OKAVANGO INTEGRATED RIVER BASIN MANAGEMENT PROJECT (IRBM)

FINAL REPORT

August 31, 2009

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Prepared for the Permanent Okavango River Basin Water Commission (OKACOM), the Directorate for Infrastructure and Services – Water Division of the SADC Secretariat, and the United States Agency for International Development under USAID Contract No. LAG-I-811-99-00018-00.

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ACRONYMS AND ABBREVIATIONS

ACADIR	Association of Environmental Conservation and Integrated Rural Development – Angola
ADCP	Acoustic Doppler Current Profiler
APM	Advanced Participation Methods
ARD	ARD, Inc.
BWF	Basin-wide Forum
CBNRM	Community-based natural resources management
CBO	Community-Based Organization
CDS	Community Development Specialist – IRBM
COP	Chief of Party – IRBM
DIS-WD	SADC Directorate for Infrastructure and Services – Water Division
DNA	Direcção Nacional de Águas, Angola
DCOP	Deputy Chief of Party – IRBM
EPSMO	UNDP-GEF Environmental Protection and Sustainable Management of the Okavango River Basin Project
ERP	Every River Has Its People Project
ES	Executive Secretary – OKACOM Secretariat
GABHIC	Gabinete para Administração da Hidrográfia da Bacia do Rio Kunene, Angola
GDA	Global Development Alliance
GEF	Global Environment Facility
GTZ	German Technical Cooperation Agency
HOORC	Harry Oppenheimer Okavango Research Centre
HYCOS	Hydrologic Cycle Observing System
IDF	Institute for Forest Development, Angola
IRBM	Okavango Integrated River Basin Management Project
KAZA	Kavango-Zambezi Transfrontier Conservation Area
KCS	Kalahari Conservation Society
LUKA	Lumeta-Kangamba Community – Menongue, Kuando Kubango, Angola
MINEA	Ministry of Energy and Water - Angola
MINUA	Ministry of Urban Planning and Environment – Angola
NBSAP	National Biodiversity Strategy and Action Plan – Angola
NNF	Namibia Nature Foundation
NGO	Nongovernmental Organization
OBSC	Okavango Basin Steering Committee
ORB	Okavango River Basin
OKACOM	Permanent Okavango River Basin Water Commission
PRA	Participatory Rural Appraisal
RBO	River Basin Organization
Sida	Swedish International Development Cooperation Agency
SADC	Southern Africa Development Community
SAPW	Strategic Action Planning Workshop
TFCA	Transfrontier Conservation Area
TFCF	Tropical Forestry Conservation Fund – Botswana
TPR	Tripartite Review – UNDP-GEF EPSMO
UNDP	United Nations Development Program
USAID	United States Agency for International Development

USFS	United States Forestry Service
WVI	World Vision International

PREFACE

The Okavango Integrated River Basin Management Project (IRBM), a four and one-half year initiative was coordinated by the Permanent Okavango River Basin Water Commission (OKACOM) and funded by USAID/Southern Africa. OKACOM and its technical advisory committee, the Okavango Basin Steering Committee (OBSC) guided its implementation and coordinated IRBM activities within the context of its overall programs. IRBM collaborated with government ministries, active non-governmental organizations in the basin, communities, regional academic and research institutions, and businesses and local government institutions that use and manage the resources in the Okavango River Basin within Angola, Botswana, and Namibia.

Four components comprised this regional project: (1) *organizations' ability to manage river basin resources enhanced; (2) information systems for biodiversity and natural resource management improved, (3) community management and local governance of natural resources enhanced, and (4) special projects and SADC Water Division supported.* These four distinct but interrelated components all focus on improving integrated river basin management in the Okavango River Basin, towards achieving *improved management of selected river basins*. ARD, Inc. managed the IRBM contract for USAID Southern Africa.

The IRBM Final Report covers the implementation period from September 21, 2004 to May 31, 2009 and provides a review of the major achievements, success stories, lessons learned, achievement of performance goals, and financial management. Appendices provide an illustration of the USAID Strategic Framework, a bibliography of IRBM reports, training courses provided, and a summary of spatial data files created with project funds.

IRBM and ARD staff wish to extend our appreciation to USAID/Southern Africa, OKACOM, SADC, and other stakeholders and partners in the basin for the collaborative, warm, and collegial spirit and the time and courtesy extended to us during the last four plus years. This was truly a joint and collaborative effort and therefore, the achievements accomplished belong to all of us.

EXECUTIVE SUMMARY

The Okavango river basin contains unique ecological and human features. Although internationally known mostly for its famous RAMSAR site, the Okavango Delta in northern Botswana, the upstream portions of the basin in Namibia and Angola contain additional rich and diverse biological and cultural resources. Kuando Kubango Province in southeastern Angola comprises some of the most intact *brachystegia* woodlands of the region. Previously, abundant wildlife flourished in Angolan areas adjacent to the northern Kavango Region of Namibia, only to be driven out due to a prolonged civil war. With peace in Angola, numerous options for developing and conserving these pristine areas become very important not only for Angola, but also for its downstream neighbors – Namibia and Botswana.

The Permanent Okavango River Basin Water Commission (OKACOM) was established in 1994 by its three member states – Angola, Botswana, and Namibia. Until 2004, the commission promoted the need for an integrated management plan for the entire basin; one that would assist and advise its member states on the sustainable management of the basin's water and terrestrial resources. However, OKACOM lacked the required resources to further develop its institutional capacity, relying on the commitment of dedicated civil servants to lead and strengthen the commission.

USAID/Southern Africa, endorsing the commitment of OKACOM, agreed to support the commission's institutional development through the Okavango Integrated River Basin Management Project (IRBM). OKACOM and its technical advisory body, the Okavango Basin Steering Committee (OBSC), interactively guided implementation of IRBM in collaboration with government ministries, non-governmental organizations in the basin, communities, regional academic and research institutions, businesses and local governments that use and manage the resources in the Okavango River Basin.

IRBM collaborated with other basin-wide initiatives, such as the Environmental Protection and Sustainable Management of the Okavango River Basin Project (EPSMO), financed by the UNDP-Global Environment Facility (UNDP-GEF) and the Every River Has Its People Project (ERP), supported by the Swedish International Development Cooperation Agency (Sida) in the implementation of improved river basin management activities. IRBM also liaised and coordinated with numerous national initiatives and programs.

Four components comprised IRBM:

- *Organizations' ability to manage river basin resources enhanced;*
- *Information systems for biodiversity and natural resource management improved;*
- *Improving community management and local governance of natural resources*; and
- *Addressing special projects and regional needs.*

These four components combined to strengthen regional capacity for improved management of selected river basins.

Strengthening the capacity of OKACOM was a key element of IRBM. The commission and its Okavango Basin Steering Committee (OBSC) comprise motivated and committed professionals from state agencies, universities, and other professional affiliations. However, all of these professionals attempt to balance both their OKACOM responsibilities and those of their respective ministries and agencies simultaneously. Prior to 2004, OKACOM had no dedicated administrative support staff and commissioners had to rely on their own offices to assist in communicating, arranging and coordinating meetings, disseminating information, preparing written documentation, clarifying and responding to issues, identifying professional opportunities and training courses, and coordinating basin-wide initiatives. Recognizing their administrative and logistical difficulties, OKACOM in October 2004 agreed to establish a Secretariat, to be located in Maun, Botswana for its first three years of operations.

IRBM's approach was demand driven – focused on consultation, addressing the needs and programs of OKACOM and other key basin-wide and regional partners, providing facilitation tools to build consensus and strengthen relations, and remaining flexible and adaptive to changing conditions. OKACOM, SADC, basin-inclusive civil society and other international cooperating partners became consistent and reliable partners. Ownership by OKACOM of its programs became the cornerstone to sustainability and utilizing all the available resources from IRBM, EPSMO, Sida, and others formed a foundation that would last beyond project support. IRBM technical and financial resources complemented rather than dominated, facilitated rather than directed, and promoted OKACOM and partners as a key objective of the capacity-building efforts. IRBM introduced new tools for enhancing stakeholder participation and with targeted training, left behind teams able to fully use Participatory Rural Appraisal (PRA) and Advanced Participation Methods (APM) for mobilizing and organizing stakeholder groups.

With IRBM assistance, OKACOM's results have been impressive. The commission has reinforced its key institutional goals, clarified its mandate and the functions of its three policy, technical, and administrative wings, and established an effective secretariat fully operational in Maun to assist with coordination, logistics and program administration. The OKACOM Secretariat has become a key coordination and mobilizing resource for the conduct of the basin-wide Transboundary Diagnostic Assessment (TDA) and the preparation of the Strategic Action Programme (SAP), key elements of it long-term strategy to effectively and sustainably manage the basin's resources. OKACOM has become a confident, dedicated, and effective team and was recently publically recognized by the SADC ministers of water resources, at their recent annual meeting, for its significant achievements and highlighted for the model it had become for other river basin organizations' institutional growth.

> *As expressed several times by the commission, most recently at its 14th meeting in Windhoek, USAID, through the Okavango Integrated River Basin Management Project (IRBM), has not only consistently supported the successful growth of OKACOM over the last four years, but has set the standard for excellence in the implementation of donor-supported river basin management projects. In fact, the OKACOM Secretariat, located in Maun, would not have become a reality without USAID support.*
>
> Gabaake Gabaake, Botswana Co-Chair, OKACOM

IRBM also assisted OKACOM, its member states' and civil society inventory key biologically rich areas in southeast Angola; develop and implement a community-based natural resources management program in Menongue and Mucusso, Angola; prepare a proposal for a 70,000 square kilometer area protected area landscape within the Angola portion of the Kavango Zambezi Transfrontier Conservation Area (TFCA); install twelve new hydrometric monitoring stations in Angola that provide key water resources information for the TDA; support the SADC Infrastructure and Services – Water Division fulfill its responsibilities to support all regional river basin organizations improve their skills to manage transboundary water resources, install solar powered systems at community-based campsites within Namibia and Botswana; introduced and

institutionalized chili-pepper elephant control program for farmers within the Mucusso community, and tested a consultative land use planning process in Kavango. A truly solid foundation has been laid for the sustained growth and development of OKACOM and its partners towards integrated conservation and development of the basin's valuable resources.

1. INTRODUCTION

Figure 1 - Peolwane Article on OKACOM – produced for Air Botswana by IRBM

Water scarcity in Southern Africa is a growing concern. Population growth and associated demands for domestic, farm, and industrial use are increasing stress on limited water resources. The majority of the region's watersheds are shared between two or more countries. What happens in the upper reaches of rivers and watersheds affects people, wildlife and ecosystems downstream. Regional responses and coordination are required to insure equitable allocation and use of water resources within river basins.

The importance and significance of the Okavango Delta is well recognized and acknowledged internationally and within the Southern Africa region. A RAMSAR site dependent upon the water from Angola, the Delta is the subject of numerous documentaries and travel shows and attracts tourists because of its majestic beauty and abundant wildlife.

However, the Okavango is much more than the Delta, originating as a river system two countries away, in Angola. The Kubango River and Cuito, two major arteries of the Okavango River Basin, originate from the *planalto* grasslands and *brachystegia* woodlands of Huambo, Bie, and Moxico provinces. Flowing south and east through Angola, the Kubango River eventually follows the Angolan border with Namibia and later is joined by the Cuito east of Rundu. These rivers are fed by numerous other tributaries, forming a trellis of interconnecting sub-basins and wetlands.

The river crosses the eastern portion of Namibia's Kavango Region, and enters Botswana at Mohembo, the panhandle of the Okavango Delta. Almost the entire catchment for the river lies in Angola, which feeds the Delta in Botswana. In between, the river provides water for agriculture and human consumption in Namibia. The basin forms a complex and integrated system (terrestrial and aquatic), and it is clear that actions upstream could affect livelihoods being currently derived from tourism, fisheries, and agriculture downstream.

Recognizing the importance of the entire river basin, Angola, Botswana, and Namibia agreed in 1994 to establish the Permanent Okavango River Basin Water Commission (OKACOM) to promote coordinated, regional water resources development objectives for the Okavango river basin, while addressing the legitimate social and economic needs of these three riparian states. A coherent approach to managing the basin's resources, based upon equitable allocation, sound environmental management, and sustainable utilization is a key objective of OKACOM's efforts.

USAID/Southern Africa, endorsing the commitment of OKACOM, agreed to support the commission's institutional development through the Okavango Integrated River Basin Management Project (IRBM). OKACOM and its technical advisory body, the Okavango Basin Steering Committee (OBSC), supervised the implementation of IRBM in collaboration with government ministries, non-governmental organizations in the basin, communities, regional academic and research institutions, businesses and local governments that use and manage the resources in the Okavango River Basin.

IRBM collaborated with other basin-wide initiatives, such as the Environmental Protection and Sustainable Management of the Okavango River Basin Project (EPSMO), financed by the UNDP-Global Environment Facility (UNDP-GEF) and the Every River Has Its People Project (ERP), supported by the Swedish International Development Cooperation Agency (Sida) in the implementation of improved river basin management activities. IRBM also liaised and coordinated with numerous national initiatives and programs.

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1.1 PROJECT STRATEGY

Strengthening the capacity of OKACOM was a key focus of IRBM. The Commission and its Okavango Basin Steering Committee (OBSC) contain motivated and committed professionals from state agencies, universities, and other professional affiliations. However, all of these professionals attempt to balance both their OKACOM responsibilities and those of their respective ministries and agencies simultaneously. Prior to 2004, OKACOM had no dedicated administrative support staff and commissioners had to rely on their own offices to assist in communicating, arranging and coordinating meetings, disseminating information, preparing written documentation, clarifying and responding to issues, identifying professional opportunities and training courses, and coordinating basin-wide initiatives. Recognizing their administrative and logistical difficulties, OKACOM, in October 2004, agreed to establish a Secretariat, to be located in Maun, Botswana for its first three years of operations.

To support OKACOM, IRBM introduced and adopted a demand-driven approach that was:

- ***Consultative,*** utilizing OBSC, through its Botswana Chair, as a means of gathering opinions and communicating with OKACOM. IRBM also developed and used consultative and participatory approaches designed to enhance consensus building with diverse stakeholder groups;
- ***Focused on needs of OKACOM and other partners,*** especially with regard to the development and implementation of a training program and enhancing its performance;
- ***Flexible,*** adjusting to institutional changes, organizational conditions, and access to funding and ability to fill strategic programmatic gaps;

Figure 2 - Participants at SAPW

- ***Facilitative***, assisting Commissioners and OBSC members organize, arrange and follow-up on their OKACOM responsibilities and identify opportunities for training and professional development; and

- ***Responsive and service oriented***, being available to provide services to OKACOM and its clients and demonstrating an orientation for OKACOM, through its Secretariat, for the provision of services to its constituency. IRBM extended this service orientated approach to SADC and other key stakeholder institutions within the basin and the demonstration of this facilitative approach has been adopted by numerous partners within the basin and the region.

1.2 EXPECTED PROJECT OUTPUTS

The original IRBM Scope of Work contained three major components with cross-cutting themes intended to integrate HIV/AIDS and gender considerations. Clear outputs were expected from each component and are listed below.

Component 1 outputs included:

- Providing interim secretariat services to OKACOM;
- Developing and implementing a capacity strengthening program, concentrating on providing practical and hands-on training to OKACOM Commissioners, OBSC members, and other key ORB stakeholders;
- Improving communications, by preparing and implementing a strategy for connecting Commissioners and managing communications while providing reliable access to the internet for the Angolan delegation;
- Assessing and clarifying institutional roles and responsibilities within the ORB; and
- Assessing and determining options for financial viability.

Component 2 aimed to:

- Identify and link useful river-basin databases within the three riparian countries of the Okavango River Basin (ORB), via a cost-effective data hub, with a well organized home, and train OKACOM and others on its use and maintenance;
- Improve the hydrometric network in the basin, with initial focus on the Angola portion of the basin;
- Optimize simulation models and decision support systems, subject to agreement through the annual work plan;
- Improve legal, policy and regulatory frameworks, as requested by OKACOM; and
- Conduct environmental assessments of ecologically sensitive areas and recommending actions for future sustainable use and conservation of priority sites of significant biodiversity or areas in the basin that require better management to protect the watershed.

Component 3 initially focused on:

- Conduct assessment, during Project Year 1, that outlines the potential IRBM niche and role in supporting community-based initiatives;
- Support development of community-based resource centers;
- Demonstrate community-based water resources management (CBWRM) or community-based natural resources management (CBNRM) activities, through grants program[1]; and
- Removal of policy and regulatory barriers that affect CBNRM.

[1] In the original contract, no funds were provided for the community program. Based upon expressed need and conclusion o f assessment for CBNRM activities, USAID added funds for a community grants program in Angola in Project Year 2.

