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Public Stake in Senegal's Environmental Planning

by Khodia Ndiaye



Senegal: community involvement in environmental planning

"We can't afford to go on tinkering with our environment in Senegal anymore. We have to have a national plan of action," says sociologist <u>Boubacar Niane</u>. And the key to such a plan is to take a close look both at what has happened to the country's environment, and at where it is heading for the future.

In the department of Bambey, some 100 km from Dakar, there is not much to catch the eye. The landscape runs on endlessly, broken by nothing more than a few stunted trees buried under the dust. Sandstorms ravage the area, from January to May. The soil has lost its protective cover and lies exposed to the relentless forces of wind and sun. Here and there, between the scattered villages, a few flocks struggle for survival, nibbling at the last dried remnants of grass left from the previous winter.

The "good old days" are gone

And yet, "this valley used to grow peanuts that were the pride of the Baol-Baol and Sérère tribesmen", the chairman of the rural community of Lambaye likes to recall. He still cannot come to terms with the drop in peanut yields, or the damage that this crop has done to the soil. Today, many of the villages of Senegal are losing their people: the men are deserting them for Touba, Dakar, or lands abroad. Only the women and children are left behind.

Except for a few aging buildings left over from the colonial era that house the administrative services, the slightly more urbanized town of Bambey has not much to distinguish it. Because it is classified in the registry as an urban commune, Bambey gets very little in the way of development projects, in comparison with the department as a whole. Not that there is any lack of good ideas or initiatives. Here is what Aida Diagne, of the Senegal Federation of Women's Organizations, has to say: "We want to take up market

gardening to improve our incomes, but there just isn't enough land - the town wants to build housing on it! What's more, those lands belong to the department, and we have no rights to use them". She sighs as she points to the piles of garbage inundating the town, and says matter-of-factly, "Bambey could be rid of all this trash if the women and young people were running things."

Like everyone else, the chairman of the rural community of Ngoye, Modou Guèye, is fully aware of the environmental degradation, the scarcity of water, and the sewage problems afflicting the area. Many people speak fondly of the "good old days" back in the 1960s, when water bodies were a common feature of Bambey and its surroundings: people happily drank from them, and washed their clothes in them.

Rethinking environmental management

But these are images of the past. In the meantime, the region has suffered from the hostility of nature, the passage of man, and haphazard environmental management. Recognizing this, the Ministry for the Environment and the Protection of Nature has now decided to take a hard look at the policies that have governed environmental management over the last thirty years. This is a very significant step, and one that IDRC is supporting. It involves not only a historical review but a thorough analysis of past actions, with broad public participation. On the basis of its findings, a new National Plan of Environmental Action will be prepared.

It must be admitted that the major programs introduced until now have fallen far short of their objectives. In the opinion of Boubacar Niane, who heads the project, "one of the reasons for such poor results was the absence of any environmental culture. That has meant not only the downplaying of environmental activities that should have involved other ministries such as Tourism, but also a lack of consistent policies with respect to the issues of sustainable development, and a lack of commitment among the various levels of society." Because they were neither informed nor consulted, people tended to shrug off the debates among their leaders.

Even the towns are threatened

Environmental programs have long been based on a sectoral approach that put the primary emphasis on environmental conservation, and focused mainly on projects of reforestation, soil regeneration and the protection of national parks. In urban areas, especially around Dakar, people are exposed to tremendous risks from the concentration of factories, the proliferation of illegal industrial discharges, and rising noise pollution. The coastal areas of Senegal are threatened by the release of raw sewage that is harmful to the marine life and resources that the country depends on for a good part of its export earnings. On top of this, Senegal must cope with soil acidification, desertification and the progressive disappearance of biodiversity.

Research now underway in the IDRC-supported project is focussed on the substance of previous policies, the ways they were designed and implemented, and the extent to which people and organizations were involved in them. The idea is to gauge the relationship between the goals that were espoused and the means (institutional, legal, human, material and financial) that were devoted to them.

Grassroots participation

The project is well underway, to judge from the level of popular involvement. The research team is holding discussion sessions with community gatherings, where people can talk about the weaknesses of the present system, express their needs and make recommendations to the experts. One set of opinions among those interviewed is content to blame the State for the current environmental problems, while others approach the issue from a more analytical viewpoint and are ready to propose solutions. It seems that people have not yet fully grasped the purpose of their meetings with the researchers.

The Earth Summit in Rio marked a clear turning point in securing an initial commitment from developing

countries. Senegal's Ministry for the Environment and the Protection of Nature (which was set up before the Conference) is now rethinking its approach from a global viewpoint that covers both the rural and urban segments of the population. "It is not enough any longer just to manage our physical surroundings. We have to integrate the environment right into our economy and our society, and make it front and centre in State action, if we are going to achieve sustainable human development", says Mbaye Ndoye, the Minister's chief of staff. What is happening in Senegal is a sea change of values and methodology in the area of the environment. The sporadic, ad-hoc approach is giving way to comprehensive planning.

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1996 (April - December)

Environment, Society, and Economy: Policies Working Together

by David B. Brooks and Jamie Schnurr



Viet Nam is one of many countries attempting to harmonize environmental, social, and economic policies

Among Southeast Asian nations, Viet Nam is poised to join the next wave of Asian "tigers." But the heady pace of economic growth has carried with it significant social and environmental stresses -- and this in a country where four of every five persons works in agriculture, fisheries, or forestry. Rapid industrialization of these sectors, coupled with hurried urbanization as people are forced from traditional employment in rural areas, has contributed to the degradation of the natural resources that in many ways are the foundation of Viet Nam's society and economy. Therefore, Viet Nam is now attempting to harmonize its environmental, social, and economic objectives through a national environmental action plan.

