EXECUTIVE SUMMARY

The Working Group on Community Based Natural Resource Management in Africa, has been convened by the Africa Bureau's Office of Sustainable Development, AFR/SD, as part of their Environmental Management and Information Systems (EMIS) portfolio. At USAID, leadership has been provided by Paul Bartel, Technical Advisor for Environmental Information and Mike McGahuey, Technical Advisor for Environment and Natural Resources. Other members included Henri Josserand, ARD, Inc. Max McFadden, Bruce Miller, J. Kathy Parker, and Michael Saunders, the Heron Group, and John Woodwell, of the University of Maryland.

The purpose of this work was to characterize the nature of CBNRM experiences, their evolution over time, and to develop analytical tools on determinants of success, uptake, and expansion. The purpose also included an assessment of resource valuation approaches, of the potential impact of CBNRM, and suggesting some implications for USAID personnel and their partners.

Final products include a Synthesis Report, an Annotated Bibliography, a collection of Reports and Case Studies, Web site references, and two analytical models concerning:

(a) Macro-economic implications of environmental actions, and
(b) Analysis of Micro- and Macro-level factors in CBNRM initiation.

1. The Concept of CBNRM and its Evolution over Time

The concept of community based NRM has gradually shifted from a relatively narrow focus on local communities and their biophysical milieu, to a broader view of CBNRM as an integral part of forces at work in the ENR sector. There is now wide agreement that CBNRM cannot be understood and assessed in isolation. Our own way of putting it is that just as one cannot imagine a ten-story building without a third floor, one cannot conceive of the third floor without the rest of the ten-story building. CBNRM, as the third floor of the ENR building, may have a different color, may have different uses, but it is inseparable from the rest of the structure. This fundamental notion has pervaded all aspects of this work.

Among many possible definitions, the following[1] fits well with the wide variety of existing CBNRM cases:

> *"CBNRM is the management of natural resources under a detailed plan developed and agreed to by all concerned stakeholders. The approach is community based in that the communities managing the resources have the legal rights, the local institutions, and the economic incentives to take substantial responsibility for sustained use of these resources. Under the natural resource management plan, communities become the primary implementers, assisted and monitored by technical services."*

In slightly different terms, we also define CBNRM as:

> *"Joint management of resources by a community, based on a community strategy, done in partnership with other legitimate stakeholders. This implies that the community plays an active role in the management of natural resources, not because it asserts sole ownership over them, but because it can claim participation in their management and benefits for practical and technical reasons."*

[1] Adapted from Heermans and Otto, 1999.

The notion of "**Community based** natural resource management" seems most appropriate when one wishes to focus on the community level aspects of the micro-macro continuum. The closely related concept of **"Co-management** of Natural Resources" on the other hand, may be more appropriate when one wishes to emphasize more evenly the various components of the micro-macro continuum, including non community-based stakeholders.

CBNRM does not take place in a vacuum; communities operate within policy and legal frameworks, and can exert some influence upon it. The notion of vertical linkages repeatedly appears in our analysis, through enabling conditions and via direct and indirect effects from CBNRM, for example. Communities also share the management of natural resources with other stakeholders at the local level (traditional authorities, local government agencies, private sector operators); horizontal linkages thus appear in our analysis of determinants of success, and of potential impact and implications for USAID and partners.

We believe the connections between the various forms of CBNRM and other segments of society are very strong. Hence, there cannot be significant progress in CBNRM activities unless ENR work at the macro level is also successful. Conversely, an accurate indicator of progress in the ENR policy and legislative areas at the macro level is a healthy CBNRM 'sector'.

CBNRM activities may apply to limited areas, to a relatively small number of persons, but they are one of the points where critical processes come together; the place where "the rubber meets the road". In a very real sense, the success of CBNRM is **a test of whether countries are striving for progress in a critical area: the rights and responsibilities of indigenous people**.

Finally, this overview of the evolving concept of CBNRM and its manifestations highlights an over-arching issue in ENR: the dichotomy between 'modern' legal frameworks and the multitude of customary systems of tenure and resource use at the local level. This is why most significant CBNRM and other ENR activities find themselves --and may remain for a long time-- on the fringes of strictly defined legality.