Recognizing the importance of participatory planning and the need to integrate OKACOM and other key basin stakeholders' priorities for these primary expected outputs, IBRM organized and conducted a Strategic Action Planning Workshop (SAPW) at the commencement of the project. During a two-day participatory, action-oriented planning workshop, fifty participants from the basin reviewed the current situation, developed a vision, planned strategies, prepared action plans, and prioritized actions for the basin. The final activities recommended for IRBM support included those listed in Table 1 below.

Table 1 - Basin Stakeholder Priorities for IRBM Support – Results of SAPW (February 2005)

Item	Action Priority	Addresses Component
1	**Establish and resource interim secretariat services**	**1**
2	**Assess community participation in natural resource management and identify possible approach for CBNRM in Angola**	**3**
3	**Rehabilitate Hydrometric Network in Angola(upper Okavango River Basin)**	**2**
4	**Assist and strengthen communications with Angola**	**2**
5	**Review current activities (policies, information, modeling, data) and develop thematic Studies**	**2**
6	Support on-going ORB Data Base (Sharing Waters)- maintenance, improvement, use and accessibility	2
7	Establish a position in all three countries to serve as focal point	Component 1 and Project Management
8	Strengthen community resource centers in Botswana and Namibia and establish one in Angola	3
9	Assess enterprise and livelihood opportunities mainly in Angola	3
10	Integrate projects into basin wide program	1
11	Identify ecologically sensitive areas (their conservation, research and management needs)	2
12	Develop guidelines to ensure compatible data collection and monitoring analysis\methods\reporting throughout the basin	2
13	Community engagement programs including HIV\AIDS	3
14	Establish community small grants program	3
15	Assess and develop a training programme	1
16	Conduct training and capacity building on enterprise development based on needs assessment	3
17	Develop English-Portuguese glossary of IRBM relevant terms	2
18	Review on-going CBNRM projects	1
19	Develop practical community natural resource monitoring program for wetlands and test	2
20	Conduct a gender audit on all regional projects in the basin	3
21	Identify priority areas for de-mining	N/A
22	Develop Regional HIV\AIDS Information Dissemination, Policy and Programmes	3
23	Support Angolan iInitiative to repatriate pertinent data on Okavango River Basin	2
24	Develop a guide to integrate HIV\AIDS and gender in basin programming	3
25	Create an OKACOM Website	1
26	Inventory available tools and materials and resources with regard to environment, health and safety and develop new tools needed	2

As agreed by USAID and OKACOM, the first five priorities (highlighted in green) became the immediate focus area for IBRM implementation. However, priority #11 in the table quickly became not only a priority for USAID/Southern Africa, but eventually for the Angolan Ministry of Urban Planning and Environment (MINUA)[2] and for OKACOM. Priorities highlighted in the table in pink eventually became subsequently higher priorities for OKACOM, and as requested, IRBM supported the implementation of these actions.

During IRBM implementation, eleven contract modifications were approved by USAID and reflected to a large extent the changing conditions and priorities of USAID Southern Africa, OKACOM, and SADC. Numerous activities in the original IRBM Scope of Work were either expanded or replaced by other significant activities. Examples of these changes, consistent with the stakeholders' priorities from the first Stakeholder Action Planning Workshop include:

- Modeling and simulation exercises dropped (not a priority of OKACOM or USAID);
- Facilitating the legal establishment of the OKACOM Secretariat added at the request of the Commission and in coordination with Sida;
- Extensive inventory of Mucusso hunting reserve (*coutada*) and preparation of extended southeast Angola protected areas landscape for legal designation replaced output of assessing two ecological significant areas within the basin. USAID and OKACOM agreed to provide significant support to this key activity of the Angola National Biodiversity Strategy and Action Plan (NBSAP) within Kuando Kubango instead of conducting more rapid assessments within the basin;
- IRBM focused on construction and furnishing of the Mucusso Community Center and the OKACOM Secretariat offices in Maun, as requested by USAID. The Mucusso center will be available for local support and consultation for the Kavango Zambezi Transfrontier Conservation Area (KAZA) program;
- The community governance program was not funded under the original IRBM contract, and depended upon an expressed need, justification relevant to other community-based programs, and available funds from USAID. OKACOM's desire for a community grant program in Angola, expressed to USAID resulted in additional funds obligated for a very successful community-based river basin management grant program in Menongue, Kuando Kubango; and
- With the signing of a Strategic Objective Agreement (SOAG) with SADC, USAID contributed $450,000 to support the SADC Directorate for Infrastructure and Services – Water Division's river basin capacity building program under the Protocol for Shared River Basins.

An eight month extension of IRBM, from the original project completion date of September 30, 2008 to May 31, 2009 resulted in the additional outputs:

- Solar electrification being installed at two CBNRM sites in Botswana, five community-based campsites in Namibia and at the Mucusso community center in Angola;
- Consultative land use plan prepared in collaboration with the Namibian Ministry of Lands and Resettlement (MLR) and the Kavango Regional Council for the Kavango region. The results of this pilot activity will be used by Namibia Nature Foundation and the MLR for future land use planning activities being supported by UNDP and the World Bank/Global Environment Facility (GEF); and
- Framework for transboundary land use planning prepared for OKACOM consideration.

[2] This was divided into two ministries – the Ministry of Urban Planning and the Ministry of Environment after the elections in Angola in September 2008.

1.3 PROJECT IMPLEMENTATION APPROACH

IRBM was implemented through existing institutional frameworks. Initially, USAID and OKACOM constituted the main clients and partners for IRBM. During project years 2 and 3, SADC, through its Directorate of Infrastructure and Services, Water Division (DIS-WD) and less so, its Food, Agriculture, and Natural Resources Directorate (FANR), became a major partner with USAID, as evidenced by the Strategic Objective Agreement between these two governmental institutions.

At OKACOM's request, IRBM became the Interim Secretariat for the Commission. Implementation of the majority of IRBM's activities were coordinated with OKACOM through the Interim Secretariat, and this also provided a forum for coordinating and integrating programming from other donor-supported regional and bilateral projects within the basin. For the Kuando Kubango Biodiversity Program, IRBM worked with the Angola National Biodiversity Strategy and Action Programme (NBSAP), the Ministry of Urban Planning and Environment (MINUA), and the provincial government of Kuando Kubango. Community programs were managed in partnership with local NGOs and local government. OKACOM was informed and involved with all IRBM initiatives through the Okavango Basin Steering Committee (OBSC) and its associated and relevant task forces.

Providing quality services to OKACOM through the Interim Secretariat was an honor for IRBM, but was also significantly fortuitous. This institutional home, as an integral part of OKACOM, allowed direct, continuous, and meaningful interaction with OKACOM commissioners, key technical advisors, and primary civil society stakeholders. IRBM became a part of the OKACOM family, and the relationships formed and strengthened by constant interactive support deepened the personal and professional commitment of the project and its technical staff to the successful fulfillment of OKACOM's mandate and implementation of its programs. IRBM and OKACOM developed a high level of trust, respect, and integrity that facilitated the successful implementation of activities.

IRBM used its relationship with the Angolan delegation to OKACOM to design, organized and implement activities with the country. Building relationships with Angolan institutions took time and persistence, but ultimately resulted in official designation of IRBM activities within Angola by MINUA, the Kuando Kubango Provincial government, and authorities in Menongue and Dirico municipalities and the Mucusso community. USAID and OKACOM supported this longer-term approach to building partnerships, and recognized the importance of building institutional frameworks for sustainable program implementation.

USAID conducted a Mid-Term Review and Evaluation of IRBM in 2006 and concluded that working through existing institutions and partners facilitated successful implementation and recommended continuing this process as the mode of operation. Consequently, IRBM involved other regional partners, such as SADC DIS-WD and FANR, and the Kavango Zambezi Transfrontier Conservation Area (KAZA) in a similar fashion. Extensive consultation and the provision of quality services, using a demand-driven approach, became the cornerstone of IRBM's implementation approach.

1.4 IRBM PARTNERS

From the inception stage, regional, basin-wide and national partners stressed the importance of working through existing national and regional institutions. Subsequently, OKACOM endorsed a policy of procuring (or using) services *first from the basin states, then from the region, and finally from international organizations when not available locally*. Clearly, supporting local partners and consultants has been seen as a key approach to building local capacity.

Since strengthening the capacity of organizations managing transboundary river basin initiatives was one of IRBM's objectives, providing the resources and technical assistance for the implementation of current or needed programs was a logical approach for IRBM. Previous initiatives attempting to create new institutions and provide outside technical advisors to implement similar programs caused confusion and overlaps in programming.

Table 2 below indicates the main IRBM partners, and their general role in implementing projects relevant to IRBM programming. Partners participated with IRBM in a variety of ways –co-financing activities within the basin; jointly designing and implementing surveys and programs; implementing specific OKACOM or KAZA endorsed actions; hosting a local event, such as a river clean-up; preparing joint proposals for donor funding; and joining a training program or event.

Collaborating with local partners in project implementation achieved the following:

- Built local expertise and skills capacity;
- Informed OKACOM of future partners and skills available to the commission:
- Maximized opportunities to co-finance and leverage additional resources;
- Allowed IRBM technical and administrative staff to become facilitators and coordinators and optimize all available resources for achievement of program objectives and activities; and
- Restored confidence that donors could work through competent local organizations

Table 2 - IRBM Partners and Roles

PARTNER	ROLE
INTERNATIONAL	
SIWI – World Water Week	Assisted OKACOM organize a symposium on transboundary river basin management and organized local tours for OKACOM commissioners at World Water Week – 2006.
Uhl and Associates	With EPMSO consultants, conducted initial assessment of hydrological monitoring in Kuando Kubango and Huambo provinces for design of OKACOM—Angola hydromet program.
US Forestry Service – International Programs; Department of Agriculture	Partnered on Forestry Assessment of Kuando Kubango Province, training of regional technical staff for vegetation and forest inventory, and training of Namibian foresters in fire management.
World Wildlife Foundation – USA and Namibia	Collaborated with IRBM to design a complementary project to disseminate lessons learned from Namibia LIFE program to a regional platform. Project funded by USAID Washington.
REGIONAL/BASIN LEVEL	
Elephant Pepper Development Trust (EPDT)	Provided training in cultivation and care of elephant chili peppers for Mucusso and Dirico communities. Provided follow-up monitoring and training for locally-identified extension staff.
EU—SADC Foot and Mouth Project	Partnered on the development, preparation and implementation of a workshop aimed at integrating TFCA programs with animal health issues. FMD Project designed and hosted workshop in Kasane, while IRBM provided facilitation and logistical support.
Every River Has Its People Project (ERP), financed by Sida	Collaborated on the design and implementation of a socio-ecological survey of Kuando Kubango province in 2005. Assisted IRBM with exchange visit of Angolan NGOs and community members to community conservation trusts in the Kavango Region.
GTZ – Transboundary Water Management in SADC Program	Collaborated closely on organizing and funding three regional workshops to strengthen capacity of transboundary river basin organizations. Co-developed and co-financed consultancies aiming to prepare RBO guidelines for technical aspects related to managing river basins.
KAZA TFCA Secretariat	Facilitated the establishment of a KAZA Working Group for Communities to institutionalize advances made through an IRBM-supported process to develop a consultation approach for KAZA. Participated in IRBM facilitated workshops on consultation, and coordination of TFCAs and animal health with the SADC region.
OKACOM	Major IRBM partner – provided programmatic guidance, participated in all activities and contributed technical advisors and in-kind contributions to all aspects of IRBM programming.
SADC Directorate for Infrastructure and Services – Water Division	Recipient of IRBM funds and support for RBO capacity-building program consistent with Protocol on Shared Watercourses. Supervised the organization of three regional RBO workshops, designed and supervised consultancies to prepare guidelines aimed at strengthening RBO capacities, and designed and uploaded website and information management program.
Sida Regional Transboundary Water Programme	Collaborated on establishment of the OKACOM Secretariat. IRBM provided interim secretariat services to OKACOM, facilitated legal framework for establishment of Secretariat, and financed part of its start-up phase, while Sida financing first three years of the Secretariat's operations. Sida consultants and Interim Secretariat collaborated closely on development of financial management and procurement guidelines and preparation of grant documents for Sida financing.
UNDP – FAO GEF Environmental	Co-funded several initiatives within the basin, including partnering on design and rehabilitation of 12 hydromet

Protection and Sustainable Management of the Okavango River Basin (EPSMO)	stations in Angola. Assisted OKACOM with preparation of data sharing protocols and closely coordinated with IRBM and OKACOM on key aspects of the biodiversity, hydrology and institutional task forces.
NATIONAL	
ANGOLA	
ACADIR – Angola	Local NGO operating in Kuando Kubango. ACADIR was the main local partner for implementation of community-based program in Menongue. IRBM provided both technical and administrative/financial training to strengthen ACADIR's capacity.
Bairro Azul Community Development Group	Provided staff, managed financial accounts, supervised logistics and labor for construction of demonstration improved pit latrines.
Direcção Nacional de Agua (DNA) – Angola	Served as main implementation partner in Angola. Implemented rehabilitation program for hydromet stations and partnered with IRBM, provincial government and Pandera community on key technical support needs.
Dirico Municipality – Angola	Provided oversight and logistical support to the biodiversity program in Mucusso. Assisted in implementation of land tenure and land access assessment conducted in 2009.
Governo Provincía do Kuando Kubango – Angola	Through the Departemento Provincía de Água (DPA), provided technical assistance and equipment for Pandera and Kangamba/Lumeta, and through the Departemento do Ambiente, monitored process & results of Mucusso field inventories.
Instituto Desenvolvimento do Florestal (IDF) – Angola	Assisted with implementation of Kuando Kubango forest assessment and training programs for field forest inventory within the Mucusso coutada.
Kangamba – Lumeta Community Development Group	Provided staff, managed financial accounts, supervised logistics and labor for construction of tourism infrastructure, such as craft stalls, car wash, and garbage collection.
Menongue Municipality	Contributed technical and commercial resources to support solid waste management activities in Kangamba Lumeta and Bairro Azul. Also provided oversight to the entire community-based environmental management program, through a local reference group.
Ministério do Urbanismo e Ambiente (MINUA)	Through an MOU with IRBM and the Provincial Government of Kuando Kubango, provided guidance on the processes of conducting biological, land use and socio-ecological assessments of Mucusso coutada, and preparing a proposal to enhance the protected area status of southeastern Angola.
Mucusso Communa – Angola	Administration provided extensive administrative support and logistical backstopping to IRBM field-team in Mucusso. Monitored IRBM community-based activities, facilitated necessary approvals to work in southeastern Angola, and arranged community meetings.
National Biodiversity Strategy and Action Plan (NBSAP) Project	Partnered with IRBM on a biodiversity consultation meeting for Kuando Kubango province, and assisted in getting approval from the Government of Angola for IRBM activities within Mucusso; consistent with NBSAP objectives.
Ndumbo Community Development Group	Provided staff, managed financial accounts, supervised logistics and labor for forestry and agriculture projects.
Pandera Community Development Group	Provided staff, managed financial accounts, supervised logistics and labor for public works rehabilitation.
Shamue Community Association	Main community partner in Mucusso, representing communities along the Kubango River in Mucusso. Responsible for managing chili pepper human-elephant conflict (HEC) program and constructing the Mucusso community center. Members of the association participated extensively in trainings and field inventories for mammals and vegetation, and in socio-ecological assessments.
World Vision International – Angola Program	Grant partner for implementation of community-based environmental management program in Menongue Municipality. Developed and implemented IRBM program in four communities in Menongue. Mentored local NGO and liaised with local government. Provided complementary technical and financial assistance in small-scale

	sustainable agriculture projects in the same communities. Leveraged additional resources – both physical equipment and finances for community development groups.
BOTSWANA	
Attorney General's Chambers	Worked with the Ministry of Finance and Development Planning towards registration of the Tropical Forestry Conservation Fund as a limited company under the Companies Act.
BIOKAVANGO Project	Assisted as member of OKACOM OBSC and Biodiversity Task Force.
Centre for Applied Research	Prepared guidelines for Water Allocations and Benefits Sharing and Funding of River Basin Organizations.
Department of Environmental Affairs – Ministry of Environment, Wildlife and Tourism (MEWT)	Participated on OBSC and Biodiversity Task Force. Provided guidance in linking biodiversity developments to the Botswana situation, and integrating with ODMP. MEWT was one of main ministries involved in development of the Botswana Tropical Forestry Conservation Fund (Forest Conservation Botswana), and IRBM assisted with registration of the fund as a non-profit company in Botswana.
Department of Water Affairs – Botswana	Participated on the OKACOM OBSC and Hydrology Task Force. Also, participated in training and demonstration activities related to water resources monitoring.
HOORC – University of Botswana	Through MOU with IRBM, provided senior-level research staff in support of the development of a vegetation map of Mucusso, and assisted in training inventory staff at a regional training course in March 2007.
IUCN – Botswana	Using Botswana Trust Funds, through IRBM, organized and conducted a CBNRM Workshop to identify and highlight issues, opportunities, and constraints for community-based natural resources management in Botswana.
Ministry of Finance and Development Planning	Served as lead agency for introduction and development of Botswana Tropical Forestry Conservation Fund. IRBM provided legal assistance with registration of the fund as a limited company under the Companies Act.
Okavango Delta Management Plan (ODMP) Implementation Program – DEA Regional Office – Maun	Provided technical guidance as member of OKACOM OBSC and Biodiversity Task Force, particularly with respect to bringing the experiences of ODMP to-scale in the larger basin-wide context.
Solahart – Botswana	Contractor installing solar systems for the Sankuyu Community Trust and the Mucusso Community Center.
Somaraleng Tikologo	Installed solar systems for the Sankuyu Community Trust and the Mucusso Community Center under contract with IRBM.
NAMIBIA	
CONSERV – Namibia	Installed solar systems in 5 community campgrounds, forestry centers, or environmental clubs at local schools in the Kavango Region.
Integrated Rural Development and Nature Conservation (IRDNC) – Namibia	Assisted with exchange visits between conservancies and indigenous groups in Namibia with counterparts in Angola.
Kavango Regional Council – Namibia	Expressed interest in demonstrating participatory land use planning exercise in the Kavango Region. Coordinated results of land use planning with Ministry of Lands (MOL) in Windhoek and MOL representatives in Rundu.
Ministry of Agriculture, Forestry, and Water; Department of Water Affairs – Namibia	Served as the lead agency on OKACOM—Namibia. Hosted IRBM Country Coordinator, who acted as lead focal point for OKACOM—Namibia. Established office in the Ministry and provided administrative support for Country Coordinator and several interns from Polytechnic of Namibia. Through the Department of Forestry, co-facilitated regional Fire Management training with IRBM and the USFS.
Ministry of Environment and Tourism (MET)	Served as the main environment agency on OKACOM. Representatives from MET participated on OKACOM Biodiversity Task Force and OBSC. Coordinated in training and exchange visits between Angola and Namibia under the IRBM project.
Ministry of Lands and Resettlement (MLR)	Actively participated and monitored consultative land use planning pilot in Kavango Region.