The Vietnamese experience is by no means unique. In no country of the world are there neat divisions among goals for ecological sustainability, social equity, and economic efficiency. Policies and programs targeted at each objective have impacts in more than one sector -- typically, many sectors -- at once. Nonetheless, researchers and policy makers are more likely to focus on particular problems. Although the

need for policy integration is assumed, it is often left to others to address explicitly.

BARRIERS

Not surprisingly, the task of integrating policy invariably faces significant barriers. Interactions among ecological, social, and economic systems create complex cause and effect relationships that are not easily unravelled. Government agencies, corporate departments, and research and academic institutes are typically set up according to discrete sectors and disciplines, each with its own interests (and interest groups), virtually assuring policy segregation. Our political economy emphasizes discounting the future value of human development, natural resources, and ecological processes in exchange for shorter-term economic development. We find ourselves short of **experience in the effective application** of analytical tools and decision-making processes to identify, evaluate, and manage the necessary trade-offs among objectives.

WHAT SORT OF INTEGRATED POLICY?

One way of confronting the problem of complexity is to define the different levels at which integration should take place, whether this is local, regional, national, or international. Another strategy is to approach policy from an ecosystem perspective, such as fluvial or watershed regions, or bio-regions based on vegetation.

There are varying degrees of integration. A sectoral policy that is sensitive to other sectoral policies or issues could be considered one degree of integration. Command and control forms of legislation that require social and/or environmental impact assessments of development projects, or "end-of-the-pipe" abatement technology applied to industrial production systems, are more advanced forms of integration. Even deeper degrees of integration involve market-based instruments, green or socially responsible procurement measures, and various types of voluntary arrangements to attempt to make environmentally and socially responsible management a priority throughout government, industry, and among citizens. Strategic environmental planning, life cycle assessment and integrated impact assessment techniques are other tools that can foster forms of deeper integration.

One case study suggests that various degrees of integration can occur incrementally along a continuum. In this case, a series of legislated impact assessments created awareness of the environmental impacts of building hydro lines on a preselected site. The "learning" that took place during the assessments and the desire to apply the new knowledge, eventually led to change within the utility, which instituted strategic environmental planning processes and self-directed assessments. In the end, new management practices were introduced that proactively assessed the impacts of alternate sites for its transmission lines.

COORDINATION AND PARTICIPATION

Integration of any sort requires coordination and collaboration in designing, planning, and implementing policy to establish clear objectives and divisions of responsibility. More advanced degrees of integration require more sophisticated forms of communication, decision-making, and organizational behaviour.

Mechanisms and tools such as multi-stakeholder fora and "user-friendly" information systems can provide a range of people with the means for having input into policy processes. As well as contributing to informed decision-making, the process also helps policy makers understand the socio-economic and ecological context in which they work, and all stakeholders to appreciate the trade-offs entailed in a given policy decision.

GOVERNANCE SYSTEMS

Whether multi-stakeholder processes and other forms of participation can be applied in developing

countries depends on specific political, social, and cultural conditions. Systems of "governance" that can anticipate societal responses to various integrative measures and accommodate the policy objectives of a range of stakeholders and sectors are crucial.

In this perspective, governance means the inter and intra-organizational arrangements, decision-making processes, incentives, and disincentives through which government and non-government actors -- including civil society, the public, communities, and the private sector -- influence decisions about societal priorities and resource allocations. It goes beyond the formal institutions of government and recognizes the significant role of non-governmental actors in policy formulation and implementation, particularly in developing countries.

INTEGRATION MODELS

One model for policy integration uses a triangle whose points represent environmental, social, and economic objectives. This approach is useful, but it subsumes political activity under the "social" category. Political activity is the main way that any society does the integration. A tetrahedral -- or three-sided pyramid -- model, where the upper point is politics, would include not only government as elected officials but also all the institutions set up by government to carry out its policies.

Despite coordination and participation strategies, efforts to balance conflicting objectives often cannot avoid some degree of conflict. Success in managing conflict lies in structuring the process so that it involves the affected parties' representatives in the design and evolution of the process itself, as well as in the negotiation of substantive issues.

Interest-based negotiation is one example of a structured, deliberate attempt to cooperatively seek an outcome that attempts to accommodate rather than compromise the interests of all concerned.

LEARNING

In structured multi-stakeholder and negotiation processes, learning is fostered through decision-making guidelines, communication rules and process steps. Learning can also be fostered even when specific structures are absent. In the case of the hydro utility discussed above, legislation, along with encouragement from management and an inter-departmental committee, prompted line departments to learn from their experiences and develop more effective integrative tools.

Learning can best be encouraged when the various parties jointly define rules for communication and negotiation, have equal access to information, create incentives for risk taking, and allow a margin for error. Other positive elements involve the delegation of responsibility and a willingness and ability to capture and build on unexpected results.

IDRC'S APPROACH TO POLICY INTEGRATION

IDRC has taken a dual approach to policy integration as a research question. One component is exploration and the other is "learning by doing." Among other things, the Centre has reviewed all projects it funds under the theme of integrating environmental, social, and economic policy (INTESEP) to identify common threads. It has supported case studies where specific information was lacking and funded workshops in different regions to learn how researchers and policy makers address policy integration.

