REVIEW OF BACKGROUND PAPERS ON REHABILITATION OF DEGRADED LANDS IN SUB-SAHARAN AFRICA.

By Edouard G. BONKOUNGOU

Dec 2002

EXECUTIVE SUMMARY

This report presents a review of three background papers on rehabilitation of degraded lands in sub-Saharan Africa(SSA). The review was conducted to assess relevancy of the background papers to Francophone Africa and to provide expert opinion on their coverage of the subject matter.

The main conclusions of the review are :

(i) There does not appear to exist Anglophone or Francophone specificities *per se* in land rehabilitation in SSA. Although the background papers draw mostly from Anglophone sources, their findings are relevant to French-speaking countries ;

(ii) It is noted, however, that information sharing across the language boundary between Francophone and Anglophone countries is minimal. This has resulted in missed opportunities to share best practices between the mostly English-speaking countries in Eastern and Southern Africa where wildlife features prominently in land management, and the mostly Francophone West and Central Africa where land rehabilitation priorities focus more on soil and water conservation ;

(iii) Important points missing from the background papers include (a)coastal erosion as a major cause of land degradation ; and (b) CILSS' experience over the past 30 years in land rehabilitation in the Sahel.

Recommendations are made for these points and others to be explored further during the upcoming web discussion.

CONTENTS

1.INTRODUCTION

As part of the Global Forest Information Service(GFIS-Africa) project, IUFRO's Special Programme for Developing Countries is producing a synthesis document on rehabilitation of degraded lands in sub-Saharan Africa. To implement the project, IUFRO has commissioned consultancies to carry out several assignments.

This report is submitted in partial fulfillment of a consultancy intended to review the situation in French-speaking Aftrica. As per terms of reference of the consultancy, this initial part of the commissioned contribution covers the following points :

(i) relevancy of the background papers to French-speaking countries ;

(ii) consultant's review of background papers (expert opinion prior to web discussion) ;

(iii) recommendations for the web discussion agenda and potential French-speaking contributors.

2. RELEVANCY OF BACKGROUND PAPERS TO FRENCH-SPEAKING COUNTRIES.

There does not appear to exist intrinsic differences between Anglophone and Francophone countries in rehabilitation of degraded lands in sub-Saharan Africa. Instead, strong similarities are found between countries within a given ecological region, whether Anglophones or Francophones. Although the background papers

prepared for this GFIS project draw mostly from Anglophone sources, they account sufficiently well for general issues on causes and extent of land degradation in Francophone countries.

However, because of limited exchange of information between Anglophones and Francophones, the case studies presented in the background papers do not account well for the diversity of land rehabilitation experiences in Francophone countries. In particular, lessons accumulated from the Sahel experience over the past 30 years are underutilized.

This section first draws attention to the negative consequences of restricted sharing of information between English-speaking and French-speaking countries. Then, intrinsic similarities in land management issues throughout sub-Saharan Africa are pointed out to highlight the potential benefits that can be gained from better sharing of information.

2.1 INFORMATION SHARING BETWEEN ANGLOPHONES AND FRANCOPHONES IS SUBOPTIMAL

Language barriers are well known severe constraints to information sharing. The divide between Anglophones and Francophones in sub-Saharan Africa is no exception. For example, a major regional initiative to rehabilitate degrading lands in the Sahel has accumulated a huge body of information over the past three decades. The information has been widely disseminated through the InterState Committee on Drought Control in the Sahel known as CILSS, and by national information services of CILSS Member States.

Yet, the Sahel experience is not discussed in the background papers. The authors of the semi-arid land document simply stated that the search for representative case studies from the Sahel was on going. This is probably a language problem. Although information on the Sahel experience has been widely disseminated, publications are mostly in French. Apparently the information published in French was not readily accessible to the Anglophone authors. The Sahel experience is noteworthy for several reasons :

(i) The sahel is known to be the region most hard-hit by drought and desertification in sub–Saharan Africa ;

(ii) The Sahel experience is the longest standing concerted regional effort to combat land degradation in sub–Saharan Africa.