Namibia Nature Foundation (NNF)	Provided and supported Country Coordinator for Namibia. Organized, developed and implemented consultative land use planning exercise in Kavango Region. Assisted in installation of solar systems at five sites in Kavango Region.
Polytechnic of Namibia	Provided interns who conducted research on forestry, community use of natural resources and tourism potential of eastern Kavango Region with IRBM support and mentorship.

2. PROJECT ACTIVITIES, ACHIEVEMENTS AND OUTPUTS

IRBM commenced implementation in 2004 as a "niche project." Although the initial Scope of Work outlined clear and well-defined objectives and expected outputs with respect to strengthening the capacity of OKACOM and other key institutions within the basin, other elements related to community-based natural resources management (CBNRM) and biodiversity conservation were more vague. SADC was initially not a partner with USAID and was not supported directly by the project. Many IRBM activities, such as rehabilitating hydromet stations in the basin and assessment of socioecological conditions within Angola, were also supported by the UNDP Global Environment Facility (GEF) Environmental Protection and Sustainable Management of the Okavango River Basin (EPSMO) and the Every River Has Its People (ERP) project respectively. The IRBM Scope of Work and activities of each component evolved, and as a result, the achievements and outputs, although consistent with the original intentions and Strategic Objective of USAID, reflected changing conditions and clients' expectations[3]. This section presents the major activities and accomplishments achieved during IRBM's four and one-half years of implementation and based upon the original USAID Strategic Objective Framework, the contract Scope of Work, and inputs and recommended changes from OKACOM, SADC, and other key partners in the basin. The outputs addressed needs and constraints related to strengthening capacity coupled with direct field-level activities. Overall, IRBM, a relatively modestly-funded project, delivered significant outputs related to policy interventions, donor coordination, river basin institutional growth, innovative CBNRM and participatory approaches, improved monitoring of water resources, installation of clean energy options, and provision of very credible options for enhanced biodiversity conservation.

2.1 PROVIDE INTERIM SECRETARIAT SERVICES

Prior to the April 2005 OKACOM annual meeting, held in Gaborone, IRBM was requested by the Botswana Co-chair to organize the meeting and provide secretarial services. At the conclusion of the meeting, OKACOM asked USAID for IRBM support for the provision of interim secretariat services until the Permanent Secretariat could be established. Also at this 10th OKACOM meeting, the commission signed an MOU with Sida, committing OKACOM to establishing its secretariat and committing Sida to funding its operations and programs for an initial three-year period.

These events fostered a unique collaborative relationship between USAID and Sida, with IRBM providing interim administrative and logistical services to the Commission and the two donors jointly facilitating the establishment of the Permanent Secretariat. Sida consultants had prepared a framework for the secretariat, which was also approved at the 10th meeting.

During the subsequent two years, IRBM became the administrative arm of OKACOM. During that period, IRBM provided the following services to the Commission:

[3] IRBM considered three main partners as primary clients – USAID/Southern Africa, OKACOM, and SADC Water Division.

- Organized and provided logistical, technical and secretariat support for five major OKACOM meetings (April 2005 (Gaborone), November 2005 (Windhoek), May 2006 (Luanda), May 2007 (Maun), and May 2008 (Windhoek)). In addition, organized numerous other extraordinary meetings of OKACOM, OBSC and its Task Forces, related to the Mid-term Evaluation, establishment of the Secretariat, and re-mobilization of the GEF EPSMO;
- Organized and coordinated several meetings for the Institutional Task Force to prepare formal documentation to (1) refine the organizational framework of OKACOM, (2) determine and clarify legal requirements for the establishment of the Permanent Secretariat; and (3) prepare and revise proposed OKACOM Three Year Plan and corresponding grant agreement between OKACOM and Sida;
- Prepared and distributed minutes and action sheets arising from the OBSC, OKACOM, and Task Force meetings and followed up on the action items;
- Convened Okavango partners' meeting to clarify roles and responsibilities for communication and outreach and methods for expanding the lessons learned from national programs to a basin-wide platform;
- Organized and coordinated OKACOM presentation of experiences at 2006 World Water Week in Stockholm;
- Developed Interim Secretariat Information Management System for handover to Secretariat;
- Facilitated strategic action planning workshop for OKACOM, resulting in a framework for a commission strategic work plan, which will be completed by EPSMO as part of their Strategic Action Planning process for the basin;
- Prepared an OKACOM public awareness kit, including brochures, background material, and other relevant information concerning the Okavango River Basin. Information on OKACOM was prominently displayed at the World Water Week and three SADC regional workshops on enhancing the capacity of transboundary river basin organizations;
- Developed, demonstrated and promoted the Institutional Self-Assessment Tool (ISAT), a tool used by the commission to evaluate its own institutional development and areas for improvement;
- Developed OBSC task forces to focus on hydrology and information management, institutional development, and biodiversity concerns and coordination;
- Designed, prepared, and disseminated five editions of OKAFLOW, the OKACOM newsletter;
- Introduced and formalized bilingual OKACOM and OBSC meetings, and integrated Portuguese translation of key OKACOM documents into the Commission's operations;
- Refined[4] and hosted the OKACOM website (www.okacom.org);
- With Sida consultant, finalized Grant Agreement and associated documentation, including budget, for first three-year phase of Permanent Secretariat operations in Maun;
- Identified office for Permanent Secretariat and brokered lease and finalized funding arrangements with Botswana Ministry of Minerals, Energy, and Water Resources for rent to paid by the host country—Botswana;
- Prepared ***Procedures and Guidelines for Recruitment of an Executive Secretary***, which were approved by OKACOM at its 11th Meeting, advertised nationally, regionally, and internationally for the position, and reviewed applications and ranked top candidates; and
- For Sida and OKACOM, managed Secretariat start-up phase in Maun, which included supervising design and renovation of Maun office and launching the Secretariat office at World Wetland Day celebrations in Maun in 2008; and
- Developed initial financial management system, through subcontract with KPMG, and established OKACOM bank account.

[4] First edition of the Website was developed by the Every River Has Its People Project and handed over to the Interim Secretariat in November 2006 in Maun.

IRBM's provision of interim secretariat services was the catalyst and boost to the enhanced growth of the Commission[5]. Prior to its 10th Meeting in April 2005, the Commission and OBSC were managed by career civil servants, who volunteered their time with great dedication and commitment, but with very limited administrative, logistical and communications support. Therefore, meetings were held sporadically (i.e. annual meetings and occasional extraordinary meetings) and achieved little. Minutes and action items were seldom distributed, and action items arising from meetings had limited or no follow-up. Providing these secretariat services through IRBM allowed commissioners and technical advisors to OBSC to focus on management and technical issues facing the basin. Additionally, OKACOM could dedicate a good portion of its resources on supporting the EPSMO Transboundary Diagnostic Assessment (TDA) and Strategic Action Programme (SAP) processes because of a relieved administrative burden[6].

2.2 FACILITATE THE ESTABLISHMENT OF OKACOM PERMANENT SECRETARIAT

OKACOM and basin stakeholders identified the provision of interim services and the establishment of the Permanent Secretariat as key priority action for IRBM and Sida. However, differences of opinion arose about the future organizational mandate, role, and legal status of the secretariat. A rigorous and healthy debate, facilitated by the Interim Secretariat, occurred and resulted in a refining of an appropriate organizational framework for OKACOM, with clear roles and functions defined for each of its three *organs* – the Commission, the OBSC, and the Secretariat. Representatives from each of the three member states drafted and finalized the Organizational Structure of OKACOM document, which clearly outlined the legal basis for the commission, clarified the membership and functions of the three organs, and provided the foundation for an agreement signed by the respective ministers of water from Angola, Botswana, and Namibia to establish the Secretariat. These two documents provided the basis for the formalization of OKACOM, and its organs, including its secretariat, as an international and intergovernmental organization within its member states.

Figure 3 - Document Establishing Secretariat

Key steps in establishing the Secretariat included:

- Preparing and facilitating approval of the OKACOM Organizational Structure Document;
- Preparing and facilitating approval for Host Country Agreement, signed by the Botswana Ministry of Foreign Affairs and OKACOM;
- Helping OKACOM and Sida reach agreement for a US$2.2 million grant for Secretariat operations. As OKACOM Interim Secretariat, IRBM worked with Sida consultants and OKACOM OBSC to draft and reach consensus on both the grant agreement and supporting technical documentation;
- Organizing and supervising the renovations and operations of the Secretariat office in Maun, utilizing OKACOM funds on behalf of Sida. Prepared tender documents, hired contractors, supervised construction, provided equipment, and organized OKACOM launch of facility in February 2008;

[5] Personnel communication, Gabaake Gabaake, Permanent Secretary, Ministry of Minerals, Energy, and Water Resources and Botswana Co-Chair to OKACOM.

[6] See Lessons Learned Section.

- Arranged and organized hiring of the OKACOM Secretariat Executive Secretary, including preparing job description, advertising internationally for the position, arranging interviews, preparing contract, arranging for mobilization, and providing mentoring and hand-over for successful candidate;
- Hiring and supervising KPMG to develop financial management system for OKACOM, including gazetting of organization in Botswana, opening bank account, applying for and getting first disbursement of Sida funds, and preparing accounting system for the organization;
- Upgrading intranet and internet equipment and services for OKACOM-Angola, to improve their ability to communicate more effectively with the other two member states of the commission; and
- Assisting Secretariat prepare handbooks and guidelines for operations and first annual work plan.

The Secretariat has been operational in Maun since December 2007. Since then, the Secretariat has represented OKACOM at international fora, organized the 15th OKACOM meeting in Lubango, Angola, supported EPSMO technical meetings, and updated the website. During the next three years, its ambitious work plan will produce and implement a communications strategy for the basin, support logistics and organization of OKACOM meetings and complete arising action items, develop a framework for stakeholder participation, and prepare and carry-out a sustainable funding strategy for the Commission.

2.3 IMPROVE INFORMATION MANAGEMENT

Numerous attempts have been made to create and maintain either delta- or basin-level databases for OKACOM. The Okavango Delta Management Plan (ODMP) developed the Okavango Delta Information System (ODIS), which contained GIS data layers for land use, wildlife, demographics, among others, and this has been handed over to and maintained by the Harry Oppenheimer Okavango Research Centre (HOORC) in Maun. The Every River Has Its People project funded research on the basin, and the resulting data have been cataloged also at HOORC. The EPSMO project is combining these data sources and other information being collected for its transboundary diagnostic assessment to prepare the framework for a Okavango Basin Information System (OBIS).

IRBM addressed the OKACOM information needs by:

- Assessing the information needs, as articulated by the Commission and key stakeholders, for improved river basin management; and
- Designing a "data hub", or specifically for OKACOM, developing a metadata base for compilation of relevant data bases in the region.

Assessing the information needs of OKACOM, through individual interviews and group prioritization, resulting in a determination that the key information needs for the Commission, consistent with its mandate and legal functions are:

- Water resources (e.g., supply, availability);
- Water demand;
- Water quality; and
- Harmonized data collection and maintenance.

Based upon OKACOM's needs, combined with a review of existing information and data bases relevant to the Okavango, a recommended process for the development of a metadata base, as a first step in developing a comprehensive OBIS, was supported by IRBM. SADC joined this activity, *Identifying*

and Demonstrating Useful Data Services, to determine what information needs the Water Division should maintain on behalf of its clients – river basin organizations – as required by the Protocol on Shared Water Courses.

The information management systems, and the data they contain, vary in amount, quality, and maintenance protocols. Botswana and Namibia have significant digital information systems, but Angola has access mostly to reports and historical information that needs digitization. Because of this different level of information development and management, OKACOM, with SADC endorsement, decided to establish a metadata base, which provides the commission and relevant stakeholders access to other databases in the region.

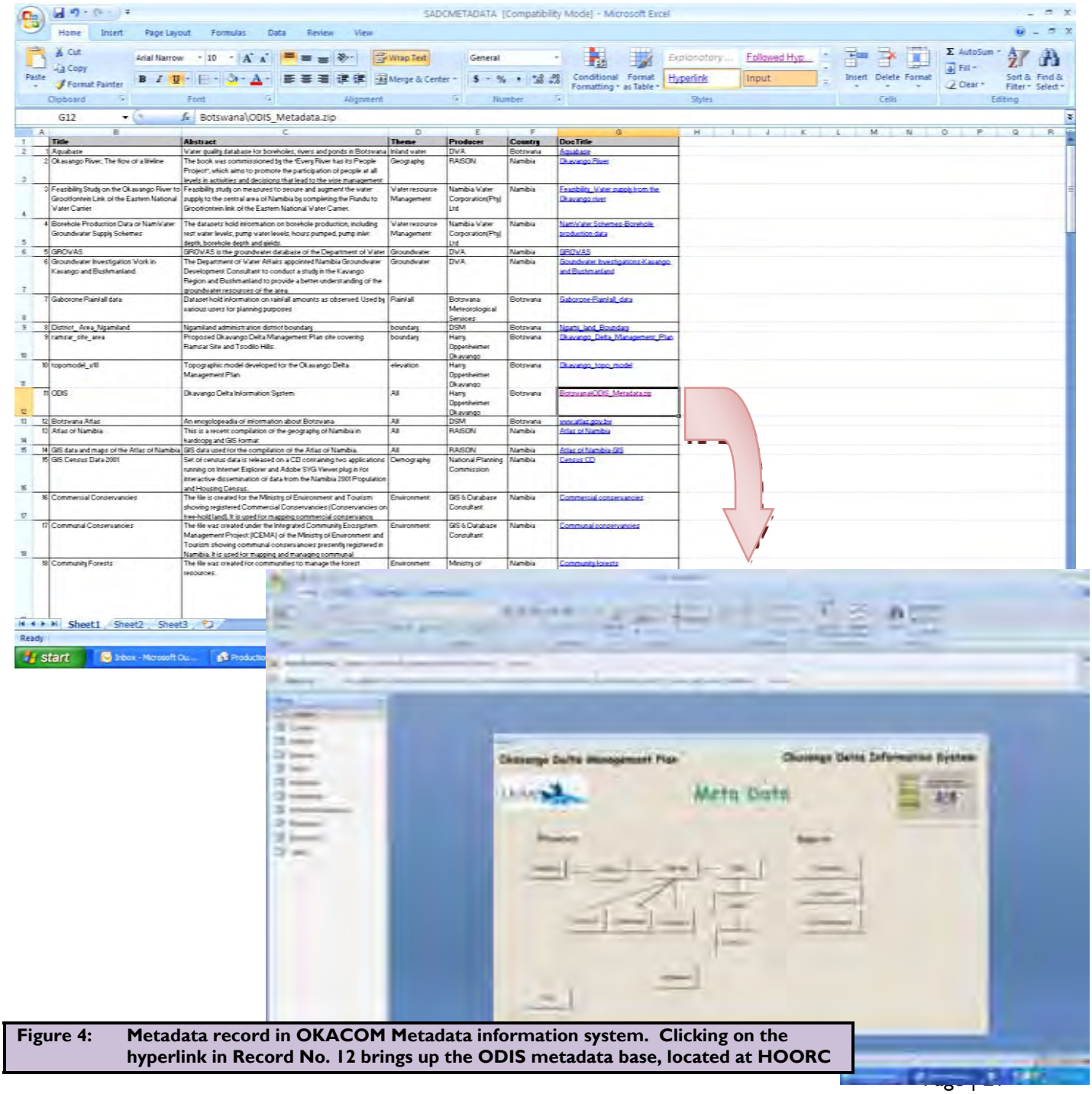


Figure 4: **Metadata record in OKACOM Metadata information system. Clicking on the hyperlink in Record No. 12 brings up the ODIS metadata base, located at HOORC**

As a demonstration for SADC and to provide the 'data hub' for OKACOM, IRBM supported the development of a metadata base for the Okavango Basin (see Figure 5 for an example). This database was uploaded onto the SADC GEONET server and also will become an integral part of the OKACOM website and eventually be combined with the OBIS.