2. Enabling Conditions and Key Variables in Adoption

Because CBNRM is not an isolated phenomenon, determinants of success span the macro and micro levels. They also pertain to the nature and efficiency of linkages between stakeholders, such as the ability of communities to negotiate with private sector operators.

The Group designed a model to identify enabling factors of CBNRM initiation from the macro to the community levels, and to express interactions between these factors. Critical determinants of initiation fell into four areas: political, economic, social and biophysical. Successful CBNRM activities clearly need to satisfy minimum requirements in each of the four areas. Beyond a minimum level, however, tradeoffs within and between areas can take place, depending on local conditions and environment. For instance, once basic pre-conditions are met, a community can rely on particularly strong characteristics in one area (e.g. social or technical) to overcome constraints in another (e.g. political or institutional). The original model was created with NetWeaver™; an Excel illustration is also available.

Constraints to ENR and CBNRM activities do not only pertain to community characteristics and to poor policy or legal frameworks. Communities and their partners are also limited by the nature of investments in infrastructure. With recurrent costs usually beyond the means of national institutions, and little regard for traditional resource use systems, they can rule out efficiency in co-management of natural resources. Common examples include deep boreholes in pastoral zones, dams and large

irrigation schemes.

3. Trends in Uptakes, Effects

Because CBNRM is integrated with other aspects of the ENR sector, and connected to many parts of the economy, trends reflect evolving legal and policy frameworks as well as changes in activities at the local levels. Complexity and "noise-to-signal ratio" are high. However, a review of country cases, from policy to community levels, highlights recent trends. At the community level, they include:

- A demonstrated willingness by rural communities to invest in the future at the expense of more immediate benefits, especially when this involves individual and joint actions on community lands or *'terroirs'* rather than more remote common property resources. Not surprisingly, the issue of security of tenure is fundamental, and plays a greater role as the time horizon expands;

- Quite a few cases of CBNRM profitability for communities and other legitimate stakeholders. This suggests progress in co-management capacity, and progress in working for 'congruence of objectives" among interested parties;

- Mixed results in terms of community participation, especially for women, although trends point to greater diversification and wider participation. Relations with other traditional resource users also vary; some communities have used CBNRM schemes at the expense of groups which had traditionally shared the same resources;

- Knowledge, attitudes and practices with respect to NRM are changing, but communities need continued support in the areas of training (organization, literacy, financial management), and for technical inputs, credit.

At the macro level, although legal and policy frameworks are becoming more favorable to ENR and CBNRM, they are not yet strictly consistent with them. Many community initiatives have been well received (e.g. Malawi's lake Malombe and Senegal's Kayar fisheries) but only by "bending" formal laws or rules. Acceptance is thus counterbalanced by the inconsistency or arbitrariness of official support for CBNRM, and by the weakness of its legal basis. Still, changes in policy and legal frameworks have taken place, for instance:

- Guinea –Stronger co-management of the Nyalama classified forest. Formal agreements between the national Forest Service and about 30 local communities. Joint training of Forest Service and communities to extend this practice to other parts of the country;

- Madagascar- Enactment of the National Park Act; mining permits rescinded in areas adjacent to national parks;

- Senegal - First instances of local leaders (about 600) being actively involved in defining options for feasible land reform in all ten regions;

- Tanzania - Parliamentary approval of the National Environmental Policy (1997);

- Uganda - Establishment of the Bwindi Trust, the first of its kind in sub-Saharan Africa. Designed for the long-term conservation of afromontane ecosystems (Bwindi impenetrable Park, Mgahinga Gorilla National Park), the Trust now has a $5.5m endowment for grants program, administration and research;

- National EIAs are becoming more common for investments with sizeable environmental implications. Results are definitely mixed (rejection of an EIA on a prawn farm in the Rufiji River delta by the Government of Tanzania, for example) but the principle of providing public scrutiny, input and media coverage is gaining currency.

