry out development activities. As an alternative, PVOs and NGOs have emerged as an increasingly important force in rural development. Several factors have contributed to the emergence of PVOs/NGOs. They first drew international attention during the drought of the 70's when donor countries provided direct funding through them for drought relief activities. Bilateral and multilateral donors now view PVOs and NGOs (local and international) as effective means for implementing development activities in rural areas. They have the financial and staff support necessary to serve the needs of rural communities, even if it often is in small geographic areas.

Recommendation: Government agencies and PVOs/NGOs must get together more frequently in forums and field meetings to work out a collaborative system for rural development. This will first save on staff and funds that will be made available for other needed local actions, but most important, it will help avoid duplication of actions and/or conflicting approaches towards the same target group.

B. *Step-by-step Approach.*

Governments as well as donors will have to accept the strategy of a step-by-step long-term approach of working with farmers rather than looking for a dramatic and immediate change from traditional practices. Farmers will determine the direction and pace of change. The innovators among them will be trained to do the extension work as soon as possible during the implementation process.

Recommendation: Top-level management must accept this long-term bottom-up approach to NRM. Training must be provided to them and fields visits organized to local communities in which the PA is showing concrete results.

C. *Disaster-Relief Programs*

USAID/Niger used the option of integrating disaster-relief actions into development activities: food/cash for work to provide immediate relief and support constructive work that people cannot do without external assistance. The activity can be used to develop appropriate NRM techniques and as a basis for implementing complementary long-term sustainable development actions (Adelski, E. 1994).

The FS in Senegal is using the food-for-work concept in its World Food Program Project to develop seedling production by communities and individuals. The concept is also

used in forest fire prevention and in NRM training. The direct outcome of this process will be an increased productivity that would lead to a sustainable, equitable and stable community development.

Recommendation: After evaluation of the Food-for-Work program, the GOS/FS could use this approach to cut cost of input in many of its NRM projects, especially in seedlings production and soil conservation programs.

D. *Changes in the Political, Economic and Legal Frameworks*

(i). Economic and political changes.

Changes in NRM are taking place as parallel shifts in the politics and economics of most African countries occurs. Changes in terms of governance and local economic and political control are linked to improved local conditions leading to more sustainable resource use. With political liberalization and opening of economic systems, the entrepreneurial spirit of the people is now increasingly unfettered and will lead to an improved effectiveness of private sector institutions. The new approaches had to focus on establishing an enabling environment that would sustain and increase community livelihood by maintaining the productive capacity of the natural resources base.

Recommendation: The economic and political liberalization must go on to enhance Private Sector development which is just starting to grow.

(ii). Changes in Land-use Systems and Tenure.

The 1972 law creating Rural Communities gave power to the President of the Rural Council on subjects dealing with land attribution and budget management, previously supervised by the *Sous-Prefet* at the level of the *Arrondissement*. A piece of land will stay with the farmer as long as it is in use, unless declared as public utility. This policy will allow long-term management planning, but on the other hand, farmers are reluctant to put fields into fallow, especially in intensely managed rural zones: the Senegal River Valley, the Niayes and Silvopastoral zones. Pastoral legislation is slowly changing and difficult to apply because of traditional practices but also because pastoral counsellors are always outnumbered by farmers in the Rural Council voting system.

Recommendation: The Rural Council must consider a better approach of the 1972 law, not only for farming and agriculture, but on a broader scale of management of the Community's natural resource base. This would include accepting labor-intensive soil conservation programs and agroforestry practices.

(iii). Changes in the Forestry Code.

The Forestry Code has been revised in Senegal in 1993, providing foundation for the transfer of natural resources user rights to farmers, beginning with ownership rights on trees planted on private and community woodlots. The rationale for this switch was based on the

assumption that people will better manage their natural resource base if they are confident that the fruits of their labor will return to them or to their heirs rather than to others.