Building on this metadata base, SADC and OKACOM will be able to further develop their information management systems dependent on emerging needs of their clients – either Okavango stakeholders, member states or, in the case of SADC, river basin organizations. IRBM further assisted SADC Water Division assess its capacity and needs for improving information management relevant to the SADC Protocol on Shared Water Courses and the RSAP-2.

2.4 IMPROVE BASIN HYDROMETRIC NETWORK

Another top priority for OKACOM arising out of the Johannesburg inception SAWP was improving data collection for water stages and flows from the mid-reaches of the Angola portion of the basin. Sustainably collecting and sharing this information within OKACOM, the departments responsible for water affairs, academia, and the general informed public could drastically improve decision-making concerning the best use of water while informing downstream residents of possible impending natural disasters related to flooding.

Prior to independence in Angola, approximately 188 hydrological and metrological monitoring stations existed nationally. During the subsequent 27 years, no support was available to the government to sustain the collection and use of data from these stations. Consequently, at the time of peace in 2002, very few of these stations were performing and very few data were available for planning, research, or monitoring purposes. [7]

Figure 5 - Launching Phase I in Menongue

In May 2005, IRBM joined with the EPSMO project to assess the hydrometric network situation in Angola and identified 12 previously functional stations that could be rehabilitated. The senior hydrologists from Angola, Botswana, and Namibia prepared an action plan to improve the situation by rehabilitating the stations and establishing protocols for sharing the data among the countries within OKACOM. This group, later formalized as the OKACOM Hydrological Task Force, guided the rehabilitation of the 12 stations in two phases over three years (see Map 1). Training was also provided for key staff at the national and provincial levels.[8]

Phase I of the hydrometric rehabilitation commenced in late 2005. IRBM and EPSMO, in a partnership that would extend to co-funding other significant activities in the basin, divided responsibilities and costs for the rehabilitation of five stations – Menongue (Kuebe River), Pandera

[7] NORAD supported DNA with the digitization of paper archival records remaining from before independence and some historical data do exist for Kuando Kubango Province.

[8] Training was provided by the Cunene Provincial Water Team in Xangongo and by the Department of Water Affairs and Forestry in South Africa.

(Luahuca River), Caiundo (Kubango River), Cuchi (Cuchi River), and Capico (Kuebe River). IRBM procured and delivered six sets of data loggers, one for each of the five stations and one spare, flow recorders, a boat for conducting river flow measurements, and equipment for downloading and transferring data to Luanda data bases. EPSMO covered all the costs associated with renovation of the civil works for the stations and local travel. Additionally, IRBM trained three technicians from Menongue, Departemento da Provincia de Aguas (DPA) on data collection techniques.

Figure 6 - USAID, FAO, and DNR commencing Phase II

The five stations were rehabilitated successfully during early 2006 and launched in Menongue in May by OKACOM and the provincial government.

OKACOM, through its Hydrological Task Force, monitored the operation of the Angolan stations installed under Phase I, and at its January 2007 meeting in Shakawe received a briefing from the Angolan DNA indicating that substantial data had been collected but not properly compiled and analyzed for use by OKACOM. Therefore, the Task Force, with prompting from USAID, stressed the importance of reporting the data to OKACOM at its next meeting before proceeding with Phase II of the program. At its May 2007 meeting, Angola DNA, through the Task Force, presented the analyzed data from the five Phase I stations and OKACOM, USAID, and GEF agreed to proceed with Phase II – rehabilitation of an additional seven stations. In a spirit of cooperation, USAID and FAO launched Phase II in Kuando Kubango in 2008. IRBM and EPSMO followed the same co-funding formula for Phase II and the equipment for an additional seven stations will be installed in mid-2009, under the supervision and monitoring of EPSMO and the OKACOM Hydrological Task Force. Phase II stations included five conventional stations and two SADC HYCOS stations (see Map 1). The two HYCOS stations, from the SADC program, were located in Kuando Kubango at the request of the governments of Namibia and Angola to provide better flood early warning systems. Data collected from Angola over the last two years complements that from Botswana and Namibia and will be eventually maintained in the Okavango Basin Information System (OBIS).

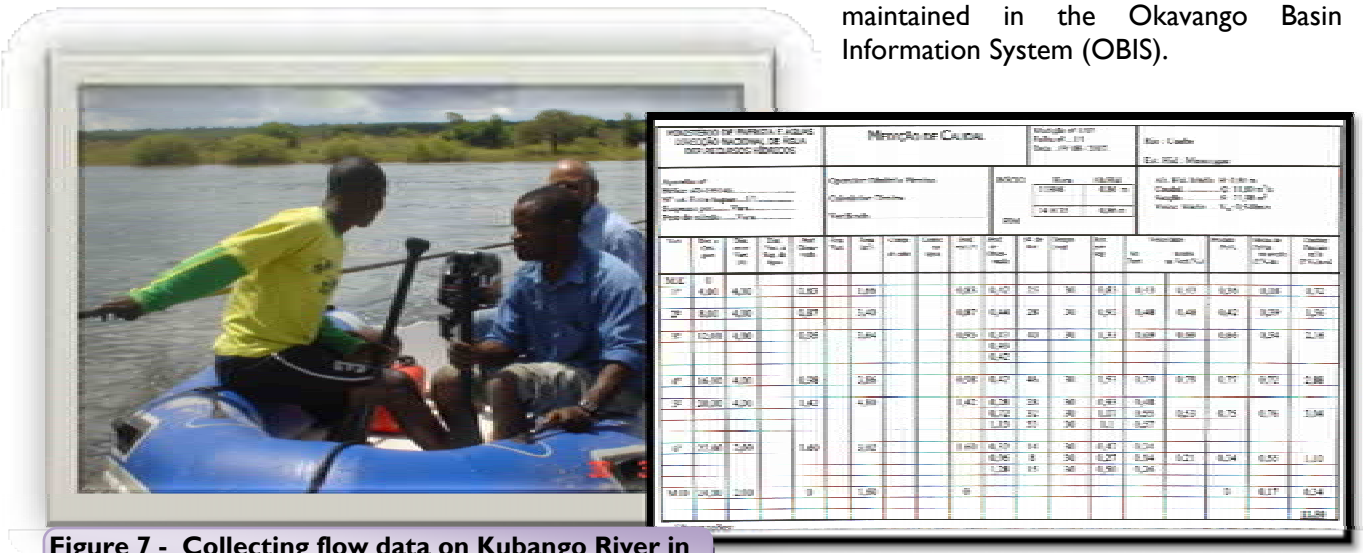


Figure 7 - Collecting flow data on Kubango River in Angola with boat provided by IRBM

Map 1 - Location of Hydromet Stations in Angola

Map Produced by Paulo Emilio Mendes, DNA, Angola

2.5 ASSESSING AND PROMOTING BIOLOGICALLY IMPORTANT AREAS IN THE UPPER BASIN

The *Kuando Kubango Biodiversity Program* was developed under Angola's *National Biodiversity Strategy and Action Plan* in collaboration amongst Angola's Ministry of Urbanism and the Environment (MINUA), the Provincial Government of Kuando Kubango, and IRBM.

In order to assist the Angolan government in addressing this need, IRBM sponsored a workshop of the Angolan National Biodiversity Strategy and Action Planning (NBSAP) process in Menongue in September 2005. Following this workshop, IRBM prepared an action plan for the *Kuando Kubango Biodiversity Program* in consultation with the National Director of the Environment and with the Provincial Government of Kuando Kubango. In January 2007, a Memorandum of Understanding was signed by MINUA, the Provincial Government of Kuando Kubango and IRBM to formally launch the program. The terms of the MOU required that IRBM assist the other two partners to:

- Improve an understanding of the resource base and resource use patterns that will inform protection and management decisions, particularly in the Mucusso reserve; and
- Develop capacity and systems for locally-engaged protected areas monitoring and planning.

The *Kuando Kubango Biodiversity Program* contributed significantly to the NBSAP goals in southeast Kuando Kubango, and particularly in the *Coutada do Mucusso*. They include the construction of a community resource center in Mucusso for, an assessment and mapping of the wetlands of southeast Kuando Kubango, the generation of a first-ever production of field guides for mammals and forest resources, the development of a team of local technicians in a range of skill areas, including human-elephant conflict mitigation, conducting biodiversity monitoring and assessment work, and mobilizing communities for natural resource-based development.

Map 2 - Existing Land Classification of Southeast Angola

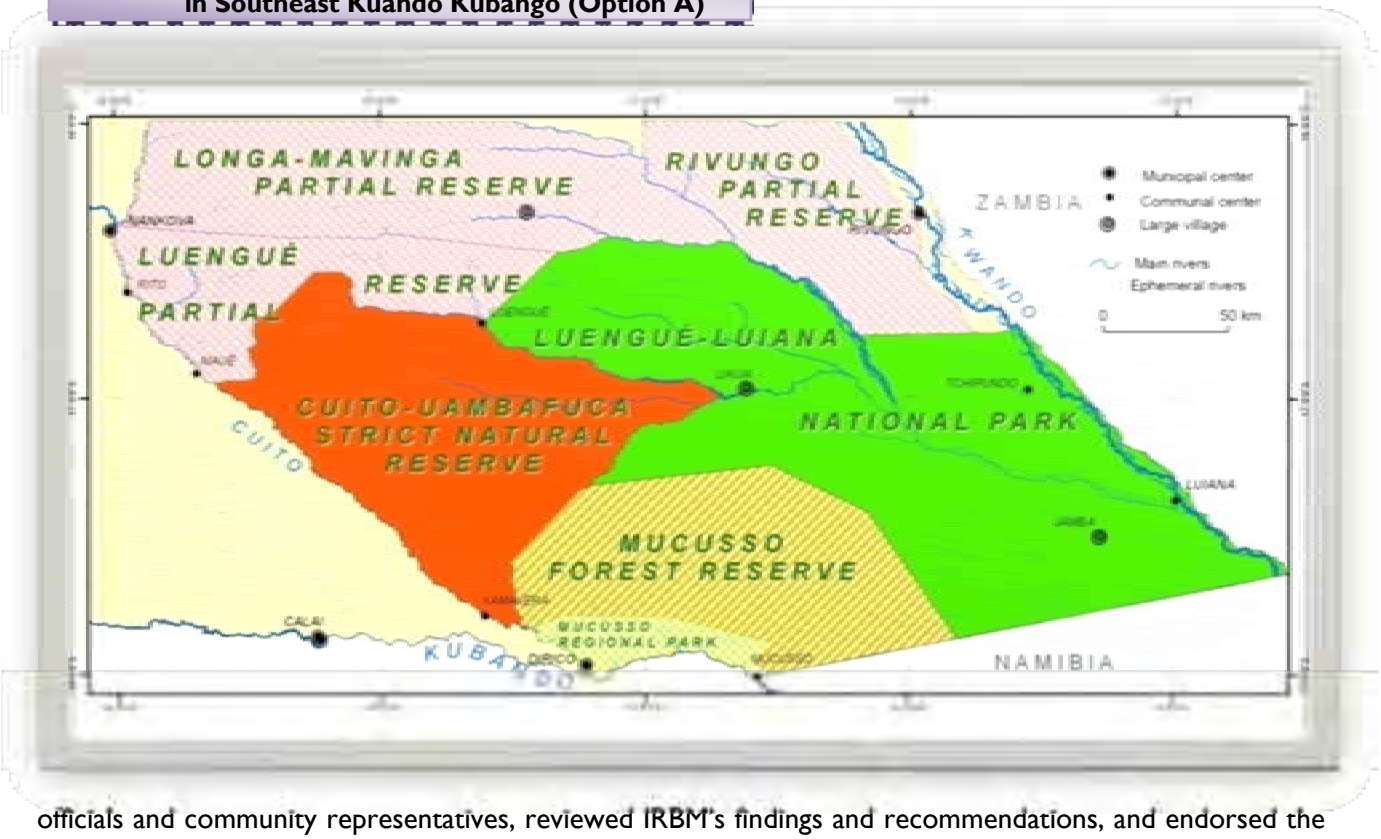
Originally, IRBM had been requested by MINUA, and confirmed by USAID, to prepare a management plan for the *Coutada do Mucusso*. However, in March 2008, the Program's Implementation Committee[9] reviewed progress, including results of a legal review conducted of Angola legislation and policy related to protected areas and conservation. Since a major conclusion of this legal review was that a *coutada* could not legally be designated for conservation, the original deliverable of a management plan was inappropriate and relatively superfluous. The Implementation Committee, therefore, requested that IRBM prepare an assessment of the protected area status and

[9] The Implementation Committee of the *Kuando Kubango Biodiversity Program* includes the National Director of the Environment and representatives of the Provincial Government of Kuando Kubango, the Angolan Institute of Forest Development, the Okavango River Basin Commission and the NGO ACADIR.

boundaries within the southeast Kuando Kubango block and propose to the Angolan government appropriate boundaries and enhanced conservation status relevant to the biophysical and socioeconomic inventories conducted (see Map 2 for original categories within southeast Angola). This assessment, and subsequent proposal for enhanced conservation, would replace a previous request to develop a management plan of the *Coutada do Mucusso*, because the Implementation Committee determined that the future protected area status itself must be understood before a management plan could be developed for any discrete area.

IRBM completed this assessment of the protected area status of Southeast Kuando Kubango in collaboration with its Angolan partners and presented a proposal for a comprehensive protected area network within southeast Angola, encompassing over 77,000 km². In September 2008, the Implementation Committee, which included local government

Map 3 - Proposed Reclassification of Protected Areas in Southeast Kuando Kubango (Option A)



officials and community representatives, reviewed IRBM's findings and recommendations, and endorsed the proposed conservation area (see Map 3). A final draft of this assessment, incorporating stakeholder recommendations, was presented to the new Angolan Ministry of Environment in November 2008, for further review and action by the Angolan Government.

Major achievements accomplished implementing the *Kuando Kubango Biodiversity Program* are listed in Table 3.