The influence exerted by micro-level actors upon the macro processes of policy orientation and implementation is slowly growing. Community advocacy for local NRM is rising, especially where communities work together rather than singly. There are also a few instances of CBNRM being supported through specialized associations at the national level, and even of co-management of natural resources across national borders. Still, little is happening in such closely related sectors as training, industry, commerce and tourism, and further diversification is needed, especially in southern Africa where CBNRM activities tend to be more narrowly focused than in other regions.

4. Economic Analysis of Resource Valuation

Since CBNRM and other parts of the ENR sector are closely connected, resource valuation issues directly or indirectly span the macro and micro levels. At both levels, a fuller recognition of the value of natural resources is a fundamental condition for efficient resource management, but it is very much a matter of perception, capacity to realize the full value of the environmental services from the resources, and of equity in distribution.

At the macro level, common property resources tend to remain systematically under-valued to favor a specific constituency, or because they represent politically sensitive commodities. Most people have witnessed some form of “tragedy of the commons” process whereby a fishery, public forest or open rangeland are over-exploited. The resource can have considerable value, but, because this value cannot be ‘integrated’ into the strategy of a single controlling individual or entity, it is frittered away in ever-decreasing returns to competing users. In fact, the higher the original value of the resource, the faster the process tends to unfold. National governments are increasingly aware of the degradation of the environment, they realize that "things cannot go on like this forever". At the same time, they still have a vague sense of the scale of potential benefits from better natural resource management, and hesitate to entrust the realization of some of these benefits to a combination of decentralized units and autonomous rural communities and other stakeholders. Indeed, while there is a consensus on the need to improve the overall management of natural resources, it is hard to show in specific terms what this might amount to, for the 'average' economy of sub-Saharan Africa. To address this question, the author has developed a simple Excel-based model showing the direct macro-economic impact of various changes in the efficiency of resource use. It turns out that for a ‘typical’ African country with population growing at 2.6% per year it takes a significant overall improvement (about 100%) in returns from natural resources to maintain per capita income over time.

At the community level, the perceived value of the resource to be managed must be large enough for communities to go through organization, mobilization, planning, management, and implementation for the activity, not to mention dialogue and negotiations with a potentially large set of legitimate stakeholders. Communities must also perceive that benefits from the activity represent a net gain: they will not make large investments if the returns from their work end up as a mere substitute for investments in public services and infrastructure that they would normally expect the government (or perhaps, donors) to provide.

The value of natural resources which may come under co-management has to be assessed and expressed as clearly as possible, so that all relevant parties may perceive that the benefits from co-management are greater than revenues derived from alternative uses of resources extracted from

these systems. This does not require that all parties eventually come to have exactly the same perception of value from natural resources; they cannot. Still, they must all perceive that co-management is a superior strategy than most alternatives. This also implies that relevant stakeholders can draw on this information to mobilize institutional and political mechanisms for appropriate co-management. In the final analysis, the value derived by society from natural resources in a given area depends on the extent to which relevant stakeholders (communities, tribes, local and central governments, private companies) can negotiate informed and manageable agreements to reach the most beneficial among alternative uses of natural resources.

Our review of the CBNRM experience in sub-Saharan Africa suggests that this may well be one of its main deficiencies. As essential as it may be for successful and significant co-management of natural resources, the **need to work jointly with communities and other stakeholders on their perceptions of the value of resources, including potential benefits from co-management**, has received relatively little attention.

5. Potential/Constraints for the Expansion of CBNRM, Impact

There is great potential for the expansion of CBNRM; it must be envisioned at several related levels. Further work at the community level is needed, of course, but one must also emphasize the extent and quality of linkages, both horizontal and vertical. In other words, while activities at the community level need to progress, and expand spatially, it is equally crucial to strengthen the linkages between communities and other stakeholders. These two approaches are not mutually exclusive; on the contrary: more successful community level actions are consistent with greater benefits from increased integration with larger processes.