ROLE OF RESEARCH

There is no longer any question that research can play a valuable role in a successful integration process. For example, research can identify policy options or alternative institutional mechanisms under different scenarios, and analyze their advantages and disadvantages. Research can also develop the tools and

techniques for analysis and evaluation.

Not surprisingly, the policy emphasis in integration varies by region or country. The focus in Africa tends to be on impacts of macro-level economic policies on social development, whereas in Asia the environmental implications of economic growth are paramount.

The findings also highlight challenging questions for policy integration. In what context is integration appropriate? From a governance perspective, how should integration be managed and by whom?

LESSONS LEARNED

One key conclusion drawn from the research to date is that integration hinges on the process by which the trade-offs inherent in any policy choice are evaluated and managed. Political institutions and policy-making processes need to have the flexibility to promote and foster integration when appropriate.

Ultimately, policy integration unleashes processes whose outcomes cannot be predicted at the outset. A variety of stakeholders may be relevant in any given context, which will affect both substance and process. As a result, inputs can arrive from diverse sources, leading to several possible outcomes, any of which may meet goals of equity and sustainability.

David B. Brooks and Jamie Schnurr are chief scientist and research officer, respectively, for integrating environmental, social, and economic policy (INTESEP) at IDRC. Neale MacMillan is editor-in-chief of IDRC Reports.

<u>Integration: a skeptic's view</u> David Brooks discusses the problems with using integration as an analytical tool for policy development.

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Vol. 22, No. 2 (July 1994)

Desertification: The Way Forward

by Saidou Koala, Hartmut Krugmann, Eglal Rached, and Ola Smith

The ecological crisis associated with desertification has by no means gone unchallenged by the global community. Indeed, nearly twenty years have passed since the United Nations Conference on Desertification (UNCOD) in 1977. Despite past responses, the battle against desertification has achieved little and it is time to draw lessons from past experience in order to plot a new course.

Past efforts to combat desertification have tended to use "top-down" approaches concentrating on technical means to halt, control or reverse land degradation. They assumed that traditional systems required major transformations, that governments would develop and transfer new sustainable land use practices to rural areas and that involvement of local communities was neither necessary nor desirable.

Since the early 1980s, however, there has been growing recognition that without the integration of local people's socio-economic and cultural realities, the transfer and application of the world's best technologies cannot solve the problem of desertification. This latter point has been identified by most development agencies as a primary reason for the failure of most anti-desertification projects in the 1970s and 80s.

Realities such as local institutional and authority structures, class, ethnic and gender relations, inter- and intra-household dynamics, markets, trade and economic incentives, labour and migratory patterns, and land tenure and management arrangements all have profound effects upon the success of any development efforts, including projects addressing desertification issues. Integrating these realities into such projects cannot occur without the full participation of local people in all parts of project design and implementation. The need for a "bottom-up" approach concentrating upon both socioeconomic and technical issues is becoming ever more clear.

In addition, we have learned that the response to desertification must be integrated at local, national, and international levels. At the local level, integrated approaches to research and action are required to handle the systemic complexity of linkages between people and nature. As a rule, interventions should be "cross-sectoral," designed on the basis of interrelated local biophysical, socioeconomic, institutional and social aspects, factors and processes.

It is no exaggeration to say that the struggle against desertification will be won or lost at the household, community, and municipal level. Essentially, desertification has been facilitated by local people not having the means to use their resource base sustainably, as they used to. The causes behind the impoverishment of local people in terms of both lack of resources and lack of influence on decision-making processes are many and interrelated -- insecure land tenure, population growth, short-term decision making intended simply to cope, and the general marginalization of local people.

On the basis of this diagnosis, in order to control or even reverse desertification, local rural people (via their community-level institutions) need to:

- have greater control and responsibility over their local resources;
- be able to command a greater range and level of resources to be more "resourceful";
- participate in and influence higher-level decision-making processes that affect them; and
- be able to organize themselves more effectively by forming or influencing representative local institutions and interacting horizontally with institutions of other communities by means of locally controlled information and communication systems.

Women are often the principal household-level natural resource managers and the custodians of crucial knowledge about natural resource use and management. As such, they must have greater influence and control over their lives, over the natural resource base and its use, access to resources and credit, and effective participation in decision-making processes.

The empowerment of local people, women, communities and institutions requires an enabling environment at national and international levels. Such an enabling environment must have certain key elements. At the national level there must be more democratic, participatory and decentralized political and administrative structures. These structures would require devolving authority and resources over natural resource management to government levels as close as possible to local people and institutions at the forefront of using and managing natural resources, i.e. those whose livelihood depends directly on the integrity of the natural resource base.

Systems and policies for resource/land tenure and ownership must reflect existing socio-cultural diversity across local settings and allow statutory laws to build on local customary rules, instead of undermining them. Economic policies, structural adjustment approaches, and marketing structures should enhance local rural marketing possibilities and improve -- or at least not affect negatively -- the terms of trade between local communities and larger-scale markets and between rural and urban areas.

Local capacity for self-help should be fostered and technical and financial support provided to community institutions on the part of NGOs, governments and donors. Finally, formal education systems and policies should give greater weight to traditional local knowledge, combining it with modern scientific knowledge in natural resource management and use.