The fact that the important experience in the mostly French-speaking Sahel is not reflected in the background papers indicates that, although there does not seem to exist Francophone or Anglophone specificities *per se,* it is as if information published in French is trapped and retained within the Francophone community, with little of that information being shared with the Anglophones.

Given the great diversity of lessons learnt from successes and failures in the Sahel, it is proposed that this experience be reviewed in some details during the e-discussion to ensure its adequate representation in the final synthesis document.

Another noteworthy case is insufficient sharing of best practices in land management between the mostly French–speaking West and central Africa on the one hand, and the mostly Anglophone Eastern and Southern Africa region on the other hand. Wildlife issues feature prominently in semi-arid and sub-hmid land management in Eastern and Southern Africa (game ranching, ecotourism, etc.), whereas land rehabilitation efforts in similar ecosystems in West and Central Africa focus more on soil and water conservation to improve the productive capacity of agricultural fields and grazing areas.

The differences are explained by biogeographic and ecological reasons, not because of language boundaries. However, restricted information sharing across the language barrier results in missed opportunities for both sides to exchange best practices.

Information sharing as IUFRO seeks to promote through the GFIS project is therefore crucial, if lessons on rehabilitation of degraded lands are to be drawn from the broadest possible range of experiences. The potential benefit from information sharing on land restoration is

very high. As will be shown below, countries in sub-Sharan Africa share strong similarities in many aspects of land management issues, which bode well for successful exchange of best practices throughout the region.

2.2 SIMILARITIES IN LAND MANAGEMENT ISSUES THROUGHOUT SUB SAHARAN AFRICA

Ecosystems straddle political and linguistic boundaries . Countries within similar ecosystems in sub-Sharan Africa experience similar causes of land degradation whether the countries are Anglophone or Francophone. The policy framework for land management also is very similar. Both modern environmental laws and remnants of traditional systems on land management are fairly similar between countries throughout the region. These similarities are an important asset for widescale dissemination of experiences in rehabilitation of degraded lands, if information is well shared among potential users.

Similarities in causes of land degradation are apparent from the background papers. In humid lands, whether located in Anglophone or Francophone countries, agricultural clearing is a major cause of deforestation through both slash and burn agriculture and commercial growing of cash crops (coffee, cocoa, etc). Industrial logging also is rapidly opening large tracts of forests. In semi-arid and sub-humid lands, the following are common causes of land degradation throughout the region : agricultural clearing, firewood cutting and overgrazing.

Given that causes of land degradation are similar within a given ecoregion, successful strategies and techniques for land rehabilitation will have the potential to apply on a broad scale across linguistic boundaries within similar ecosystems, especially since the prevailing policy framework for land management also is quite comparable throughout the region, as underlined below.

SIMILARITIES IN LAND MANAGEMENT POLICIES

Current rules on land ownership and land management throughout sub-Saharan Africa were initially established during the colonial period with quite similar objectives, whether the colonial rulers were Germans, British or French. The Forest Conservation Ordinance drawn up in Tanzania in 1904 by the Germans, the 1906 rule for timber exploitation in Ghana by the British, and the decree of July 1935 by the French which laid down the foundation of forest and environmental law in Francophone Africa, all sought to protect designated tracts of land at all costs, often at at the expense of local communities. The strategy made provision for the establishment of reserves where settlements, farming, grazing and many other activities performed by rural communities to sustain their livehood were prohibited. As reflected in the background papers, this focus on the biophysical environment at the expense of people's livelihood has led to various tragic situations including the following :

(i)Mass eviction of local communities from designated reserve areas ;

(ii) Pastoralists forced to migrate away from their traditional grazing land.