In terms of expansion over space, CBNRM potential partly depends on practical factors. These include the extent to which communities can co-manage resources from the borders of strictly defined community lands up to areas where they cease to be viable partners, because of distance, the overwhelming scale of resources to be managed, etc. The theoretical potential for CBNRM is large, because it involves many types of resources (farmland, forest, pasture, fishing grounds) and a combination of these. The chief constraint is less the availability of resources to be co-managed than access by communities to the skills and information needed for shared responsibility in resource management.

Monitoring the geographic expansion of CBNRM on the basis of biophysical change is an essential part of the task of tracking progress at the local level. The development of horizontal linkages is another critical element of 'CBNRM expansion". Horizontal linkages depend on the extent to which communities can associate with proximate communities and other stakeholders for co-management. The potential size of a CBNRM activity thus depends on the size of the "consortium" assembled to share the management of resources. A single community working with Forest Service agents may be able to co-manage a given area of forest. A set of communities, working together with the Forest Service, plus a number of private sector operators, can efficiently manage a much larger area.

A critical mass of successful CBNRM activities can use vertical linkages to inform and influence the ENR policy environment. When joint actors of CBNRM activities help improve the national policy and legal frameworks, for instance, the "fallout" from CBNRM can potentially reach all activities affected by national ENR policies. There is no simple and clear-cut definition of a 'critical mass' of CBNRM activities. However, a critical mass may be reached when the implications from successful CBNRM experiences, on the one hand, and current ENR policy, on the other, are so clearly at odds that pressure for change becomes very real. The size of this critical mass also depends on the receptivity of central authorities to pressure from below, and on the efficiency of vertical linkages.

The potential for expansion of, and benefits from, CBNRM often runs into countervailing factors. Successful CBNRM implementation indicates that the economic value and benefits from natural capital are being more fully realized than was previously the case. Short- and long-term returns to resource use are bound to rise in such areas. In most cases, however, the former practices of inefficient resource use have not disappeared altogether; they have just been displaced, possibly toward more marginal or environmentally fragile areas. By raising the value of resources, CBNRM raises the economic stakes and incentives for resource protection, helping fend outside pressure. Pressure, however, will remain or increase because population keeps growing. Increasingly destitute populations 'on the outside' also perceive areas implementing successful community based NRM as a way out of their poverty. This is obviously not a case against CBNRM, but yet another reason to work for its expansion, not only in a spatial sense, but also in terms of impacts on policy processes.

6. Implications for USAID and Partners

At headquarters, and in countries where USAID has environmental strategic objectives, Operating Units design and support a wide variety of ENR activities, from the macro to community levels. They may not explicitly refer to 'vertical and horizontal linkages'', but USAID personnel and their partners recognize the connections between discrete components of ENR sector activities at all levels. For instance, over its ten-year life the Botswana NRMP, intervening at many related levels:

- Introduced the CBNRM process,
- Organized, created and supported a large number of pilot community based organizations,
- Initiated CBNRM network and outreach processes,
- Assisted national agencies develop community oriented extension approaches,
- Worked on nation-wide environmental education,
- Supported NGOs,
- Reviewed and revised key CBNRM policies of the Government.

The implications from this work for USAID and partners can be summarized into five areas for action:

(a) Establishing a more explicit joint understanding of interactions at the macro level, as a basis for such macro-level work as country strategy and SO definition;

(b) Gaining a better understanding of macro-micro linkages in the ENR sector, and of approaches to resource valuation. CBNRM is one of several good point of departure;

(c) Applying a better grasp of interactions, analytical tools and information technologies to institutional obstacles to more efficient NRM at various levels;

(d) Retaining flexibility within a wide portfolio of supporting activities;

(e) Seeking a closer fit between strategies and programs which are necessarily limited in time, and a vision consistent with the long-term nature of ENR work in Africa.