At the international level, an enabling environment for fighting desertification would require world trade patterns and policies that ensure access by poor developing countries to Northern and other Southern markets and allow these countries to build up and diversify their economic base. Some measure of protection for key sectors in poor developing countries may have to be allowed to support fledgling enterprises that cannot yet compete globally. Trade policies should be consistent with international development assistance to avoid anomalies such as subsidized meat exports from the European Community to West Africa and parallel EC development assistance to small livestock owners whose livelihoods are being undermined by the exports. International donor assistance to the South should also be appropriately coordinated.

Finally, there is a need for the gradual reduction in foreign debt obligations, possibly linked to progress in creating a national-level enabling environment for sustainable local livelihoods and concomitant control of desertification.

WHAT WE DO NOT KNOW

The steps discussed above to create an enabling environment indicate that the essential elements in a framework for effective action on desertification are known. Most elements of the framework are reflected in the draft text of the Desertification Convention, which was fine-tuned at the meetings of the intergovernmental negotiating committee and is to be signed by September 1994. However, there is little experience in translating such a framework into action in specific local contexts. Many questions surround the application of relevant knowledge, technologies and experiences and their transfer from one place to another. Other questions persist about how to develop the local capacity for such application and experience and how to facilitate learning processes. It is here that further research on capacity-building and

action is needed.

Case studies of different aspects (technical, economic, institutional, organizational) of particular desertification control measures and programs need to be identified and evaluated more systemically and the reasons for their success or failure pinpointed. Further, it is necessary to examine and experiment with capacity-building and learning processes at local and national levels.

Within the elements of the above framework, little empirical information is available about the interrelationships between world trade and structural adjustment programs on the one hand and local desertification processes on the other, nor on how macro-economic policies and market-based instruments can be used to control desertification (please see <u>A Market for Drylands and Deserts?</u>).

Further research is also needed on appropriate land/resource tenure forms. Such research would examine how customary and statutory tenure forms and contents intersect in particular contexts and how they can be made compatible; the effects of widespread privatization of resource tenure in drylands in Africa; and how diverse tenure systems could be developed and maintained (please see <u>Unearthing the Impacts of Land Tenure</u>).

Another topic of great relevance is indigenous knowledge. The challenge is to effectively combine local traditional and modern scientific knowledge to address desertification problems (please see <u>Ancient Ways Guide Modern Methods</u>).

SUPPORTING LOCAL CAPACITY

A further key area where innovation is needed is in developing project and program modalities appropriate for local-level intervention. All too often, large amounts of relatively inflexible financial support end up undermining local capacity rather than strengthening it. This issue raises questions concerning project funding: what kinds of organizations should be supported, at what scale, with what mechanisms, by whom should they be controlled and for what precise purpose?

In parallel to the process of developing and implementing National Action Programs, empirical research in the coming years on the gaps in understanding desertification -- including issues of land/resource tenure, indigenous knowledge, and the impact of world trade and economic policy -- can be fed into national processes as they proceed in an interactive fashion.

With the signing of the Convention this year, the world now has a policy tool to fight desertification. Accompanied by appropriate research and coordinated action at the local, national and international levels, there now exists the opportunity to move forward in restoring environmental integrity for threatened areas and improving food security and economic options for affected peoples.

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Vol. 22, No. 2 (July 1994)

Unearthing the Impacts of Land Tenure

by Madieng Seck in Senegal

1992. The rains did not show up in the area of Keur Momar Sarr, 240 km north of Dakar, capital of Senegal. The millet did not grow and neither did the peanuts. The figures speak for themselves: 900 tons of millet were harvested in 1992, compared with 40,000 tons the year before. The government declared these villages a "disaster zone."

In doing their sowing and trying to earn a little income, farmers and cattle herders exert anarchic pressure on the meagre vegetation cover: severe cutting and chopping down of trees and bushes to sell the wood in town; excessive pruning to make up for the lack of fodder. That year, recalls El.H Samba Sogui B(?) President of the Nguer Malal cattle raisers, close to 90% of the livestock had to be moved to other pastures, sometimes as far as 300 km away in the south of the country.

1993. This year the rains came back. "The drought is over! The Ferlo is green again!" proclaimed the herders' spokesman, adding that in his village the rural councillors seemed ready to put a stop to extensive livestock raising. "They are handing out land for farming, without taking account of our needs for pasturage. And when our animals get into the fields, the farmers hit us with fines," he explains. He adds that, except in serious disputes, it is custom that prevails.

Twenty years ago, the old herder goes on, there was enough pasture and farmland for everyone. But now there are so many farmers -- who are paying the price for shifting cultivation on burned-over land -- that there is nothing left. The last fire, reported by a researcher from the Ecological Monitoring Centre in Dakar, had destroyed close to 80,000 hectares in the Ferlo the year before. These phenomena, which occur here and there throughout the Sahel, create shortages (of fertile land, food, wood), sometimes even after the rains come back.

To gain a deeper understanding of the relationship between landholding systems and desertification, a group of some one hundred experts from 17 African countries and several NGOs met in Dakar in March 1994. The meeting, organized by IDRC, dealt with "the impact of landholding systems and traditions of property and access to resources on land degradation and desertification in Africa."