Table 3 - Accomplishments of the Kuando Kubango Biodiversity Program

NBSAP Strategic Area	IRBM Accomplishment	Output
A: Research and Information Dissemination	A.1 Conducted field-based vegetation assessments, identified woody species occurring in the Mucusso Reserve and assessed vegetative diversity	A.1. List of tree species occurring in the Mucusso Reserve
	A.2. Prepared land cover maps of the Mucusso Reserve and of Southeast Kuando Kubango (including the Luiana, Mucusso, and Luengue Reserves) using field data and remote sensing, which were vetted and peer-reviewed with the program *Implementation Committee* and with specialists at the *Harry Oppenheimer Okavango Research Center* of the University of Botswana	A.2.a. Land cover map of the Mucusso Reserve A.2.b. Land cover map of Southeast Kuando Kubango A.2.c. GIS layers of vegetation cover
	A.3. Analyzed historical land use and prepared maps of land cover change along the Kubango River front in Angola	A.3.a. Historical land cover change maps (in Progress Report March-May 08) A.3.b. GIS layers of land cover change
	A.4. Conducted field-based assessments of larger mammals in a range of habitats, and established a GIS mammals database. Conducted detailed design for Aerial Survey of Mammals in Southeast Kuando Kubango* **Aerial survey was not completed due to lack of approval from INAVIC. See Sept-Nov 07 progress report*	A.4.a. Report on mammals assessments A.4.b. GIS database of mammals data A.4.c Aerial survey design layers in GIS database
	A.5. Assessed and mapped the wetlands of Southeast Kuando Kubango	A.5.a. Map of wetlands of Southeast Kuando Kubango A.5.b. GIS layer of wetlands of Southeast Kuando Kubango
	A.6. Conducted weekly monitoring and mapping of veldt fires	A.6.a. Report on findings of fire mapping (in Progress Report Sept-Nov 07) A.6.b. GIS layers of fire incidents over time
	A.7. Conducted participatory assessments of community natural resource use and livelihoods, including communities in riverine and remote areas	A.7. Report on findings from community assessments
	A.8. Established a geographic database for the target area, which includes raster and vector data covering multiple thematic layers (see GIS database directory)	A.8. Geographic database
	A.9. Supported a study on the Assessment of the Use and Economic Value of Selected Critical Wetland Resources along the Namibian side of the Kubango River, and on birds in neighboring areas of Namibia	A.9.a. Report on *Assessment of the Use and Economic Value of Selected Critical Wetland Resources* A.9.b. Report on rare and endangered bird species along the Kubango River
B: Education for sustainable development	B.1. Prepared and published a field Guide to the Mammals of Kuando Kubango, based on research conducted by IRBM	B.1. Guide to the Larger Mammals of Kuando Kubango

	B.2. Prepared and published a field *Guide to the Trees of Kuando Kubango*, based on research conducted by IRBM, which provides information on tree identification, characteristics and uses	B.2. Guide to the Trees of Kuando Kubango
	B.3 Conducted training on Tree Identification, Vegetation Assessments and Mammal Inventories	B.3. Training Report
	B.4 Conducted exchange visits whereby Angolan traditional authorities visited with Namibian traditional authorities and conservancy members, who have experience benefiting from conservation-based development.	B.4.a Progress report March-May 2008
	B.5 Conducted exchange visit of San peoples from Namibia to visit Angolan San and Bantu communities to share experiences and opportunities regarding livelihoods and natural resource use	B.5.a Report on exchange visit
	B.6 Conducted extensive on the job training	B.6 Progress reports
C: Biodiversity management in Protected Areas	C.1. Conducted an analysis and proposed revision of the protected area status and boundaries of 70 000ha of land in Southeast Kuando Kubango, which includes the current Luiana Partial Reserve, Luiana Coutada, Mucusso Coutada, Luengue Coutada and Longa-Mavinga Coutada.	C.1.a. Report *Evaluation of the Protected Area Status of Southeast Kuando Kubango* C.1.b. GIS layers of maps with options for revised protected status and limits
	C.2. Identified corridors for mammal access to the Kubango River based on human settlement, mammal pathways and land use considerations.	C.2.a Map of Proposed Ecological Corridors (in Report *Evaluation of the Protected Area Status*) C.2.b. GIS layers of Ecological Corridors
D: Sustainable use of biodiversity components	D.1. Facilitated an assessment of Forest Resources in Kuando Kubango with the US Forest Service and IDF	D.1. Report on assessment
	D.2. Facilitated a fire management training using methodologies that engage communities and government in partnership, engaging Provincial Director of Environment, IDF and local technicians	D.2. Training report
E: The Role of Communities in Biodiversity Management	E.1. Supported the establishment of a local Association for conservation and development Established a community center for Environmental Conservation and Development	E.1. Center
	E.2. Conducted consultations with communities regarding elephant intrusion into cropland, and acquired geographically referenced data on elephant raids	E.2. Indication of incidences of human wildlife conflict, in May-June 2007 Progress Report
	E.3. Conducted a series of trainings on methodologies to mitigate elephant intrusion into cropland, with trainees from villages along the Kubango River in Angola	E.3.a. Progress report December-February 2008 E.3.b Progress report June-August 2008 E.3.c. Posters on how to use chili to deter human elephant conflict
	E.4. Conducted training on and implementation of community consultations and participatory appraisal of socio-ecological issues	E.4. Report on training and findings (see A.7.a)

F: Institutional Strengthening	F.1. Conducted training on mammal monitoring and vegetation identification- and forest management, including basic technical skills such as the use of GPS, with IDF, MINUA, local technicians and government technicians from Namibia and Botswana	F.1. Training report (see B.3.a)
	F.2. Facilitated a workshop on how to conduct stakeholder consultations in the KAZA TFCA, with co-funding from US State Department	F.2. Workshop report

IRBM also, at the request of the Angolan government, field guides for trees and mammals for Kuando Kubango. These immensely valued guides have been turned over the Ministry of Environment and the Institute for Forestry Development (IDF) in Angola and have been distributed to field staff in the province. Remaining documents have been handed over to the OKACOM Secretariat for its reference center at the conclusion of IRBM.

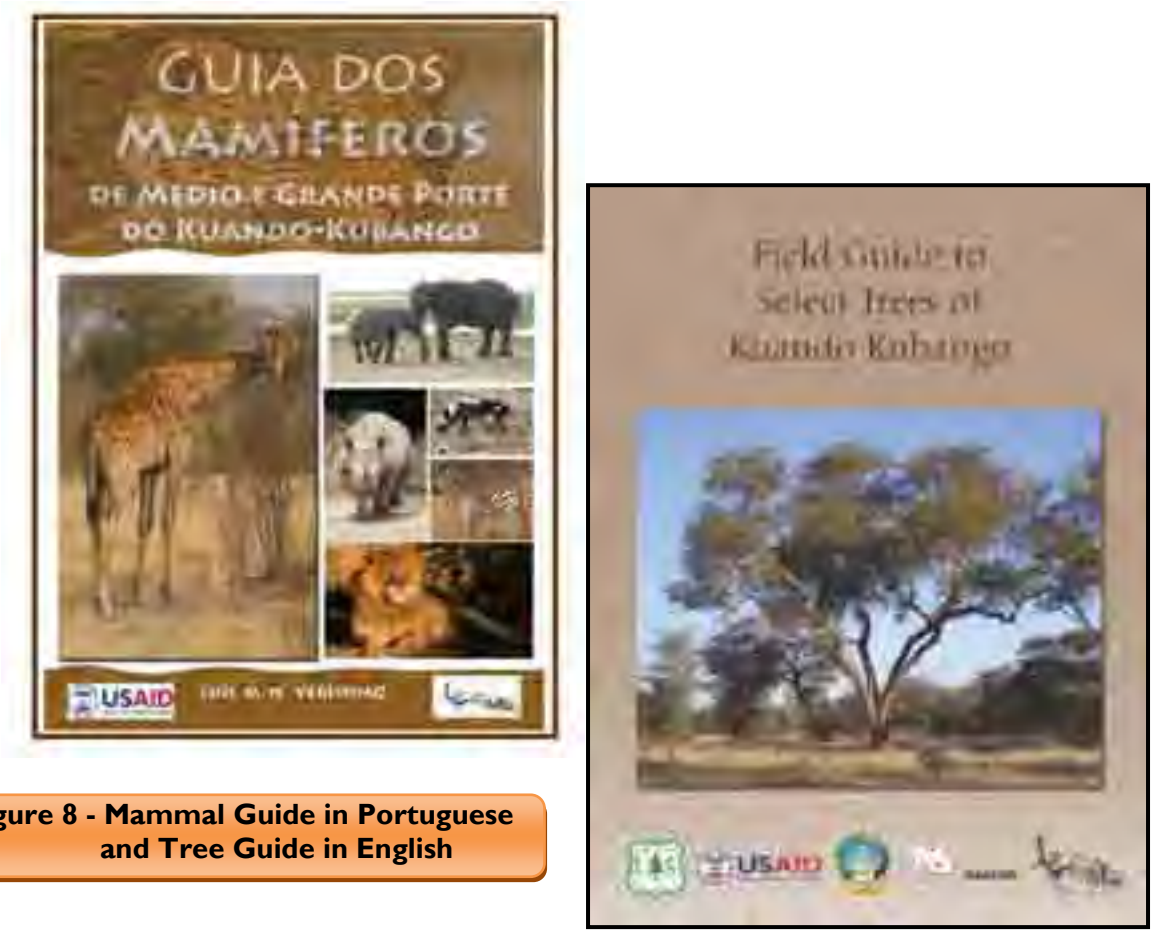


Figure 8 - Mammal Guide in Portuguese and Tree Guide in English

2.6 IMPROVING COMMUNITY MANAGEMENT AND LOCAL GOVERNANCE OF NATURAL RESOURCES

Originally, IRBM had no mandate to intervene in community-based river basin initiatives. With ERP providing support to OKACOM and the basin's stakeholders for the development of a participatory decision-making framework, USAID required that IRBM determine a possible intervention niche for CBNRM actions relevant to improving river basin management in the Okavango Basin. Stakeholders participating in the February 2005 SAPW identified an assessment of the potential for IRBM support for CBNRM in Angola as their second highest priority.

IRBM joined with ERP to conduct an assessment of the socioecological situation in Kuando Kubango Province, starting in July 2005, as a first step in determining the potential IRBM role for community management and governance of natural resources within the riverine and threatened areas. The socioecological process included the following steps:

- Introducing IRBM and proposed approach for assessment to ERP provincial Reference Group;
- Completing the Scoping Exercise, which involved interviews with key government, non-government and civil society informants about the current socioeconomic situation, issues that need to be addressed, and existing institutional capacity available;
- Training ACADIR and local community enumerators on procedures and techniques for conducting a Participatory Rural Appraisal (PRA);
- With Reference Group, determining sample of communities for conducting PRA Socioecological Survey in the province;
- Conducting PRA in ten communities geographically and socioeconomically stratified throughout the province;
- Analyzing results, conducting feedback sessions within the communities, preparing reports and posters in local languages displaying conclusions, and preparing criteria for potential IRBM grants; and
- Finalizing criteria and getting approval from Reference Group for target communities and projects.

Based upon the results of the socioecological assessment, USAID and OKACOM recommended IRBM demonstrate approaches to community-based river basin management in Kuando Kubango, and USAID augmented the IRBM budget accordingly to implement this program.

IRBM signed a grant agreement with World Vision – Angola (WVA), and a subcontract with ACADIR to implement the community program in Menongue Municipality. WVA, because of their comprehensive community development and organizing experience in Angola, led the process and provided a mentoring role to ACADIR in aspects of community organizing. WVA also leveraged funds from other on-going programs in Angola for implementation of complementary conservation agriculture projects in the IRBM communities of Kangamba-Lumeta (LUKA), Pandera, Bairro Azul, and Ndumbo.

Organizing communities towards a group activity requires comprehensive experience and skills in facilitation and managing group dynamics. ARD, utilizing one its proven facilitation technologies, Advanced Participation Methods (APM), has demonstrated in numerous countries a rapid and effective coordination and mobilization approach for community action planning. Specifically, APM helps communities develop collective visions, strategies, and concrete action plans for implementing projects. IRBM trained 35 individuals, from OKACOM and other stakeholder organizations, in APM facilitation skills. A smaller group

of trainees were used to train and demonstrate the community-based approach for LUKA and Pandera, and ACADIR subsequently completed the action plans for Ndumbo and Bairro Azul. Each community prepared a four-month action plan for implementing their respective projects, and WVA and ACADIR provided organizing, coordination, and implementation assistance, while IRBM provided overall supervision, coordination and technical and financial assistance.

2.6.1 PANDERA WATER SUPPLY REHABILITATION PROJECT

Pandera bairro is located four kilometres from Menongue town, with a population of approximately 10,000 households belonging to the Ngangela, Tchokwe and Umbundu tribes. The bairro is divided into nine zones and led by a *Regedor*, working together with zone coordinators (*sobas*).

Figure 9 - US Ambassador Cynthia Efird Inspecting Improved Wier and Pump Inlet

The first water system was constructed in Bairro Pandera in 1973-74. However, the system severely deteriorated during the subsequent years of armed conflict in Kuando Kuabngo. In 2000, with UNICEF funding and a partnership with the Provincial Water Department, the Pandera reticulation systems was rehabilitated. However, within one year, the pump was flooded and since the community had no skills or experience in financial or mechanical maintenance, the system remained unused until discussions with IRBM in 2005. The breakdown of the system resulted in the community's continued use of untreated water from the Luahuca River for washing, bathing, and drinking.

IBRM formed a partnership with the Departemento da Provincia de Aguas (DPA) and OKACOM to rehabilitate the physical system, but more importantly, to strengthen local institutions for the sustained management and maintenance of the system. The objective of this community project was to ***increase access to clean potable water for the Pandera community and ensure that its use and consumption will reduce pressure on the Luahuca River and reduce water-borne diseases***.

Working through local partners, DPA, World Vision and ACADIR, IRBM repaired the pump, improved the inlet structure to the sump, and refurbished damaged sections of pipe. Additionally, IRBM strengthened the Pandera Community Development Group (PCDG), but providing extensive training and mentoring in financial management, sanitation and public health, and water system maintenance. The DPA agreed to provide on-going technical support and the PCDG developed and implemented a pre-paid water distribution network, with households purchasing water tickets and Tap Guards hired and placed at each communal standpipe to ensure that water fees had been paid. The revenue collected by the PCDG was used to maintain and expand, if necessary the current reticulation system. The municipal government, impressed by the commitment of the community, donated a generator for pumping the water and providing electricity to key community meeting facilities.

At the end of the community project, approximately 8,000 people, throughout six Pandera zones, benefitted from the project.

2.6.2 Bairro Azul Sanitation Project

Figure 10 - Improved pit latrine in Bairro Azul

The community of Bairro Azul is located along the banks of the Kuebe River, slightly downstream of the center of Menongue. Residents of the community use the river for bathing, collection of domestic water, washing clothes, and disposal of wastes. A public health problem exists locally, and in 2006, the community experienced an outbreak of cholera, an indicator of the poor sanitation situation. Because cholera infected Bairro Azul, the community switched its priority IRBM project from agriculture to improving the sanitation situation.

The objectives of the community initiative was to demonstrate links to environmental health and sanitation programs, in collaboration with the introduction of a water supply system, to be funded by the Menongue municipality. Improved municipal solid waste management collection and disposal were targeted, and hygiene, health and disease prevention programs were introduced and supported. The community organized and implemented river cleanups and appropriate locations for laundries and improved sanitation facilities were identified for local government. Improved ventilation pit latrines were installed in 25 households.

IRBM formed a partnership with municipal government, through a memorandum of understanding. The local government provided trucks and personnel for improving the collection of wastes from the community, while IRBM organized and maintained the internal solid waste collection system. The demonstration latrine project became a model for the municipality to replicate with capital improvement funds provided from central government in 2008.

2.6.3 LUKA Ecotourism Project

Figure 11- Situation Before IRBM Intervention

The two communities of Kangamba and Lumeta are located on a reservoir of the Kangumbe River, and the area is very attractive for local residents and tourists, especially on weekends. Previously few procedures or rules for controlling environmental pollution around the site existed. Solid waste was not collected or properly disposed of in the community, causing an aesthetic and environmental problem. The river and the reservoir are seriously polluted with solid waste and cars and trucks from Menongue are washed in the river, adding oils and detergents to the pollution. The LUKA community project addressed these problems through the development of a solid waste management program, in collaboration with the Menongue Municipal Department of Sanitation. Residents, especially vendors from the tourist market, collected and managed wastes within the community. Trash drums, strategically located and managed by employees of the community and paid for by fees collected from the craft and food vendors, were supplied by IRBM. The municipality collects the garbage in the community and disposes of it in their landfill.

The municipal government also assisted the community rationalize planning of the tourist center, near the reservoir. Vendors were issued licenses by the Community Development Group, established to manage the tourism site and its generated revenues.

Figure 12 - Craft Vendor's Stall Constructed by LUKA community

LUKA residents, accompanied by municipal officials, visited similar community tourism projects funded by the Sida-supported Every River Has Its People (ERP) project in the Kavango Region of Namibia. With that experience, they were able to construct an aesthetic and very attractive tourism village along the banks of the Kamgambe River, which generated fees and revenue for the community.

LUKA also constructed a community car wash, to alleviate the congestion and pollution of cars washed in the river. Waste water from the car wash will be treated in a proper disposal system, the site of the car wash was located appropriately to the river, and in agreement with the Provincial Environment Department, vehicle access to the river will be restricted. In addition to a cleaner and healthier riverine environment, the community raised $5,000 during the first six months operating the community tourism site.

2.6.4 Ndumbo Community Conservation Agriculture and Bee-keeping Project

In 2006, United States Forestry Service (USFS), International Programs, collaborated with IRBM on the assessment of the forestry situation in Kuando Kubango Province. During that assessment, the issues facing the sustainable management of forest resources in the province, including overproduction of charcoal, were clearly illustrated by the community of Ndumbo, located 45 kilometers west of Menongue. With IRBM's partners, World Vision – Angola and ACADIR, several community-based programs were developed and implemented in the community to enhance the understanding of forestry to the livelihoods of residents. IRBM supported activities related to community wood lots, beekeeping and conservation farming in the riverine areas. In addition, numerous activities were proposed for IDF integration into their provincial action plan, addressing the over production of charcoal for use in Menongue.