Clearly, such strategies cannot provide the enabling conditions for sustainable land rahabilition on a large scale. Fortunately, over the past 30 years, there has been a gradual shift from these earlier ruthless approaches. Strategies that are more sensitive to people's well-being are gaining increasing recognition and support over the past three decades. This is reflected in the environmental Conventions.

Thus, favorable conditions exist for wide dissemination of best practices that can promote the rehabilitation of degraded lands to sustain people's social and economic development throughout SSA, irrespective of linguistic barriers.

SIMILARITIES IN TRADITIONAL SYSTEMS

In most countries of the region, modern legislature coexists with remnants of traditional systems which still govern natural resource

management at village level. Fortunately, current development in modern legislature to emphasize the need to take human welfare into account in environment rehabilitation programmes is congruent with most of these traditional policies.

In many rural communities, there exist recognised traditional communal rules for the allocation of land to individual households and to the whole community for human settlement, agricultural production, land fallowing, grazing areas, sacred groves, etc.

In the past, communal ruling over village land has sometimes been confused with ‘’open access‘’ and decried as ‘’the tragedy of the commons‘’ ie, everybody is entitled to the benefits and nobody is held responsible for degradation. In the communal system, rules on land use rights and responsiblilities are known, and there exit recognized authorities to settle claims and diputes.

In this system, rehabilitation of degraded lands was part of the overall land management to ensure sustainable use of natural resources. In addition to the broad range of soil water and fertility management techniques that were used to sustain agricultural production on farmlands, fallowing was used when soil physical degradation or nutrient depletion were too advanced to permit crop production. Indicators known to members of the community(usually plant species and /or soil characteristics) were used to begin fallow period or to put the land back to service. In semi-arid and sub-humid lands where livestock is a major component of rural economies, transhumance and nomadism were used to ensure that the carrying capacity of grazing lands was not exceeded over prolonged periods of time.

Although population pressure and conflicts with modern rules and with monetary economy have undermined the efficiency of the system, it is gaining renewed interest again as part of the decentralisation dynamics in the region.

It appears, therefore, that there exist favorable conditions thoughout the region for exchange of information and best practices in land rehabilitation, irrespective of linguistic barriers. First, the

environmental Conventions have been signed by most countries, and ratified by many. Second, governmental policies and remnants of traditional systems bear a significant level of similairities between countries across linguistic borders.

3 OVERVIEW OF ECOREGIONAL PAPERS

All three papers are to be commended for very comprehensive presentations on the causes and consequences of land degradation and also on the extent of degradation. The sections on cases studies and recommandations for successful land rehabilitation, however, will need additional input to enhance their relevance and potential for widescale application. Comments below follow the structure in three parts described in the terms of reference.

Part 1 : Causes, extent and consequences of land degradation.

Presentation are well documented with detailed factual information. One point, however. Probably because the authors focused mostly on tree-based systems, all three papers failed to discuss coastal erosion, a well recognized land degradation problem in sub-Saharan Africa. The problem is a very serious one which is receiving attention through various United Nations projects and which was tabled for discussion at the World Summit on Sustainable Development in Johannesburg. *''Africa melts into the sea''* is a title sometimes used by newspapers to describe the gravity of the problem. Coastal erosion should be considered for the web discussion.

Coverage of the international context also is exhaustive. Existing international Conventions have been described thoroughly. Relating specific ecoregional issues to these Conventions and on-going debates on tropical forests and lands, however, needs further input. In their current forms, the presentations are very informative about the Conventions themselves, but not on their links with specific ecoregional issues.

Part 2 : Case studies and recommendations

For reasons discussed earlier, the Sahel experience should be reported. Case studies discussed in the semi-arid land paper are all from one country : Kenya. The sub-humid land paper also reports case studies only from Tanzania. We need to broaden the range of distribution of the selected case studies to ensure better coverage of the diversity of social, economic and ecological circumstances throughout sub-Saharan Africa.