Malarmine Savane, Secretary General for NGO Coordination in Senegal, recognizes that the land tenure problems linked to desertification have now become part of everyday life for rural people. This, he says, is because the modern concept of landholding rights is often poorly understood by farmers and even by the rural councillors who manage the area's natural resources. This problem is compounded by the lack of communication and information. Savan, speaks of a "dialogue of the deaf" between the rural people who use the land and the proponents of traditional landholding systems, whether these are Islamic or modern. Not so, Ibrahima A. Toure seems to retort in his study, Landholding Systems and the Struggle against Desertification," which invokes another reason. In Africa, he says, "the modern legal system does not consider pastoralism as a proper way of putting the land to use." Farmers are no better off in many regions

of Africa, however, "as long as they farm the fields of our ancestors in the village," says a farmer in Guanket, in northern Senegal, "there are no problems. But whenever they try to legalize this property right or to acquire new land legally, the rural council stubbornly refuses." What happens then is that outsiders come and settle in.

THE WOMEN'S TOKERS: A SUCCESS STORY

Irrigated farming has been introduced in the once-dead Ferlo valley, and has brought it back to life. But women still constitute a marginalized group. Alima Toure, president of the N'DiobŠne Keur Women's Group, complains that only crumbs of land are parcelled out to her members: just 4 hectares for almost 40 women. Although Toure is well aware of the many obstacles to her chances of becoming a rural councillor (such cases are very rare), she is nevertheless determined to reverse this tendency. How? By sensitizing and informing her sisters better about their rights, and so helping them improve their living conditions: more farming income, various forms of education (literacy, market gardening, for example), and lightening the female workload. According to Toure, "if the farmer knows that his plot of land belongs to him, he will suddenly feel responsible, and will look after it properly and produce still more." Toure also cites the example of the tokers, these "traditional fields," located just behind the villages: well enclosed with live hedges of salane (of the euphorbia family), these agro-sylvo-pastoral lots resist wind erosion and the effects of cattle grazing. In short, the women's tokers, having defied desertification, are still a success today.

Researchers presented similar examples at the Dakar meeting. Babacar Ba spoke of the Schilah Lahmir system, a natural resource management system based on the empowerment and participation of local communities in Mauritania. In the Mare d'Ouly region of Burkina Faso, Tour, reported, traditional rights to use of the natural environment have been seriously disrupted by the incursions of man and livestock. But according to custom, he explained, the assigning of lands was a function of their potential for use: cultivation of the dunes or pastoralism in the non-cultivated areas. Result: the lands of the Targui chief Akam (which extend from Sagona to Sikiri) were the only ones to escape degradation of their vegetation cover over the last 30 years.

For the experts, the people themselves thus play a fundamental role in resource management and in the struggle against desertification. The experts point out that nearly 3 million people died during the 1980s in Sub-Saharan Africa as a direct result of this scourge. The situation is hardly more encouraging when we realize that arid and semi-arid lands make up a third of the continent: 75% of pasture lands are desert, as is 60% of rain-fed agricultural areas and nearly 20% of irrigated lands. It is not surprising that at the Rio Conference in 1992, African countries demanded that drought and desertification should be recognized as a global problem that the international community must face up to. Thus, Chapter 12 of the Action 21 plan was devoted entirely to this double problem. Senegal's Minister for the Environment and Protection of Nature, Adboulaye Bathily, considers the struggle against desertification to be "a battle for civilization." The shape of African civilization will be dependent for thousands of years on the success of this undertaking, he says, and this is especially true for the countries of the Sahel.

In recognition of this, reforms are now planned everywhere in Africa, in Niger and Burkina Faso as well as in Senegal. But, stresses Ibra Ndiatte Ndiaye, President of the Regional Council of Louga, they will have to lead in the direction of a new way of land management, and ensure that the people are democratically involved in the decision-making process. This will require, he explained, that every village must be equipped with a land title registry and in particular with socioeconomic statistics that reflect, for example, the number of inhabitants and cattle, the acreage devoted to agriculture and to pasture.

Although it may not have provided any "miracle solutions," the Dakar meeting, according to a delegate from Burkina Faso, Djiry Dakar, allowed people to grasp the many facets of landholding systems. This is a useful tool for taking up negotiations under the Convention on Desertification. Tidiane Gaid, for one, says that "for 20 years, states have tried to find solutions to the problem of desertification by stressing technology (anchoring of the dunes and reforestation programs, for example). Yet we have realized in

recent years that people play a major role in resource management, and so the socio-economic aspects are very important. This is why the experts' recommendations are now stressing that the real solution to environmental degradation does not lie in privatizing the resources. Every country, they say, should be guided by co-management and should take account of the special characteristics of each land area.

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Vol. 22, No. 2 (July 1994)

A Market for Drylands and Deserts?

by Lucy Oriang in Kenya

The depth of economic and environmental stress in eastern African nations is leading researchers to examine closely a sensitive topic: the links between global trade patterns and economic policies on the one hand and severe land degradation and desertification on the other.

The early evidence suggests these links are indeed extremely important. Nearly three decades of environmentally blind policies, especially in semi-arid and arid lands, have been compounded by the exigencies of international trade and structural adjustment policies whose design has not taken into account environmental considerations, further encouraging ecological deterioration and acute economic stress among local people.

Recent research indicates that deforestation and soil erosion are spreading at an unprecedented pace in the region. The looming environmental crisis spells a troubled future for the nations of this region, whose economies are largely dependent on agriculture -- especially cash crops such as coffee, tea, tobacco and others. Kenya and Uganda derive 50% of their export earnings from coffee and Ethiopia 70%. This dependence on export crops leaves the already impoverished nations particularly vulnerable to fluctuations in the international markets, where they have little or no control over prices.

Following the plunge of coffee prices in the eighties and early nineties, for example, most of the governments responded by raising the acreage under the cash crop, usually in the most productive arable land. Increased exports require intensive use of chemicals such as fertilisers and pesticides, which have been accused of causing grave ecological problems in Kenya and other countries.