(a) A Shared Vision of Interactions at the Macro Level

Paradoxically, the Working Group on Community Based NRM started with a simplified, consensual analysis of national level interactions among processes pertaining to economics, health, population, democracy and governance, as well as education. The purpose was not to derive a detailed model of such interactions, but to place thinking on ENR issues squarely on the basis of a shared view of the their broader context. USAID Missions often go through a similar process. This process, which involves contrasting and reconciling different views of the world and objectives, stands to gain from being more open, explicit, structured and systematic. A number of process-oriented analytical tools are available to facilitate knowledge-based exchanges and consensus building. They require neither advanced modeling skills nor large investments in time and data collection and analysis. They do, however, greatly facilitate the kind of mutual understanding and shared visions without which it is very difficult to design (let alone implement) a set of coherent sectoral initiatives.

(b) Understanding Macro-micro Linkages in the ENR sector, Approaches to Resource Valuation

Understanding, and working to strengthen, vertical and horizontal linkages is a fundamental principle in work on CBNRM. We believe the greatest potential for future benefits from CBNRM lies in stronger and more efficient linkages between communities and other stakeholders. Our analysis of macro- and micro-level factors determining success and impact from CBNRM can be a convenient point of departure for USAID officers and their partners. We also encourage them to use process-oriented analytical tools to examine jointly the efficiency of current linkages, and to find means to improve them. Another potential benefit from a better understanding of linkages is that it can help express the economic benefits from CBNRM at various levels and for various stakeholders in more telling and convincing ways.

(c) Reducing Institutional Obstacles to Efficient NRM

Since environmental issues and policies cut across institutional lines, the implementation of such a policy may involve several national institutions: Ministries of Agriculture, Livestock, Forestry, Territorial Administration, etc. Each of these institutions has its own objectives, agenda, and institutional culture, so that cross-cutting policies are often viewed as attempts to interfere with the mandate these institutions have defined for themselves. They are frequently ignored or rejected because they don't fit the institution's own master plan. A combination of better information and of analytical tools can help institutions perceive more clearly which aspects of an environmental policy actually correspond to, or help fulfill, their own objectives.

Neither central government agencies nor other institutions should have exclusive rights to policy analysis. Analytical tools appropriate for use by interest groups (including those we tested) can 'democratize' the process of policy analysis. By making information and analytical tools available to other groups, such as university researchers, NGOs, trade, professional and even producers' associations, USAID can promote a more open debate on resource management issues and the adoption of local resource management techniques. This can weaken the undivided hold national institutions may be trying to maintain on parts of the ENR sector.

(d) Retaining Flexibility within the ENR Portfolio

Since CBNRM and other parts of the environmental portfolio are closely connected and complementary, an appropriate balance must be struck. An overemphasis on policy level action at the expense of community level work, or vice-versa, could be inefficient. Yet, USAID works -along with many other actors at any point in time- in a complex and changing environment. Some operating units[2] explicitly state their intention to address whatever happens to be the 'weakest link' in the ENR chain; for instance:

> *"In areas where the national tenure laws and enabling environment are inappropriate, we will support legislative and policy change. In areas where the policy environment is right, we will support capacity building and sustainable resource enterprise development. In areas where alternative land use is firmly established, we will promote more biodiversity-friendly production systems."*

A good understanding of connections between the community and other levels can help USAID personnel best use the flexibility built into their environmental programs not only to strengthen the connections between links, but also to focus on the weakest ones when necessary.

(e) Short-term Strategies and Programs vs. Long-term Visions of ENR

Sub-Saharan Africa still constitutes a vast reservoir of natural resources, but widespread resource loss and degradation are so rapid that urgent action is needed. The time span required to mediate or reverse negative environmental trends stretches over the long-term. For many reasons, however, most human institutions: governments, donor agencies, NGOs, rural communities, tend to operate within a much shorter timeframe. The first step toward a practical compromise is to recognize this divergence explicitly. The next step is to develop a vision of long-term processes, and to visualize how short-term strategies and programs can best contribute to these long-term processes. This, in turn, requires two things:

(i) Striking a proper balance between the achievement of quick results and 'planting the seeds' of longer-term processes, and
(ii) Being more open to what others are doing (and planning), in order to seek coherence and continuity not only in one's ideas and actions, but also in those of other actors.

[2] 1997 USAID/RCSA Concept Paper on CBNRM