2.7 SUPPORTING SADC INFRASTRUCTURE AND SERVICES DIRECTORATE – WATER DIVISION RIVER BASIN ORGANIZATION PROGRAM

Figure 13 - Opening the First RBO Workshop in Gaborone

SADC, through the Water Division of its Infrastructure and Services Directorate (DIS-WD), has prepared and approved both the Protocol on Shared Watercourses in the SADC and the Regional Strategic Action Plan on Integrated Water Resources Development and Management (RSAP-2) to guide its regional river basin management support program. The objective of the

Protocol is "…*to foster closer cooperation for judicious, sustainable and coordinated management, protection and utilization of shared watercourses and advance the SADC agenda of regional integration and poverty alleviation.* RSAP-2 aims to assist the development of river basin institutions within the region, share best practices on Integrated Water Resources Management among SADC member states, and promote other steps necessary to implement the Protocol.

USAID/Southern Africa supports SADC's Revised Protocol and RSAP-2, the main vehicle of this support was IRBM. The USAID Strategy for "Improved Management of Shared River Basins" was authorized for funding during the period of 2004-2008. This ongoing USAID program includes two primary components: (a) strengthen the capacity of regional institutions to improve management of riparian ecosystems that cross boundaries and (b) enhance community participation in the management of resources and protection of biodiversity.

The IRBM support to SADC Water Division has revolved around best means to strengthen its capacity to assist its members – transboundary river basin organizations within the region. Funds for workshops and consultancies were available to the DIS-WD for activities relevant to the objectives of the Protocol and the RSAP-2. Partnerships with other donors, most notably GTZ, led to coordination and cooperation in financing and organizing joint activities. During the last three years, IRBM has supported the following main activities of the DIS-WD:

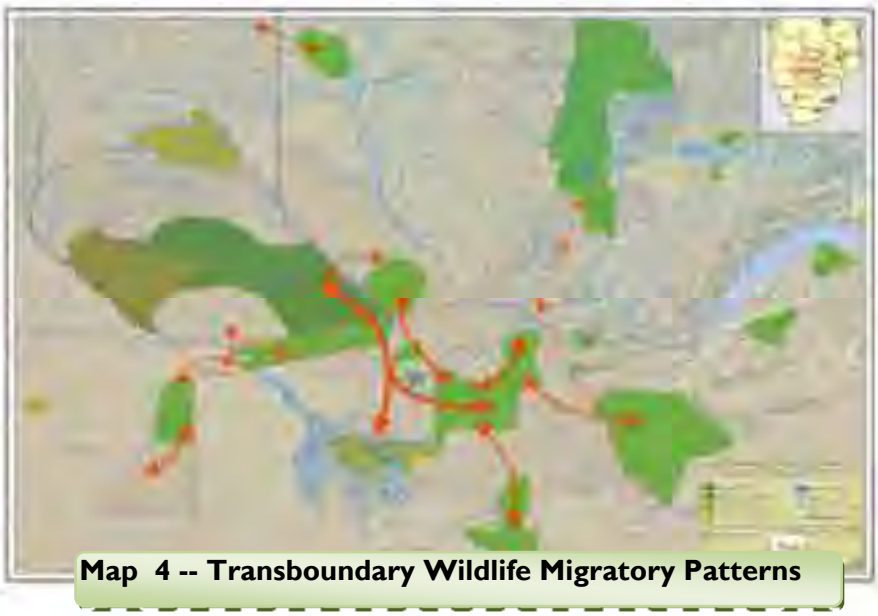
- With GTZ, funded three regional workshops focused on strengthening river basin organizations' institutional capacity;
- Funded inaugural ministerial-level meeting on transboundary river basin obligations for Botswana ministries and departments;
- Developed demonstration meta database in Okavango River basin and determined SADC WD IMS Strategy;
- Preparing guidelines for benefits sharing, financing RBOs, and monitoring of river basin organizations institutional growth;
- Identifying coordinating mechanisms between RBO and TFCA institutions; and
- Designed and created SADC water division website and recommended means to improve its information management.

In addition, IRBM provided support to the Food and Natural Resources Directorate (FANR) to assist with logistics and to design and facilitate a workshop – ***Achieving compatibility between the Trans-frontier Conservation Area (TFCA) Concept and International Standards for the Management of Trans-boundary Animal Diseases (TADs).*** This successful workshop was the first of its kind in the region, where veterinary and wildlife specialists developed a joint program to address conflicts in land use in TFCAs.

> *"It was remarkable that such a nexus of wildlife and animal health sectors could be achieved… contributing to what had been a dynamic and harmonious working group…a remarkable achievement when considering the issues of livestock and wildlife"*
>
> *Dr. Andrea Massarelli*
> *SADC FMD Team Leader*

Outputs from the workshops and consultancies all aim at developing working tools, handbooks and procedures that DIS-WD and FANR can use to assist river basin organizations and TFCAs develop their skills and transboundary water and conservation programs respectively.

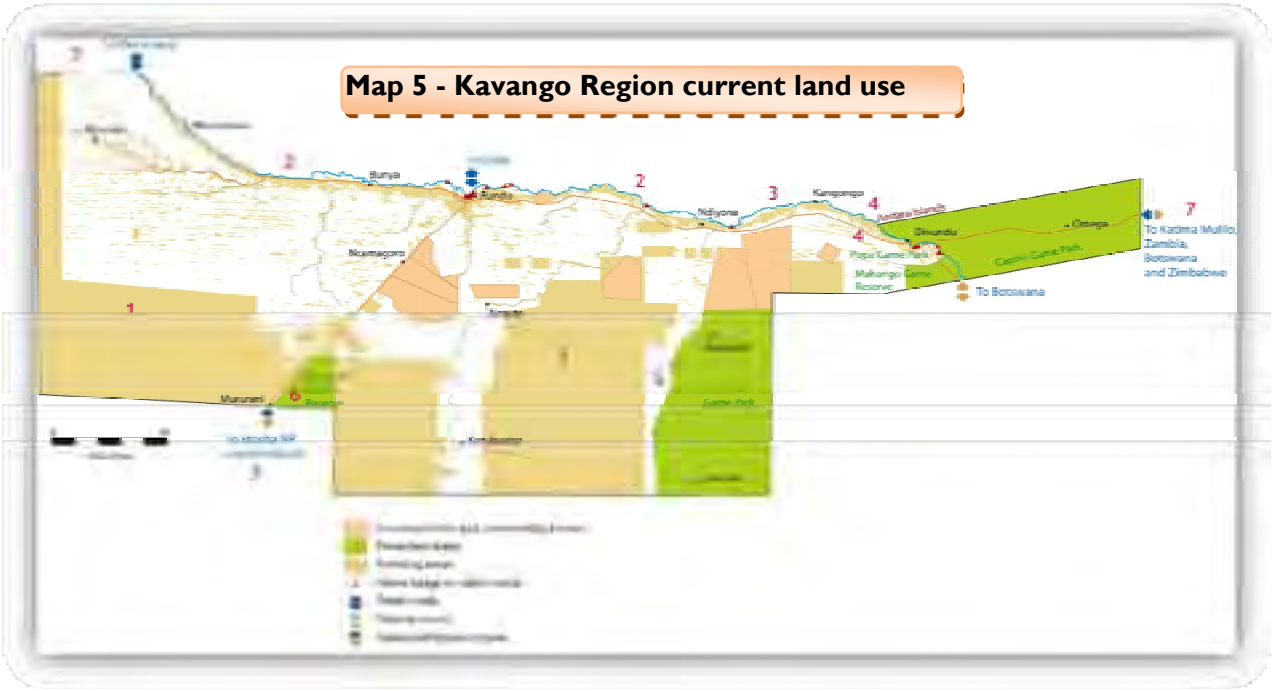
2.8 DEVELOPING A FRAMEWORK FOR TRANSBOUNDARY LAND USE PLANNING



Map 4 -- Transboundary Wildlife Migratory Patterns

OKACOM and KAZA have identified transboundary land use planning as a **regional priority** action for managing river basin and TFCA resources, as outlined in their respective documents, the draft OKACOM Strategic Action Programme (SAP) and the KAZA-TFCA Feasibility Study. Numerous land use conflicts either exist across international boundaries or have the potential in the future to surface without coordinative transboundary planning. Even within countries, such in the Kavango and the eastern Caprivi regions of Namibia, conflicts between agriculture, tourism, and wildlife are surfacing due to lack of inter-agency coordination. International cooperating partners are investing in individual sector-based support without support for coordination between sectors. As evidenced by Map 3, many wildlife migratory patterns cross through communal aras of multiple land use. For biodiversity to be considered adequately within national and transboundary plans, appropriate land use planning forums and frameworks need to be developed.

A consultative land use planning process was completed by NNF during the IRBM extension period. Map 4 illustrates current land use within the Kavango Region.

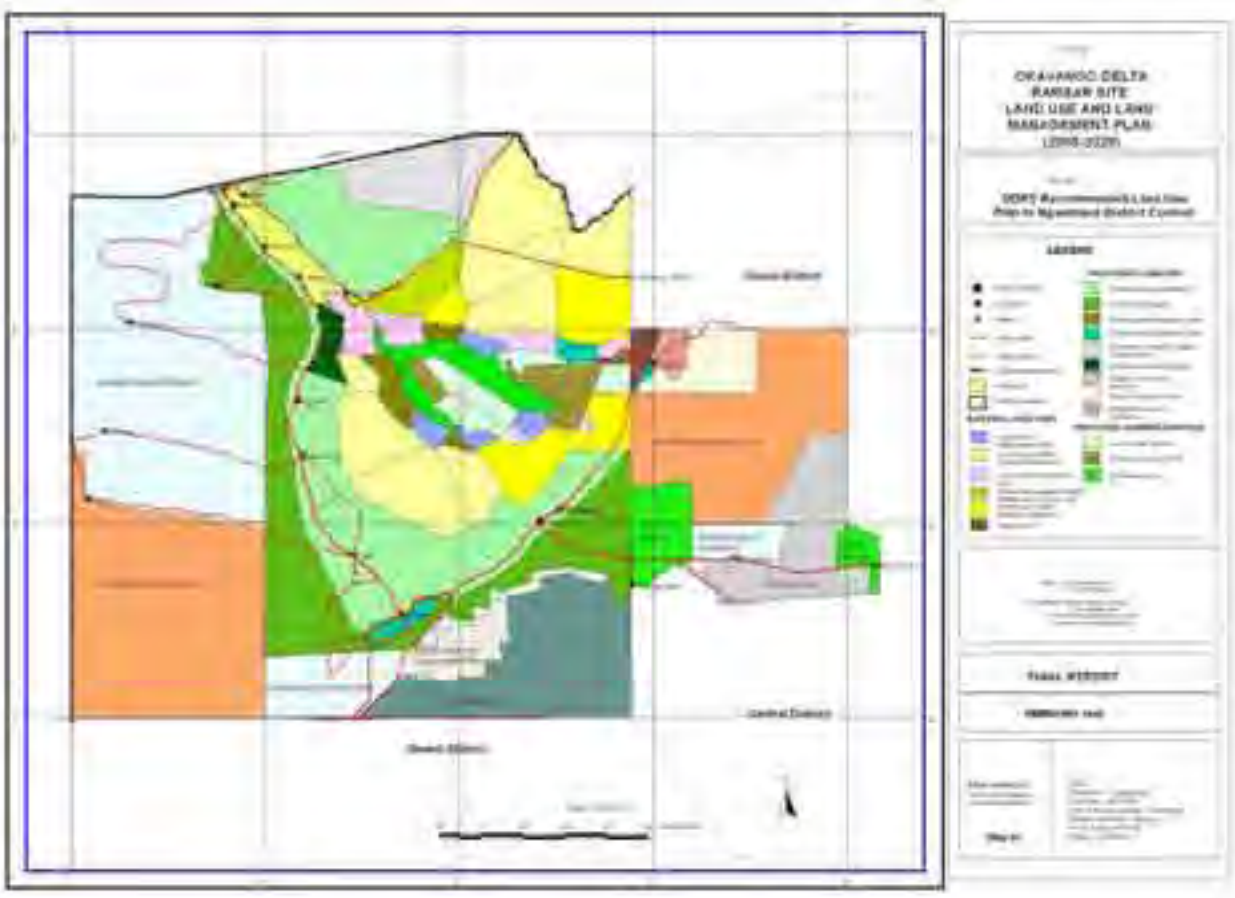


Map 5 - Kavango Region current land use

Namibia lacks a comprehensive land use planning process although a number of initiatives are currently either being supported or will be supported by ICPs. Comparing Maps 3 and 4 illustrates the potential land use conflicts that could arise at the borders between Namibia and Angola, Implementation of the KAZA program requires access to transboundary wildlife migration routes, both for enhancing regional conservation programs and also to promote and support improved livelihoods through tourism development in Angola and Zamiba.

Botswana, as part of its Okavango Delta Management Plan (ODMP) development, produced a land use plan for the RAMSAR site, a portion of the Ngamiland District. Subsequently, the Government of Botswana, through its Ministry of Lands, and with the endorsement of the Tawana Land Board, has commenced a land use plan for the entire district that would cover those areas outside the RAMSAR area while integrating the previous efforts conducted under the ODMP effort. The land use plan prepared for the RAMSAR site provided options for the Tawana Land Board and the DEA office in Maun to consider in guiding future developments with the Okavango Delta and the panhandle. The option proposed is shown in Map 5.

Map 6 - Recommended land use plan for RAMSAR site in Ngamiland



OKACOM, at its June 2008 meeting and following the recommendation of IRBM, agreed to include collaborative, transboundary land use planning in the Terms of Reference and work plan of the Biodiversity Task Force. As documented by participants at the SADC FANR workshop conducted in Kasane, compatible land use across international borders and within TFCAs is acceptable and recommended by both the conservation and livestock sectors. OKACOM will most probably endorse the development of a

basin-wide land use plan as part of its Strategic Action Progamme (SAP) and KAZA has also endorsed the need for a five-county compatible land use plan.

EPSMO is finalizing the Transboundary Diagnostic Assessment (TDA) and the SAP. However, institutional arrangements for conducting land use planning within the basin are dependent upon the final SAP proposed actions and deliberations of the OKACOM Institutional and Biodiversity task forces, to be initiated in early 2010. A governance framework will be developed by EPSMO for the implementation of the SAP, including responsibilities for each of the major activities, like land use planning. Cognizant of these final deliberations, the following actions have been proposed by IRBM:

Within the OKACOM institutional framework, to be further articulated with EPSMO recommendations, the biodiversity task force should:

- Highlight areas within the basin with critical cross-boundary conflicts and need for land use planning coordination and present to biodiversity task force:
- Build upon the recommendations from the SADC FANR workshop for coordinating veterinary and biodiversity conservation issues, including recommendations for integrating informal professional networks. Include representatives from veterinary departments from all three countries on biodiversity task force;
- Link the KAZA and OKACOM secretariats, preparing and supporting joint planning, reporting, and monitoring of activities relevant to both organizations, such as land use planning. Include relevant KAZA Technical Committee members on biodiversity task force;
- Include representatives from respective ministries of lands from Angola, Namibia and Botswana on biodiversity task force;
- Through the OKACOM Secretariat and the Namibian National Coordinating Unit (NCU), identify complementary activities within the Ministry of Lands and Resettlement (MLR) being supported by the Millennium Challenge Corporation (MCC) and UNDP-GEF for implementation of the Community Land Support/Community-based Range Management Projects and the Country Partnership Program (CPP) respectively to ensure integration into the SAP and future land use planning activities within OKACOM;
- Prepare detailed terms of reference for the biodiversity task force for collaborative land use planning.

As part of the ongoing recommendation to rationalize cross-boundary land use planning, IRBM produced for OKACOM, the Angolan Ministry of Environment and the Ministry of Tourism and Hotels, and the KAZA Secretariat the following:

- Complete biophysical and socioeconomic surveys of Mucusso (approximate area of 21,000 square kilometers);
- Proposal for conservation landscape area in southeast Angola, consistent with existing land use in northern Kavango Region of Namibia;
- Summary of land use issues and vision of future land use for Kavango Region in Namibia; and
- Mechanisms for coordinating planning and implementation activities between OKACOM and KAZA Secretariats.

EPSMO and OKACOM will integrate these outputs into the final TDA and SAP.

2.9 ASSISTING WITH DEVELOPMENT OF TROPICAL FORESTRY CONSERVATION FUND IN BOTSWANA

On October 5, 2006, the Governments of the United States and Botswana entered into a debt reduction agreement under the Tropical Forest Conservation Act (TFCA), with a view to facilitating the conservation, protection, restoration, sustainable use and management of tropical forests in Botswana. The agreement required the establishment of a Tropical Forestry Conservation Fund (TFCF) and a Tropical Forest Conservation Board (TFCB), as well as the appointment of a fiscal agent.