MARGINAL LANDS

As the pressure to earn foreign exchange increases, food crop farming and associated population groups have consequently been pushed to marginal lands, with dire effects on the drier and less productive ecosystems. "The pressure on natural resources has reached a new high as the need for foreign exchange increases," says Dr. Mohamud Jama of the University of Nairobi. "In fact, irreversible damage may have been done in most of the countries of the region."

Jama is one of a team of researchers led by Dr. Nehemiah Ng'eno who have been conducting a review of the impact of world trade, economic policies and structural adjustment programs (SAPs) on desertification in eastern Africa under the auspices of IDRC. Similar reviews were carried out for other sub-regions of Africa for presentation and discussion at an IDRC-sponsored, Pan-African workshop held in May 1994 in Kenya.

Ironically, cash crop farmers are not spared the effects of the trade imbalance, which favours the North. The general distress caused by falling coffee prices has combined with spiralling input prices linked directly to structural adjustment policies to turn farmers in the prime agricultural Kiambu district in central

Kenya into paupers, reports Mrs. W.N. Karugu.

Says the researcher: "Formerly relatively affluent smallholders became poor almost overnight. Standards of living fell dramatically, turning former `necessities' such as education, medical services and savings into `luxuries."

At the height of the crisis in 1991, desperate farmers operating without the benefit of government support schemes were unable to purchase quality inputs, which led to the soil being stripped of essential minerals and exposed to erosion. To meet their fuel needs, they indiscriminately cut down shrubs and trees. Some even uprooted coffee trees in defiance of the law, leaving the bare soils open to erosion by the elements.

In Karugu's words: "Escalating poverty merely encourages unsustainable land use practises as pressing immediate needs overshadow long-term considerations."

Smallholders disillusioned with poor and delayed returns from cash crops often shift to food crops. But these too have been hit in the recent past by low prices, population pressure, expensive inputs and environmental degradation following the breakdown of traditional farming systems.

As a result of these processes and recent severe drought, five million Kenyans presently need famine relief. The decline in food production means that the country must import 10 million bags of maize, 1.12 million bags of wheat and 200,000 bags of sugar. Efforts to boost food production often means turning to semi-arid and arid areas with their attendant climatic limitations and the pastoral nature of local inhabitants. After a period of total neglect in the colonial and immediate post-independence era, the Kenya government moved in the late seventies to launch projects based on irrigation and designed to maximize food production. Despite their potential, these efforts have proved just as detrimental to the environment, prompting Jama to observe: "Where projects, especially those involving diversion from age-old cultural practices, have been imposed on the people by government, the results have been severe dislocation of the people and damage to the environment."

In her study on socio-cultural aspects of desertification, Mrs. Wilhelmina Oduol puts up a convincing case for the participatory approach to development planning, bringing together the community, non-governmental organizations and the government to combine indigenous and modern knowledge to combat land degradation. In the traditional order, environmental concerns were built into religious, political and economic activities. Taboos, beliefs, attitudes, social networks, division of labour and cultural practices were adapted to environmental needs. But the advent of the money economy and "mechanisms such as industrialization, urbanization, tourism, commercialization of agricultural and pastoral commodities" have broken down indigenous culture and habitats.

SACRED FORESTS

Oduol illustrates the point with the example of the allocation of religious shrine forests -- known as *makaya* -- on Kenya's coast to tourist hotel developers without regard for the wishes and advice of local residents. The forests, previously conserved diligently, have since been denuded in the process of constructing tourism facilities. The local people are left with no access to their shrines.

In fact, the tourism-related aspects of land degradation and inequitable distribution of benefits have lately gained a prominence all their own as Kenya seeks a viable alternative to agriculture as a major foreign exchange earner. Studies in popular tourist destinations such as the Maasai Mara have shown that even here success is not without its costs as hordes of tourists, estimated at one million in 1993, disturb the wildlife and environment with impunity, aside from the fact that local populations see none of the economic benefits.

But so long as eastern African countries remain embroiled in the debt crisis, environmental considerations will be pushed to the back burner. Solutions to the dilemma must resolve inequitable financial arrangements and terms of trade that hurt the poor, says Jama, who suggests debt repayment waivers and

the injection of substantial aid into the region as a necessary but not sufficient precondition for changing attitudes.

The role of poor planning by urban-based bureaucrats who have little feel for the environmental consequences of their decisions can hardly be disputed. Government and donor projects introduced in the dry Narok, Marsabit and Baringo districts of Kenya to boost mixed farming, for example, floundered because they failed to take into consideration local conditions and culture. As a result, they only served to apply greater pressure on land that had little capacity to carry the kind of development envisaged.

If poor peasants are to be persuaded to become more productive and able to take environmental conservation seriously, suggests Karugu, there must be government support to small-holder food production in the form of subsidies -- and subsidies are anathema to SAPs. Larger farmers who earn well are more likely to benefit from SAPs as well as engage in environmental protection because they have the means and resources and they recognize that it is to their advantage in the short and long term.

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RESADOC: The Sahel Memory Base

by Alioune B. Camara in Dakar

The Sahel Documentation Network, RESADOC, is now fifteen years old. This is long enough to draw some lessons from experience and to assess the contribution the organization has made to scientific and technical knowledge of the Sahel. The objective pursued by the network is to provide better access to such resources and to use them effectively to find solutions to the region's development problems.