The paper on humid lands has not included a presentation of individal case studies. Although lessons as presented by the author are certainly valuable, it is probably more useful to describe the case studies in some details as done in the other two papers, so that readers can review the facts and make their own judgement.

Final recommendations for successful land rehabilitation should be based on a broader range of case studies than is currently proposed in the background papers. Efforts should be made to take into account both successes and failures. At this stage, only one case of failure, the HADO's project in Tanzania has been discussed. Also, criteria and indicators of success and failure need to be discussed, so that selection of case studies and recommendations are based on common guidelines. To this effect, the section on criteria and indicators as presented in the humid land paper constitutes a valuable starting point.

Another point that needs to be settled during the e-discussion is the apparent contradiction between papers on the level of commitment to land rehabilitation in the region. The paper on sub-humid lands states that the rehabilitation of degraded lands is a subject that is receiving attention in many parts of the world, especially in sub–Saharan Africa and that increasing evidence exist to show that there has been a great deal of local governmental and international body's efforts directed at rehabilitating degraded lands. On the other hand, the humid land document reports a divergent point of view, indicating that rehabilitation of degraded forests does not feature in national nor regional debates on sustainable forest management in Africa nor has any document been produced on this important theme. The differences could either reflect genuine ecoregional differences (high commitment

to land rehabilitation in dry zone and low commitment in humid lands), or else, the differences could also reflect the limits of the authors' information bases. As the case has implications for rehabilitation strategy and advocacy, it needs to be explored further during the discussion.

4. REVIEW OF INDIVIDUAL ECOREGIONAL PAPERS

As indicated earlier : (i) all three background papers are found to be comprehensive on causes and extent of land degradation, apart from an omission on coastal degradation; (ii) case studies and recommendations need improvement. This section adds brief comments on individual papers.

4.1 SEMI-ARID LANDS

GLOBAL SIGNIFICANCE OF SEMI-ARID LANDS

Until very recently, the convention to combat desertification was denied GEF financial support on the basis that land issues were only local, at best regional ; not global.

Yet, drylands and desertification have global significance, as is now recognised. The economic importance of semi-arid lands and drylands in general has been underlined in the background papers : income loss globally as a result of degradation / desertification is reported to amount to USD 42 billion per annum.

The following points may be added to emphasize further the global significance of drylands : unique biodiversity and undervalued potential for C sequestration.

(i) Importance of drylands biodiversity.

Semi-arid lands, and drylands in general, contain a variety of native animal, plant and microbial species that have developed special strategies to cope with the low and sporadic rainfall conditions that prevail in these ecosystems. In addittion, dryland pastoralists and

farmers have valuable traditional knowlegde in pastoral and mixed cropping systems adapted to the difficult conditions of drylands.

The adaptive traits of semi-arid land biodiversity to dryland conditions (low and seasonal rainfall, high temperatures, inherently low soil fertility, etc.) take on global significiance, especially in the context of predicted climate change and global warning.

(ii) Undervalued potential of semi-arid lands for C sequestration

Plant species in drylands have developed various mechanisms to cope with drought. One such mechanism is the development of large below-ground systems to store water and nutrients. In the Sahel, for example, tree below ground biomass may be as high as the above ground biomass in some areas, with roots extending to 70 m away from the trunk or as deep as 30 m. This huge potential to store carbon is poorly documented and often undervalued.

(iii) Semi-arid land interaction with climate change

Wind erosion is reported to be the main cause of soil degradation in semi-arid lands, contributing up to 52 percent of the process, as indicated in the background paper. Thus, drylands are a net source of dust that has implications for global atmospheric chemistry. The net impact of this phenomen on climate change locally or globally is poorly documented, but is thought to be potentially significant.

The potential global significance of semi-arid lands is only begining to gain recognition. Until recently, international debates on biodiversity, C sequestration and climate change have tended to focus almost exclusively on the humid tropical forest. Emerging evidence suggest that the potential role of drylands on global issues may have been undervalued.