A Steering Committee comprising officials from the Department of Forestry, the Attorney General's Chambers, the Ministry of Forestry and Development Planning, the Embassy and USAID, oversaw the establishment of the Forest Conservation Fund, the Board and the Company. IRBM, with the assistance of its environmental lawyer, assisted the Steering Committee and the Attorney General in preparing the legal framework for the establishment and registration of the fund under the Companies Act. This assistance, although a relatively small IRBM intervention, assisted with critical inputs and technical advice during a very tightly scheduled period and facilitated the Government of Botswana's adherence to the conditions of the TFCA agreement.

2.10 PROMOTING CLEAN ENERGY

In September 2008, USAID added $90,000 to the IRBM contract to be used for the provision of clean energy within the basin. Given the commitment and investment of USAID and other donors to CBNRM activities in the region, these funds were used to provide electricity to rural sites within existing or planned community trusts with the three countries of the basin. The following eight sites were equipped with solar systems:

Figure 14 - Solar System at Mucusso Community Resource Center

- Sankuyu Community Trust – Botswana, Kaziikini Campsite;
- Sankuyu Community Trust – Botswana, Office;
- Mucusso Coutada – Shamue Association Community Resource Center;
- Mbamba Community Campsite – Namibia;
- George Mukoya Community Campsite – Namibia;
- M. Nyangana Conservancy Office – Namibia;
- Kanyinga Forest Office – Namibia; and
- Environmental Club in a school in the Kavango Region – Namibia.

IRBM office equipment were donated to the Shamue Association in Mucusso and the solar systems installation provided this community association electricity for conducting training and providing information on the Okavango basin. All the community campsites in Botswana and Namibia will use the systems to attract additional regional overland tourists visiting the basin.

2.12 TRAINING AND CAPACITY STRENGTHENING

Although not specifically a training project, IRBM did address priority training needs, with a philosophy of utilizing comparative skills of the member states and then regional trainers before bring in international trainers.

Areas of skills enhancement addressed by IRBM included training in:

- Water resources monitoring and data management;
- Conducting vegetation and mammal inventories and designing aerial surveys;
- Facilitation of meetings, workshops, and community action programs;
- Rapid appraisal techniques for conducting socioeconomic and biophysical assessments;
- Proposal writing;
- NGO financial management;
- Conservation agriculture;
- Community-based conservation and tourism management;
- HIV/AIDS awareness;
- Sanitation and public health; and
- Strategic planning.

Combined, the IRBM program addressing both *targeted training* and *training in natural resources management and/or biodiversity conservation* reached 1,514 people (see table in Appendix C). All the training was designed to be action oriented and interactive, requiring use during the training in real-life job situations.

3. SUCCESS STORIES

As suggested by OKACOM and other collaborating partners, IRBM achieved remarkable success in strengthening organizations involved in some aspect of transboundary river basin management. The project's success stories range across many of the components' programming and highlight very prominently how people felt the impacts of project initiatives. These stories also illustrate key lessons learned and best practices developed during the last four years.

3.1 BASIN STAKEHOLDERS PREPARE STRATEGY AND ACTION PLAN

Created in 1994 to advise Angola, Botswana, and Namibia on the management of the Okavango Basin, OKACOM realized it had few tools to broker stakeholder consensus in the planning and coordinated implementation of basin-wide programs. Providing opportunities for basin managers and resource users to be involved in a decision-making process improves the sense of ownership and participation in program implementation. In 2004, at the request of OKACOM, IRBM designed and facilitated a strategic action planning workshop for Commissioners, representatives from civil society, and managers of regional donor initiatives to gather recommendations, build strong inter-organizational partnerships, and prepare a basin-wide action program. Although the first time OKACOM and its key stakeholders had collectively prepared action strategies for basin-wide programs, a comprehensive list of specific and concrete actions, to be implemented with assistance from USAID and other donors, resulted from the workshop and has been used by the commission since to implement its programs.

The member states comprising OKACOM had traditionally participated in meetings and workshops representing the strategic and political interests of their respective sovereign countries. Positions were presented and voted on and few occasions arose where the Commission reached consensus or resolved problems as a coordinated team.

This Strategic Action Planning Workshop, utilizing a toolbox of Advanced Participation Methods (APM), demonstrated how collectively the Commission could reach consensus on improving the management of the entire basin, without sacrificing respective national interests. OKACOM and other basin stakeholders, operating as a team, agreed for the first time that Angola needed special attention and a higher proportion of funds and support to reach a comparable technical level to Botswana and Namibia.

> "This process has been a stakeholder designed event and the process of bringing everyone together was excellent… I would like to commend USAID for doing that…."
>
> Director of the Namibian Nature Foundation

Using the experience of this participatory approach, OKACOM has become an effective team, continuing to coordinate basin-wide programs and donor initiatives in the basin. The commission, and its member states' technical agencies, now actively monitors programs, communications, and community-based initiatives. Strong linkages have been formed between the Commission, local government, communities and civil society within the basin. Realizing the power of this participatory process, OKACOM requested and received from IRBM additional training in APM, with trained facilitators leading numerous consensus-building workshops on critical issues affecting the Commission.

3.2 BETTER INFORMATION ON WATER FLOWS COULD SAVE LIVES

"The Okavango Basin has a wealth of data but they are often not accessible. We need to think over what data we need to collect, ask ourselves why we collect it, and develop appropriate monitoring systems."

Gabaake Gabaake, OKACOM Co-Chair, Botswana

Okavango River communities in southeastern Angola have benefited from the rehabilitation and installation of twelve hydrological monitoring stations. These facilities, co-funded by IRBM and the UNDP GEF Environmental Protection and Sustainable Management of the Okavango River Basin Project (EPSMO) will – for the first time since the end of 30 years of civil conflict in Angola – make reliable information regarding water resources of the upper Okavango River basin available to decision makers and users. Information collected, such as water flows and availability, will facilitate decisions on agricultural development, urban development and environmental management. The data gathered will also be used to map changes in water flows over time, which could provide advance warning of unusual events, such as drought or flood. This could in turn inform planning and mitigation measures for communities – a critical need for communities living downstream in Namibia and Botswana. To ensure better collection, analysis and management of information, IRBM provided funding for the training of water technicians from the Departments of Water Affairs from Angola, Botswana and Namibia. Additionally, the Kuando Kubango Provincial Water Department, in Angola, has been helped to develop its capacity for monitoring river flows. Technicians operating these monitoring stations have learned the value of data, along with the operational and maintenance requirements of the stations. The data gathered form part of an overall knowledge management system designed to assist local communities and other stakeholders understand the complex ecosystem in the Okavango. These data will help them address development issues which may arise in a more integrated and effective manner. OKACOM, through its Hydrological Task Force, has prepared protocols for the sharing of data collected throughout the basin by the three member states, and in 2009 reiterated the need to use these data more proactively to monitor major floods and better inform downstream governments and communities. The draft protocol for data sharing among the three countries under the OKACOM umbrella was approved at the 2009 OKACOM meeting in Angola.

Figure 15 - USAID and OKACOM Handing Over Hydromet Station

3.3 GOOD GOVERNANCE OF THE OKAVANGO RIVER BASIN RECEIVES A BOOST

"Without USAID's support, the commission would have not been able to establish the Secretariat…. IRBM helped the Commission finalize its legal organizational structure, which allowed the creation of its administrative wing, the newly formed Secretariat"

Dr. Akolang Tombale, Permanent Secretary, Ministry of Minerals, Energy and Water Resources, Botswana

OKACOM, with assistance from IRBM, reached a major milestone with the establishment of its secretariat. Based in Maun, northern Botswana, for its first three years, the Secretariat will provide a range of services, one of the most critical to enhance and support effective communication among the three OKACOM member states – Angola, Botswana and Namibia.

The coordination, administrative, and logistical secretariat services are vital for the Commission to continue its work managing the river basin in a coordinated and environmentally acceptable manner taking into account the water needs and poverty alleviation policies of each of the member nations.

IRBM provided Interim Secretariat services since 2006 while assisting OKACOM establish the Secretariat. Because IRBM provided Secretariat services during this critical period, the Commission could focus on becoming more efficient and effective in its deliberations.

During its 13th annual meeting in Maun, OKACOM signed an agreement with the Swedish Government through its donor agency, the Swedish International Development Cooperation Agency (Sida), which provided $2.2 million to assist the Secretariat become fully operational by the end of 2010, after which contributions from the three member countries will increasingly support this key institution. Commissioners also identified a new Executive Secretary for the Secretariat and with USAID support, prepared a medium-term strategic action plan to guide OKACOM's programs. This USAID support for the establishment of the Secretariat and the innovative and collaborative approach to donor synergy has resulted in OKACOM's strengthening and more effective implementation of the Commission's technical programs.

Figure 16 - Sida and OKACOM Signing Grant Agreement for Secretariat Support

3.4 DONORS OPTIMIZE FUNDS FOR EFFECTIVE PROJECT COORDINATION

Several international cooperating partners assist OKACOM fulfill its responsibilities. Three regional initiatives, financed by USAID, United Nations Development Program – Global Environment Facility (UNDP-GEF) and the Swedish International Development Cooperation Agency (Sida), currently support OKACOM initiatives to develop a Secretariat, prepare a basin-wide integrated river basin management plan, and enhance stakeholder participation in the decisions of wise and sustainable utilization of the basin's natural resources. Several bilateral programs, such as the Okavango Delta Management Plan Project (ODMP) in Botswana, complement these regional programs.

> "…this type of unique cooperative donor planning and implementation of projects demonstrates a model for our Secretariat and other river basins in the region to follow…"
>
> Dr. Ebenizario Chonguiça, OKACOM Executive Secretary OKACOM

Assisted by IRBM, OKACOM strengthened its ability to coordinate and administer multiple donor activities within the basin effectively. The commission established a donor-coordination forum and requests frequent reporting at its meetings. USAID, Sida and UNDP-GEF have effectively coordinated in other SADC fora, such as the Water Strategy Reference Group, to ensure that donor strategies, funds, and projects complement each other, building synergistic partnerships under the guidance and supervision of Southern Africa regional institutions.

USAID and Sida jointly implement programs under OKACOM guidance. Both donors expressed an interest in supporting the development of OKACOM's Secretariat. Rather than duplicate efforts, IRBM agreed to support preparation of the legal framework for the secretariat, while providing interim logistical support to the commission, and Sida offered to assist the Secretariat become fully operational by the end of 2010, after which contributions from the three member countries will increasingly support this key institution. These donors collaborated closely over a two-year period, sharing financial and consulting services toward the development of this important administrative wing of OKACOM.

Figure 17 - Minister Mokaila Officially Opens Secretariat Office in Maun

3.5 BUILDING PARTNERSHIPS FOR IMPROVED CONSERVATION

The *Kuando Kubango Biodiversity Program* was developed under Angola's *National Biodiversity Strategy and Action Plan* in collaboration with the Angolan Ministry of Urban Planning and the Environment (MINUA), the Provincial Government of Kuando Kubango, and the IRBM.

In order to assist the Angolan government consult on biodiversity issues, IRBM sponsored a workshop of the Angolan National Biodiversity Strategy and Action Planning (NBSAP) process in Kuando Kubango in September 2005. Following this workshop, IRBM prepared an action plan for the *Kuando Kubango Biodiversity Program* in consultation with the National Director of the Environment and with the Provincial Government of Kuando Kubango. In January 2007, a Memorandum of Understanding (MOU) was signed by MINUA, the

Provincial Government of Kuando Kubango and IRBM to formally launch the *Kuando Kubango Biodiversity Program*. The MOU covered a period of two years, and its objectives, integrated with NBSAP priorities for Kuando Kubango, included:

- Improving the understanding of the resource base and resource use patterns that will inform protection and management decisions, particularly in the Mucusso reserve; and
- Developing the capacity and systems for locally-engaged protected areas monitoring and planning.

Figure 18 - Participants at NBSAP Meeting in Menongue

The MOU signed by IRBM was only one of two signed immediately after the approval of the NBSAP. Because the biodiversity program in Kuando Kubango the province integrated completely with the Angola's action plan for biodiversity, both MINUA and the province owned the project and controlled the outputs. This was the first MOU signed between a national agency, a provincial government, and an international project. During the next two years, IRBM, with assistance and supervision of MINUA and the provincial government, conducted intensive biophysical and socioeconomic inventories of the Mucusso coutada and prepared the framework for a management plan. Consistent with the partnership formed, the Government of Angola requested a change in the objective and deliverables after the completion of the inventory. Review of national legislation determined that a management plan for a coutada would not be legal and consistent with biodiversity conservation for the area. Therefore, USAID and MINUA decided to prepare a proposal for enhancing the protected area status of the entire southeast Angola block of coutadas and partial reserves. This would be consistent with the objectives of NBSAP and the Kavango Zambezi Transfrontier Conservation Area (KAZA) and provide the government with a roadmap for increasing the conservation status of approximately 70,000 km^2.

Figure 19 - IRBM Signing MOU with MINUA and Provincial Government

3.6 COMMUNITIES IN ANGOLA BUILD OWNERSHIP AS KEY TO SUCCESSFUL PROJECT IMPLEMENTATION

Southern Angola faces numerous challenges in its recovery from the damages of civil strife over the last 30 years. In response, numerous NGOs and government agencies support rural development, food production and small-scale infrastructure projects in Kuando Kubango Province, located within the Okavango River Basin.

Local communities often lack the capacity and practical, doable tools to easily and rapidly prepare action plans for the implantation of projects. As a result, community groups fail to effectively start and complete efforts designed to improve their health standards, environmental conditions or economic livelihoods.

IRBM demonstrated an effective set of advanced participation methods in the provincial capital of Menongue in southern Angola for two communities planning projects for water supplies and eco-tourism enterprises. Having previously trained facilitators from Angola, Botswana, and Namibia in these participatory techniques, IRBM then conducted one day action planning workshops in the communities of Pandera and Lumeta—Kangamba (LUKA). Facilitators led the communities through a series of participatory exercises aimed at identifying a priority community project, describing current challenges and opportunities, visioning outcomes, defining activities and work teams, and preparing four-month work plans for completing their projects. This approach ensured that the community was involved in all decisions, that responsibility was assigned, and necessary training provided to construct, operate, and maintain community projects. These plans, which included work schedules, a definition of roles and responsibilities for completing tasks and managing finances, and project budgets, helped work teams take ownership of their projects and built confidence in their ability to complete activities.

Figure 20 - Pandera Using APM Tools to Prepare Community Action Plan

Pandera community used its one-day workshop to plan the rehabilitation of their community water supply system. Constructed in 1999 by UNICEF, the system collapsed in 2004 because the pump house was flooded and the community had limited capacity and funds for its repair. During the workshop, the community development group (CDG) planned their action program for repairing the pump, forming partnerships with the local government engineering department, and developing a community-based finance and maintenance system. Within the week, the pump was repaired and water flowed in the community. Following its action plan, the CDG repaired the water reticulation system, established a financial management system, hired water-tap guards, and starting collecting fees for the use of the water.

LUKA launched their community action plan immediately and completed an ecotourism project that combines solid waste management with enterprise development. A craft center was constructed and the community and local government jointly attacked their solid waste problem, as a part of a village environmental management program.

3.7 LIVING HARMONIOUSLY WITH ELEPHANTS

In the Mucusso Reserve of southeast Angola, local residents have taken action to improve their ability to coexist with elephants. Since Angola's peace deal ended the civil war in 2003, elephant populations have been gradually expanding their former range between the Cuito and Kwando rivers, as they migrate from nearby countries through Northern Namibia into Southern Angola. As the elephants return, they impact on the resident farming communities, which have also been expanding in the post-war era. Elephant destruction of crops represents one of the most significant problems facing farmers.

Figure 21 - Mucusso Residents Learn How to Use Chilis for Crop Protection

To address the concern of human-wildlife conflict, IRBM, utilizing the experience and models extended elsewhere by the Elephant Pepper Development Trust (EPDT), sponsored a series of field demonstrations and community action programs, resulting in local residents acquiring methods for mitigating the problems of elephant intrusion into cropland, and integrating these practices into their farming systems.

This process has mobilized awareness and action in environmentally sensitive areas along Angola's Kubango River. Facilitating discussions about mitigation of human-elephant conflict, trainees' skills in community mobilization and leadership have been strengthened. Community residents have established working groups that coordinate with traditional and local government authorities and a wider network of community members. They manage two newly established nurseries to cultivate chili pepper, which when harvested borders farmland as a deterrent to elephants.