Recommendation: The new Forestry Code was voted in 1993 by the National Assembly. The Government should proceed on signing the regulatory part of it (e.g. how it should be applied), as a positive feedback is coming from the farmers who are getting themselves more involved in tree planting and asking for more responsibilities.

SECTION VI

OVERALL RECOMMENDATIONS: CONDITIONS OF ACCEPTANCE

The prime condition for acceptance of the participatory approach will be a change in mentality of top-level management, policy-makers, donors, and field technicians as well as community people in regard to natural resources management. This might be a slow process but it could be achieved through information dissemination, technical assistance, and training of all concerned parties and inter-disciplinary actions from agencies working towards rural development. Training must be directed to development agents, community leaders and pilot farmers. GOS/FS Agents should be trained in social skills to complement their technical skills in order to establish an outreach approach in addition to their policing role. They need to learn to build partnerships with local communities by providing them with competent technical assistance and information. Legal recognition must be given to new institutions to function as autonomous but coordinated bodies. Appropriate systems of local-level rule enforcement must be devised to promote competent and representative community leadership of different groups.

The GOS/FS must facilitate the preparation and implementation of local community land-use plans with due regard to traditional land-use rules and institutions, and create at the same time an efficient channel of communication between local communities and all levels of the central government. This would lead to decentralized NRM programs, especially with the recently implemented USAID Community-Based NRM Project.

Women are more and more playing an important role in all phases of forestry projects, either as separate groups or as part of the community. Their inputs are necessary from the stage of problem identification (where their needs and objectives are often different from men's) right through to implementation and evaluation. In some rural communities in Sub-Saharan Africa, women found themselves as head of the household when the men work away in the city or have emigrated to other countries (FAO/SIDA, 1991). Because of these new situations, Extension agents must target more women to take into account gender specificity in NRM programs and projects.

Farmers and researchers must work in partnership to develop new demand-driven technologies, based on a sound understanding of traditional production systems. A new farmer-to-farmer approach to extension must be developed and a changing role must emerge with PVOs forming partnership with local NGOs in assisting communities with both economic and institutional support. PVOs and NGOs must be working among themselves and with government agencies.

SECTION VII CONCLUSIONS/LESSONS LEARNED

The USFS and SCS approaches to community participation are both very similar to the PRA/RRA/FSR approach used in many developing countries. The "tool-kits" may be different but the process is the same with the end-result being people's understanding and involvement. Two obvious remarks are that top-level management always have hard time dealing with the bottom-up approaches and that Governments will have to invest in NRM programs and projects.

NRM programs and projects are difficult to sell because results from them often require a long time to materialize, benefits are widely dispersed and not easy to identify, plus individual resource users must invest heavily over the long-term. Thus, NRM in Sub-Saharan countries like Senegal is an uphill battle against pressures from individuals and Nations looking for quick and direct returns on their investment. However, if NRM interventions are planned and properly implemented, it is possible to encounter less problems and achieve both short-term and long-term benefits. An effective interdisciplinary approach is needed for any NRM project. Team work should be stressed with the men and women resource users' involvement throughout the process. NRM projects require a combination of biophysical and socio-economic elements. A learning approach must then be used that involves the farmers and land-users in each step. In such an approach, all concerned parties learn from each other (Fiebig, 1993).

In order to achieve a better understanding and application of the new NRM participatory approach, the Ministry of Environment and Nature Protection (MEPN) held national forum on the subject in 1994. It was during the 1994 Arbor Day celebration, in Agnam Thiodaye, a remote village in Northern Senegal (Department of Matam, Region of Saint Louis). More than 300 farmers from all over the country were invited along with government officials, the GOS/FS, PVOs/NGOs, donor representatives, private and public institutions to discuss Natural Resources Management and Policy. The forum helped managers take into account indigenous knowledge and practices, and facilitated, at the same time, understanding and acceptance of new NRM programs and projects by local communities. Proceedings from the forum will hopefully serve as a working document for the GOS/FS and all other stakeholders in NRM in Senegal for the next five to ten years.

**SECTION VIII
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