As proposed earlier, the Sahel experience is recommended for consideration during the e-discussion. Detailed exchanges are needed between discussants so that useful lessons can be included in the synthesis document, as the Sahel was not discussed in the background papers. Some of the many lessons learnt todate from the Sahel experience are mentioned briefly below :

- The forestry sector alone can not stop desertification ;
- Approaches that appear to have been sucessful are those that offer a broad menu of technological options, a positive enabling environment and tangible short term benefits ;
- Local people have a lot of indigenous knowledge and skills which can provide a good basis for desertification control and land rehabilitation programmes

4.2 SUB-HUMID LANDS

Although easy to define using an aridity index, sub-humid lands are not a convenient basis for development planning. National development plans tend to formulate strategies for drylands and/or for humid lands, with subhumid lands being squeezed out.

The convention to combat desertification also links semi-arid and sub-humid lands. Desertification is defined as ‘’land degradation in arid, semi-arid and sub-humid areas resulting from various factors, including climatic variations and human activities‘’.

What has been presented in the sub-humid land paper could apply, *mutatis mutandi,* to the semi-arid land paper and vice versa, especially as regards causes of land degradation. Review comments made above in this report on the semi-arid paper also apply to the sub-humid document.

That said, the well balanced coverage of economic, social and environmental concerns throughout the entire document in the sub-humid land paper is quite commendable. Also, this is the only paper that has discussed lesssons from the case of a project that has failed.

Improvement needed concern the fact that, as is the case for the other papers :

(i) The case studies are all from one country ;

(ii) The proposed rehabilitation techniques are all forestry techniques.

In addition, two maps announced on climatic zones and vegetation zones respectively, were not included in the version I received.

4.3 HUMID LANDS

Humid lands, contrary to semi-arid and sub-humid lands, are a fairly ‘’closed‘’ system. Ecoregional interactions, which are very strong between semi-arid and sud-humid lands, becomes much weaker at the humid end of the ecological gradient. Although main rivers may flow across all three ecoregions, movement of people, livestock and wild life between humid and sub-humid lands are minimal, compared to the intensity of exchanges between semi-arid and sub-humid ecosystems.

Transhumant or nomadic pastoral movements stop at the the humid forest margins. Causes of humid land degradation and rehabilitation techniques also are specific to humid lands.

Although much smaller than drylands in total land area, humid lands have received much more publicity as the storehouse of highest biodiversity and organic carbon. The global importance attributed to humid lands has been well documented in the background paper. A few observations :

(i) The paper does not report detailed case studies. This needs to be done ;

(ii) As is the case with the other papers, the proposed rehabilitation techniques are confined to forestry appoaches ;

(iii) Although coastal erosion is a serious problem in all ecosystems, the situation seems to be particularly more severe in humid lands, especially in the Gulf of Guinea.

On the popsive side, the humid land paper has discussed criteria and indicators for measuring the success or failure of rehabilitation programmes. The other ecoregions also need to develop similar tools.

4.4 ECOREGIONAL INTERACTIONS AND TRANSBOUNDARY ISSUES

Use of an aridity index allows for easy definition and geographic delineation of semi-arid, sub-humid and humid lands as distinct entities. Although there may exist challenges and opportunities in land rehabilitation that relate spefically to each of these ecosystems, none of them is a strictly closed system. For example, international water bodies may run across two or all three ecoregions. Thus, severe land degradation upstream (e.g. deforestation or chemical pollution) has direct consequences downstream on siltation, water availability or water quality.

Also, human and livestock movements between semi-arid and sub-humid lands are a well known characteristic of dryland pastoralism. Interactions between ecoregions are gaining increasing recognition as transboundary issues. In a recent report, the Biodiversity Support Programme noted that interest is rapidly growing on transboundary natural resource management(TBNRM) in SSA as a way to improve natural resource management and biodiversity conservation, and to promote regional economic development. TBNRM features prominently also in priorities of the CCD Sub-regional Action Programme for West Africa.