What are the points of reference that might allow us today to understand the importance of this documentation network, its accomplishments and its limitations? How can we appreciate its evolution in light of the recent changes within ICDSC, the Permanent Interstate Committee for Drought Control in the Sahel?

The ICDSC, created in September 1973, is an organization for regional cooperation made up of Burkina Faso, Cape Verde, Gambia, Guinea-Bissau, Mali, Mauritania, Niger, Senegal and Chad. As early as the 1970s, the ICDSC and the Club du Sahel were already stressing the inadequacy of both the available studies and the capacity to develop programs, given the objectives to be pursued. This, it was said, was one of the factors inhibiting any large-scale action to promote development in the Sahel.

The two partners suggested then that the Sahel should equip itself with its own "memory base of studies," that would consist of a database where the record of such work would be kept. It was in this context, in 1976, that IDRC asked consultants to propose a regional structure that would translate into fact the initial proposal for creating a "Sahel memory base." The idea of a Sahalian Scientific and Technical Information and Documentation Network (RESADOC) was adopted at that time, to be coordinated by the Sahel Institute, that would link up national, regional and international documentation services. When it was created in October 1977 the Institute, which was attached to the ICDSC, was given the task of improving the gathering, processing and exchange of information on development in the countries of the Sahel. This was the beginning of one of the first experiments in documentation in Sub-Saharan Africa. It immediately evoked a real interest both in the Sahel and among the first donors: IDRC and certain American, German and French organizations. Over the years, other organizations have also lent their support to the network.

THE CHALLENGE: NINE COUNTRIES, ONE NETWORK

In creating a network instead of a centralized system, the founders of RESADOC were launching themselves on a difficult course. At the beginning, documentary management in Sahel countries was of uneven quality, and most of them did not have an adequate infrastructure. There were few professionals specialized in documentary techniques; information processing and storage systems were for the most part manual; a few rare computerized systems existed, mainly for application in producing bibliographic indexes. This lack of consistency was worsened by the lack, especially at the national level, of any coordination of existing documentation systems. In such circumstances, the first thing to be done was to harmonize the processing of information and strengthen the capacities of personnel in the participating

centres. These actions led to the creation, or strengthening, of information handling capabilities in most of the countries. In the current economic context, RESADOC can take pride in having developed Sahelian "awareness" of documentation, as illustrated by the remarkable efforts made by various countries, without any outside help, to develop their own minimum organizational infrastructures for improving their situation with regard to scientific and technical information.

These efforts allowed RESADOC to consolidate its components, whether regional (Coordination Centre of the Sahel Institute in Bamako, in Mali, and participating centres belonging to specialized regional or sub-regional agencies), national (in each country, a national centre is linked to sectoral centres) or international (cooperation with documentation systems and centres outside the Sahel). One result of this cooperation is the common database, which is one of the richest sources of information on development in the Sahel. Furthermore, RESADOC cooperates with the specialized networks on agro-forestry and drought resistance.

POSSIBILITIES AND LIMITATIONS

Use of the common database has made it possible to produce several bibliographies, general or selective, often aimed at technicians in the field. This bibliographic activity, however useful it may be, still has its limitations. These are, first of all, in terms of logistics: it is difficult to get the documents; the material for using microfilm is inadequate, if it exists at all; telematic links between the centres are poor. There are also technical limitations: the products are often poorly adapted to the various categories of users, and staff are not trained in non-documentary approaches. The potential of RESADOC is thus far from being fully utilized.

There is no doubt that the greater part of the success achieved by RESADOC since its creation lies in the structuring and functioning of the network. We must admit however that these are still precarious, given the lack of clearly understood rules to be observed by the responsible parties -- there is no such thing as coordination among national participants. Participation in the network still depends largely on the good will of the national correspondents, who are for the most part without any political or even institutional support. The lack of financing is often cited as a reason for the lack of action by one network or another. The lack of funds, however, cannot explain nor justify all the deficiencies that have been noted.

FINANCIAL RESOURCES

No one can deny however that permanent financing sources must be found. For the last fifteen years, most of the network's activities have been financed by donor agencies. This extreme financial dependence of RESADOC poses problems, whether for its functioning, for its staff salaries or for replacing essential equipment in a sector where technological evolution is among the most rapid anywhere. This financial dependency is becoming critical, now that the ICDSC has chosen to reduce its operational obligations and rationalize its programs. The RESADOC coordination centre has been forced to lay off part of its staff.

In this setting, is it reasonable to expect that RESADOC can remain viable without massive and continuing support from external financing sources? Will the network be able to generate or mobilize other types of resources that might allow it to maintain itself and to adapt to structural and technological changes?

It would be unrealistic to expect complete self-financing when one realizes that even in developed countries, information systems still rely heavily on public subsidies or on help from institutions. Nor is there any use in trying to attract external support to ensure the survival of RESADOC without taking the necessary steps to adapt to current technological change (telematics, new electronic supports). These are going to have an influence on the network's structure and the ways it operates. In short, RESADOC's capacity to generate revenue will depend on a more effective institutional framework.

It is also important to note that the future of library services cannot be isolated from that of other data systems (factual, statistical, etc.) that are being developed in other areas of the ICDSC. It would be desirable furthermore if the Committee could plan for better coordination of its information systems, to demonstrate their complementarity thanks to the development of integrated knowledge databases. This is

what it will take if the scientific and technical information accumulated by ICDSC is to be put to better use for the development of the Sahel and the battle against desertification.