Interactions between ecoregions and the inreasing importance of transboudary issues need to be discussed and reflected in the synthesis document.

5 THE ROAD INTO THE FUTURE

5.1 INVESTING IN TOMORROW'S CHALLENGES AND OPPORTUNITIES.

Knowing what has worked well in the past is valuable information. Case studies reported in the background papers provide such valuable information. However, this is only a first step. To make future land rehabilitation programmes and investments in Africa more effective and efficient will require both a strong commitment to the land and seing the land from the perspective of the intended beneficiaries.

A vision of land rehabilitation from such perspective goes beyond repairing biophysical degradation of the landscape. The ultimate goal should be ''improved livelihood for the people'' who depend on the land. Criteria and indicators of success or failure of tomorrow's land rehabilitation programmes must go beyond such things as number of hectares of land area designated as reserves, numbers of trees planted, land area treated with soil and water conservation structures, etc.

Social and economic indicators must be used to assess the extent to which land rehabilitation benefits the end users of the land. Major efforts will need to be invested in capacity building, advocacy, resource moblilisation and environmental education to sustain the vision.

5.2 LAND REHABILITATION. PEOPLE ARE THE SOLUTION ; NOT THE PROBLEM.

When the focus of land rehabilitation is mostly(often solely) on biophysical issues, people take the blame for land degradation. The rationale is that population growth leads to expansion of agricultural land, overgrazing and overcutting of trees to meet increased demand.

This approach has led to tragic situations such as local communities evicted from areas designated for forest reserves ; pastoralists forced to migrate out of their traditional grazing lands ; etc. Even on purely biophysical grounds, the approach has failed. Displacing people or livestock to rehabilitate degraded lands only exports problems of land degradation to other locations.

More importantly, it is now increasingly realised that population growth is not by itself a driver of land degradation. Examples abound where populations have increased, while degradation has decreased. As reported in the background paper on sub-humid lands, a study in Tanzania found out that in a highland rural area, large population increases led to more cover, while in a lightly populated region, there has been deforestation. In the densely– populated central plateau region of Burkina Faso, recent studies have also shown that many farmers are increasing tree and shrub cover in their farmlands. A case of ‘’more people, less erosion’’ has been shown in the Machakos area in Kenya.

Actually, there are usually deeper underlying causes such as poverty, more than the mere number of people, that cause environmental degradation.. Demographic growth as the scape goat in land degradation should now be shelved as a mistake of the past.

5.3 LAND IS MORE THAN TREE – BASED SYSTEMS.

The main structural components of the land includes soil, minerals, water and a range of biological resources – ie flora and fauna. These resources are not static biophysical entities. They are dynamic and they are socially embedded, including the invaluable traditional knowledge on land management detained by the people who inhabit the land.

All components of the land play vital functions in the provision of ecosystem services. As primary producers, plant species, and especially trees, play key roles in ecosystem structure and function. However, as important as trees are, they remain only one component of the land, amongst many others. Reducing the land to its tree-based component as seems to have been the case in the main text of the background papers carries the danger of confining land issues to the forestry agenda(fortunately, some of the case studies have a broader perspective).

Although the project on rehabilitation of degraded lands is conducted as part of the " Global Forest Information Service (GFIS – Africa) project, a strictly forestry approach to land rehabilitation would seem to be rather counter-productive. As mentioned earlier, it is probably the forestry approach that caused the background papers to miss coastal erosion as a major land degradation problem in Africa. Also, lessons from the Sahel teach us that the forestry sector alone can not combat land degradation or ensure successful rehabilitation of degraded lands

Confining land rehabilitation in sub–Saharan Africa to forestry issues is not a desirable development.