Given both its potential and its history, RESADOC should play a leading role in the information policy of the ICDSC.

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Viewpoint: Samir Amin on Desertification

by Madieng Seck, correspondent for Agence Périscoop in Senegal

Desertification has long been defined as a form of destruction of soils, deforestation etc., occurring independent of climatic phenomena (drought, wind erosion, effects of water). Samir Amin, Director of the Third World Forum, insists on the fundamental link between desertification and land holding systems as they relate to international trade in cash crops, which was the topic of a workshop sponsored by IDRC in Nairobi in May 1994.

Reports: Can we consider cash-crop monoculture, for example peanuts in Senegal, partly responsible for the phenomenon of desertification?

Samir Amin: In Africa, traditional land holding systems were collective property systems that were managed by authority of the village. In the Sahel, until the end of the 19th century, this kind of system functioned so as to maintain an ecological equilibrium, a balance based on a scattered rural population with vast lands and forests. It was quite rational to exploit these through land fallowing, pasturing and wood cutting. Until the colonists arrived, these relationships were generally protected, in particular the pairing of demography/land, agriculture/livestock rearing. Once colonization occurred, world capitalism suppressed the powers of village authorities as well as the community's management of land and natural resources. Collective property was stripped of its meaning.

The shift to quasi-individual property occurred in parallel with new forms of commercial agriculture, known as cash crops: coffee and cocoa in the Ivory Coast, peanuts in Senegal. In the latter country, peanut monoculture began more than a century ago. It spread over the entire central and north-western part of Senegal, and made the country one of the world's major exporters of peanuts.

Reports: Given the growth of competition that international trade has generated, we see that the majority of African governments seem to still be favouring cash crops in order to earn more income from exports. Is this happening at the expense of growing food crops?

Amin: Look at what has happened in Senegal. Today we find that the soil has been depleted in all these lands of the north and centre that are commonly called the "peanut belt." The fields there have become less and less productive. Climatic phenomena such as the drought cycles of the last two decades have made the desertification process worse. As a consequence, the vegetation cover has been increasingly degraded, there has been overgrazing. Elsewhere, in the Ivory Coast for instance, forest cutting permits issued to colonists have led to abuse. In the Sahel, there is the whole problem of cutting wood for charcoal.

Demographic growth has also weakened the ecological balance in this sense. It is in the context of this relationship that we see the impact of landholding management and international trade on desertification. This is because, in contrast to European farmers who incorporate in their farm prices the costs of maintaining and renewing their soil (fertilizers, crop rotation), experience shows that the African farmer

finds it difficult to improve and maintain land that does not belong to him. Yet, according to the market ideology that makes supply and demand the absolute criteria of rationality, it is this absence of land rents that explains why the world capitalist system can pay such low prices for agricultural products such as coffee, cocoa, peanuts, and cotton.

The prices that the producer receives have become less and less profitable, and have never been enough to allow the upkeep of land capital. Hence the destruction of this capital. This is certainly the case in Senegal with peanuts, and in Niger and Mali with regard to the effects of overgrazing. But since the world marketplace has a certain preference for these basic export products, the farmer is driven to cultivate the minimum of food crops and the maximum of cash crops, in order to earn more income -- even though this destroys the soil still further.

These phenomena surrounding desertification, even if they are not specific to Africa (Karl Marx noted them in northern India as a result of English colonization), are all the more tragic in our time.

Reports: And yet, after the cycles of drought that have afflicted the continent, the last one being in southern Africa in 1992, are people not now saying that the battle against desertification must involve diversification of crops and a strengthening of the synergies between agriculture, livestock and silviculture?

Amin: Whether we are talking about so-called cash crops (peanuts, cotton, tea, coffee, cocoa) or food crops (millet, sorghum, rice, maize, etc), any monoculture is going to create imbalances in the environment and weaken the ecology. This is why we have to find a land management system that is capable of maintaining equilibrium: forest-grazing equilibrium, equilibrium between use of the forests and developing the land, farming-grazing equilibrium.

Reports: Yet this does not seem to take account of the structural adjustment policies that have virtually strangled African agriculture.

Amin: In their rural development policies, African countries have often been led to create administrative services that favour the farming community, for example, agricultural product purchasing agencies. Structural adjustment policies, which are characterized mainly by privatization and the withdrawal of the State behind these administrative agencies, have launched a frontal attack on integrated rural development policies, and farmers today are left alone to face the laws of the international marketplace. This makes their problems still more severe, at a time when some European prices for agricultural products that are widely consumed in Africa, such as wheat or rice, are subsidized for export.

Reports: In the longer run, then, won't the battle against desertification mean redefining development?

Amin: Yes. Among other things, the prices for tropical agricultural products are going to have to become more profitable. But in addition, the land is going to have to become the real property of the farmers before they can incorporate the maintenance of their landed capital into their production costs.

The devaluation of the CFA franc (African Financial Community franc) with respect to the French franc has doubled the price for tropical products, it is true. Yet farmers of the 16 member countries of the UEMOA (West African Economic and Monetary Union) have not seen the end of their troubles. The prices of inputs (fertilizers, pesticides, etc.) that are imported are going to double in due course; and the positive short-term effects of the devaluation could well be wiped out.

In short, if the continent is to escape from its agricultural crisis, we need a new sustainable development policy:

- get out of specializing in tropical products for export.
- give priority to internal African markets.
- and finally, build complementary farm production systems across the continent.

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