5.4 ENSURING AFRICAN OWNERSHIP

To ensure relevance of rehabilitation objectives to their needs, Africans must take the lead in the formulation of such objectives. Ensuring African ownership of the process will enchance the likelihood of its sustainability. As pointed out in the semi-arid land paper, there exist a range of African regional networks not fully made use of. The networks listed in the document, however, such as FORNESA, AFORNET, SAFORGEN, etc., are scientific and technical networks. Although valuable results can be achieved through such networks, more political support and legitimacy will be required to provide the broader enabling conditions such as policy reforms.

In addition to linkages with the above networks, African ownership of the land rehabilitation project will require forging alliances with programmes and institutions such as :

- The New Partnership for Africa's Developpement (NEPAD) through its relevant programmes and institutions ;

- Sub–regional intergovernmental bodies such as CILSS, IGAD , and SADC ;

- The CCD organisational framework for the implementation of its Action Programme at national , sub-regional and regional levels- ie NAPs, SRAPs and the RAP. In west Africa for example, CILSS and its collaborators have already joined hands to prepare the CCD sub-regional Action Programme for West Africa. Similar efforts underway in other African sub-regions provide opportune anchorage points ;

- The African Development Bank's environment policy provides a good entry point and a lever for resource mobilisation.

5.5 WHAT ROLE FOR IUFRO ?

IUFRO's Special Programme for Developing countries that has spearheaded the current process will certainly benefit from clear guidance from the beneficiaries as to what their future expectations from IUFRO are.

Beyond carrying the current process to completion (publication and dissemination of the synthesis document), what are the expectations from end-users ? Are end-users' expectations congruent with IUFRO's own perception of its role on this project into the future ? Shouldn't the e-discussion explore these questions ?

6 WEB DISCUSSION

6 1 ITEMS FOR THE AGENDA

Priorities as they emerge from discussant's contributions will determine the final agenda. Items suggested for inclusion in the

discussion have been mentioned throughout the report. The following points can be used to kick the ball rolling :

- Relevance of ecoregional reports to French-speaking countries
- Coastal erosion in SSA.
- The Sahel experience
- Criteria for selecting case studies
- Criteria and indicators for assessing success/failure of a land rehabilitation programme or activity
- Level of commitment to land rehabilitation in the region
- Review of ecoregional papers to amend/validate original contribution and comments made in this report
- Transboundary approach to land rehabilitation

6 2 CONTACTS FOR FRANCOPHONE CONTACTS

Here are a few regional contacts :

- CCD- Programme Regional pour l'Afrique : Dr Moise AKLE, Coordonnateur Regional c/o ADB, Abidjan. Tel (225)2020 5365 ; Email: m.akle@afdb.org

- CILSS-Programme d'Action Sous-Regional de lutte contre la desertification en Afrique de l'Ouest et au Tchad : Bertrand ZIDA, Chef Unite d'appui aux strategies et politiques en GRN c/o CILSS Ouagadougou. Tel(226) 37 41 25 ; Email :paspccd@fasonet.bf

- Programme sur les zones limitrophes du desert(Desert Margins Programme) : Dr Saidou KOALA, Coordinateur c/o ICRISAT Niamey Tel :(227)72 25 29 ; Email : s.koala@cgiar.org

- ICRAF- Programme regional pour le Sahel, Bamako : Amadou NIANG, Coordonnateur : Tel(223) 22 33 75 ;
  Email :a.niang@cgiar.org

- IUCN- Bureau Regional pour l'Afrique de l'Ouest, Ouagadougou : Ibrahim THIAW, Representant Regional ; Tel(226)30 70 47 ;
  Email :Ibrahim.Thiaw@iucn.org

- UNSO-Bureau Regional Afrique de l'Ouest et du Centre, Ouagadougou : Mounkaila GOUMANDAKOYE, Coordonnateur Regional. Tel(226)30 63 35 ;
  Email :mounkaila.goumandakoye@undp.org

- CIRAD & IRD : Ronald Bellefontaine can provide guidance (ronald.bellefontaine@cirad.fr)