Community organizers mitigate human-elephant conflict through organizing field locations, cultivating and using chili pepper as a deterrent to elephants, and improving community monitoring of fields during critical periods of crop maturation. While success will require a sustained community effort, many residents see the immediate benefits and their efforts set an example for other farmers. An extension system has been established and will support existing participating farmers while expanding the techniques to those in adjacent communities.

3.8 ANGOLA CIVIL SOCIETY PROMOTES VOLUNTEERISM FOR ENVIRONMENTAL CLEANUP

"We had expected about 200 people to participate in this activity but as soon as the community saw the energy demonstrated by ACADIR staff and representatives of the Department of Water and Energy, more people joined in and the number shot to about 400 people"

Usona Kawika, the Project Coordinator for ACADIR

In Angola, USAID is supporting OKACOM's efforts to introduce improved community-based river basin management. In February 2006, the Department of Water and Energy of the Kuando Kubango Province requested assistance for the first-ever local celebration of World Water Day, under the theme of *"water is life, lets protect our rivers."* For the first time, this province had an opportunity to celebrate this major international event. A series of activities were planned for the week leading up to the March 22nd celebration, including an information exchange workshop, a radio debate with one of the Angolan OKACOM commissioners, a river clean-up campaign, and a school art and drama competition. The Kuebe River is one of the many tributaries of the Kubango River that forms part of what is internationally known as the Okavango river basin. The river meanders through Menongue, the capital of Kuando Kubango Province, dividing the city into two parts and flowing past an important landmark, the "Ihla do Kuebe". This beautiful site, surrounded by rapids, has for years been used by the community for washing clothes, bathing, and collecting drinking water. Because of its heavy use and the lack of proper waste management and disposal facilities, the area has been severely littered and the banks of the Kuebe have been lined with garbage. As part of the commemoration of the World Water Day

2006 in Menongue, USAID assisted provincial government and a local nongovernmental organization, Associacão de Conservacão do Ambiente e Desenvolvimento Rural (ACADIR) organize and conduct a clean-up campaign for this island. Local residents mobilized for the event beyond eveyone's expectations. Although it was a difficult task, volunteers used tools donated by USAID to remove the garbage that has accumulated along the river for years. Weeks after the event, the residents of Menongue were still discussing the spirit of volunteersism that had swept the community. The clean up campaign was an example of how effective the cooperation and coordination between local government, NGOs and the community can be when addressing environmental concerns and natural resources management.

Figure 22 - Menongue Residents Volunteer to Clean River Banks

3.9 OKACOM Promotes Sustainable Maintenance of Water Supplies in Angola

Figure 23 -Pandera Residents Have Water for First Time in Five Years

In 2006, people living in Pandera, a rural village in southern Angola, restored reliable access to clean water, as a result of IBRM. This community-based river basin management project, which was coordinated OKACOM, improved management and local governance of natural resources along the Okavango river basin, leading to improved environmental management and living conditions.

Using advanced participation methods, OKACOM helped the villagers of Pandera decide their priority activity: a reliable and sustainable water supply. This priority fit OKACOM's objective for improved use of water resources.

Pandera's had access to a water system constructed in the early 1970's, but destroyed in 1980. It was rehabilitated in 2000 with foreign aid, but when the system's pump broke down a year later, it was never repaired, because no organizational structure had been established to support its maintenance – hence no one took responsibility. Since water could not be supplied through the system, people were forced to collect water from the nearby Luahuca River.

The IRBM approach ensured that the community was involved in all decisions, that responsibility was assigned, and necessary training provided to repair, operate, and maintain the system. Through community planning workshops, OKACOM and IRBM helped community people develop action plans. These plans, which included schedules, roles and responsibilities for

completing tasks and managing finances, and project budgets, helped work teams complete tasks leading to the supply of water at numerous taps, previously dry, within the community.

OKACOM used the same approach with three other communities, with USAID-IRBM assistance, empowering community institutions to identify development priorities and develop actions to achieve their aims. Two of these communities will focus on income generating activities, such as community-based tourism, that also enhance the sustainable management and use of natural resources.

These projects build capacity of communities to develop, implement and maintain their own river basin management projects. Communities, with strong technical support from local government, have used development groups, representative bodies responsible for managing finances and system maintenance. The local municipal government has committed itself contractually with Pandera to provide technical advice and this integrated environmental governance approach improves long-term sustainability of the community project. World Vision – Angola (WV), through an IRBM grant, provided trainers, helped organize the community development group, and mentored a local NGO, Associacão de Conservacão do Ambiente e Desenvolvimento Rural (ACADIR) to mobilize communities and implement these important river basin management activities.

3.10 COMBATING FOREST FIRES

Annually, wildfires rage through the natural vegetation of Northeast Namibia, Southeast Angola and Northwest Botswana late in the dry season. These fires are human induced, and are therefore not part of the natural secession of ecosystem activities. In August through October, the vegetation is the driest and fires therefore burn the hottest, inflicting the most damage. These late dry season fires burn large areas, often cross international boundaries, and pose one of the most significant long term threats to natural vegetation and habitat regimes in the area.

Figure 24 - USFS Trainers Demonstrating Controlled Burning

A critical step in addressing this threat is to increase local awareness and skills to mitigate late dry season forest fires. USAID partners therefore worked with the United States Forest Service and the Namibia Forestry Department to organize and conduct regional training which brought together community, government and nonprofit leaders from Angola, Namibia and Botswana to learn about the dynamics of forest fires, fire management, control, suppression and prevention.

Building upon a philosophy of sharing lessons within the region, the training emphasized best management practices from Namibia's community forest fire management program. Participants from Botswana and Angola learned of the successes achieved in the Kavango region of Namibia, through years of engaging communities in an effort to combat late season forest fires. Their experience illustrated that coordination between government and local communities in fire prevention and management can help to mitigate a major regional environmental threat.

Participants' increased understanding of fire dynamics will serve as a foundation for continued development of fire management strategies. The Angolan and Botswana delegations left the training with ideas for development and expansion of fire management programs in their respective parts of the river basin, and

with a motivation for continued regional collaboration in efforts to mitigate this common threat. Angolans especially will apply the best management practices towards the conservation within their protected areas within the Kavango Zambezi Transfrontier Conservation Area of southeastern Kuando Kubango Province, as part of a five nation effort to integrate biodiversity conservation and tourism development.

3.11 OKACOM MAKES A BIG SPLASH ON THE WORLD STAGE

> "We see OKACOM as a pioneer, as the first river basin agreement established in southern Africa. We will support OKACOM and engage other river basins to strengthen cooperation with OKAKOM to promote cross-fertilization"
>
> Luis De Almeida, SADC Secretariat

The role of a USAID supported organization as a leading authority in management of the Okavango River Basin was recognized and strengthened during World Water Week held in Stockholm, Sweden in August 2006.

The Permanent Okavango River Basin Water Commission (OKACOM) presented its key achievements at the influential forum to a capacity audience during a seminar it convened. OKACOM's role is to develop and monitor a coherent approach to manage the basin based on equitable allocation and sustainable utilization of natural resources, sound environmental management, and sharing of benefits.

Entitled *Flowing Upstream and Downstream: Collaboration for Better Management*, it was the only seminar held during World Water Week that wholly focused on the management of the Okavango basin. Dr. Bridgewater, Secretary General of RAMSAR, told the seminar that there was potential for conflict over use of water within the basin, however groups were working towards joint solutions and it is important that the success stories of the Okavango are shared globally.

OKACOM also took the opportunity to present its Commissioners to the record number of World Water Week participants, who came from 140 countries, and to:

- Share lessons learned and experiences with other similar initiatives from around the world;
- Raise awareness on challenges and other issues facing the Okavango River Basin; and
- Enhance understanding of the Commission's work.

World Water Week provided the occasion for the leaders and planners from the three countries sharing the basin (Angola, Namibia and Botswana) to meet and speak about the challenges ahead. It was also the first time that OKACOM Commissioners had the opportunity to address a public forum as a group. This further engendered political will and trust - key elements in the creation of an enabling environment for the development of OKACOM and its joint activities.

Figure 25 - OKACOM Attends World Water Week

There were several concrete results for OKACOM as a result of its participation in World Water Week, including a proposed Memorandum of Understanding for further collaboration between itself and several counterpart river basin organizations in Africa, such as the Lake Victoria Basin Commission, and the identification of training programs potentially available to the Commission.

4. LESSONS LEARNED

Stakeholders participating in the Final IRBM Evaluation Workshop (November 2008) identified a number of lessons learned, as illustrated in Table 5. These lessons are significant in both promoting and implementing other river basin management programs within the Okavango basin and within the SADC region. However, they also lend themselves to other environmental programs, especially relevant to transboundary management.

4.1 INSTITUTIONAL DEVELOPMENT OF RIVER BASIN ORGANIZATIONS REQUIRES A PARTICIPATORY, ADAPTIVE, AND PROCESS-ORIENTED APPROACH

A number of organizations and institutions existed within the Okavango Basin at the commencement of IRBM. These included government agencies, other bilateral and multilateral donors, NGOs, private-sector entities, and community- based organizations. Most, if not all, of these organizations had on-going environmental management or development programs. One of the criticisms of previous transboundary initiatives related to their inability to support partner organizations, with existing programs, instead of introducing new approaches separately implemented with outside technical assistance.

USAID and IRBM determined early in the project cycle to follow a demand-driven approach, building upon not only the needs and aspirations of OKACOM, but other stakeholders in the basin as well. An inception Strategic Action Planning Workshop (SAPW) was conducted early, and inputs, priorities, and recommendations from stakeholders participating in this workshop were incorporated into the Life of Project Strategy and First Annual Work Plan.

Feedback from stakeholders, gathered at the Final IRBM Evaluation Workshop, using the same APM tools, illustrated the ownership that was created during IRBM implementation. Also, as shown in Table 4, the following principles should be incorporated into a project's governance framework:

- Building ownership is critical for overall project sustainability;
- Partnerships should be created at all levels;
- Institutional development requires a process-oriented and adaptive approach;
- Appropriate stakeholder platforms for shared decision-making (local, donors, experts) need to be established; and
- Transcending the communication barriers is critical (language, technical, information, culture, gender, status).

Most of the significant outcomes of IRBM will be sustained because they were "owned" from the beginning by OKACOM and other stakeholders.

4.2 PROJECT MANAGEMENT MUST BE ADAPTIVE, FLEXIBLE, REFLECTIVE, AND RESPONSIVE WHILE MAINTAINING FOCUS

USAID and IRBM developed and maintained a management approach that was:

- Demand-driven, based upon evolving needs;
- Focused on and responsive to basin client's programs and perspectives;
- Adaptive and flexible, adjusting to changes in policy, governance, or field-based conditions;
- Promotional of client's programs and successes, minimizing IRBM publicity and highlights; and
- Communicative and transparent, ensuring all understood the approaches being pursued and rationale for project directions.

A demand-driven approach contributes to ownership, but must be flexible and consultative to succeed. Frequent and constant consultations with stakeholders will result in changes in direction, potential work plan alterations, and budget realignments. USAID was highly responsive and adaptive to changes proposed by stakeholders or the project and was able to more effectively address changing conditions. This flexibility, both by IRBM and USAID was well received by OKACOM and other donors working in the Okavango basin.

As highlighted by OKACOM's Botswana Co-Chair, project managers need to lead in a collaborative fashion. Egos need to be replaced by genuine interest in promoting others. Staff and stakeholders need to be motivated to participate and the management approach must be bottom-up. The role of project staff and management is to build the capacity and skills of its client organizations and individuals without concern for credit.

4.3 OKACOM'S CAPACITY TO ADDRESS ITS MANDATE WAS ENHANCED BY IMPROVING ADMINISTRATION, LOGISTICS AND COMMUNICATION THROUGH ITS INTERIM SECRETARIAT

In late 2004, OKACOM was an organization struggling to function. For ten years, it had dedicated a large effort on acquiring a Global Environment Facility (GEF) International Waters project for the basin. Initial transboundary studies were completed, and a design for the project was submitted to the GEF Secretariat for approval. Unfortunately, this consumed a significant amount of OKACOM's time and efforts, leaving little time to develop, manage, and administer its core mandate. Meetings, occurring generally once a year, were ineffective and follow-up was non-existent. Overall, the Commission failed to operate as a team.

Recognizing the need for administrative and logistical assistance, OKACOM agreed in October 2004 to establish a Secretariat. In the interim, the Commission requested help from USAID and IRBM for the provision of Interim Secretariat Services (ISS) while establishing the Secretariat. As illustrated in Section 2, IRBM provided OKACOM with quality administrative, logistical and follow-up services during this interim period. As a result, the commissioners, OBSC technical advisors, and task force members could concentrate on reviewing policies, supervision of basin-wide projects, and completion of key OKACOM objectives, such as the EPSMO TDA and SAP. Focusing and concentrating their efforts provided the opportunities for forging better partnerships and relationships. National delegations began to collaborate on technical approaches and developing common programs. Teamwork replaced sovereign positioning and the Commission has become an effective institution. Major institutional frameworks have been established, technical programs supported, and protocols prepared. As the ISS provided bilingual documentation and simultaneous translation at all formal meetings, improved communication was facilitated. The Secretariat, established and functional in Maun, is now providing the same services as the ISS, and OKACOM continues to grow as an organization.

4.4 DONOR SYNERGY DOES LEAD TO MORE PRODUCTIVE AND EFFECTIVE PROGRAMMING

The potential for donor program overlap in the Okavango basin was and continues to be significant. Numerous donors have programs within the basin or regionally which address concerns raised by either national governments or regional authorities. USAID, Sida, and UNDP have been working collaboratively in the basin, under the guidance of OKACOM, since 2005. Activities common to their individual projects have been coordinated to optimize funds to expand their coverage and impact. OKACOM coordinated, through national departments of water affairs, expansion of the hydromet network in Angola by combining funds from the IRBM and EPSMO projects. Sida and USAID collaborated on the establishment of the Secretariat, utilizing their comparative strengths to build the most effective organization in Maun. Similarly, IRBM and the Every River Has Its People project combined on assessing the socioecological situation in Kuando Kubango Province. OBSC, and now the Secretariat, plays the key role in coordination. It is the responsibility of OKACOM's administrative arm to coordinate and integrate donor initiatives and link regional institutions, like OKACOM and KAZA. This effort will continue to lead to optimization of donor assistance, coordinated programming, and enhanced goodwill as intended by the Paris Accords on donor collaboration.

4.5 CONSULTATION AND COLLABORATIVE PLANNING REQUIRES TOOLS TO IMPLEMENT

Lessons often cited in development literature suggest that stakeholder participation and consultation are keys to building consensus, developing programs, and implementing sustainable projects. However, often stakeholder participation becomes a slogan, with no framework, approach, or tools to implement. IRBM, as indicated above, embraced a consultative approach at all levels of implementation. Fundamentally, the IRBM team developed and used a number of tools that guaranteed open communication, structured dialogue, and development of strategic actions. All of these tools enhanced consultation, or the input of stakeholders, at all levels, into project direction and implementation. Some of the primary tools IRBM developed and used were:

- Advanced Participation Methods (APM), a tool developed by ARD and used to structure discussion, quickly gain consensus on visions and strategies, and organize concrete, practical, and doable actions that can be implemented by partners;
- PRA, a commonly accepted approach to assessing community realities, mapping and discussing options to overcome issues and constraints, and foster participation;
- Persistent service orientation, constantly following up with national delegations, stakeholders, and clients on agreed upon actions, ensuring that support was always available to organizations and individuals with serious resource constraints; and
- Mentoring, constantly providing on-the-job learning opportunities relevant to the mandate and functions of OKACOM and its national partners.

Regionally, training of trainers should continue at all levels to develop quality facilitators who can assist the myriad organizations in fulfilling their obligations and becoming more efficient at all levels of consultation – regional and national workshops, community settings, and local government-level meetings.

4.6 TRAINING NEEDS TO BE MULTI-LEVEL AND USED ON THE JOB

As illustrated in Appendix C, approximately 1,514 people were trained by IRBM or one of the implementing partners, Training occurred at all levels and involved OKACOM, staff from member states' relevant agencies from the water and environment sectors, NGO staff and community residents. All training addressed OKACOM priorities being implemented by IRBM. Training modules required staff to implement the new skills in the basin, participating in either IRBM or EPSMO activities. Technicians from the Angolan DNA immediately used new skills in monitoring the newly installed hydromet network in Kuando Kubango province. Training conducted as part of exchange programs were immediately integrated, as evidenced by the Namibia Department of Water Affairs and Forestry incorporating lessons learned from the Acoustic Doppler Current Profiler (ADCP) demonstration into active Namibian ADCP programs. Training conducted by the USFS and the Harry Oppenheimer Okavango Research Centre (HOORC) in collaboration with the IRBM biodiversity team immediately was used by local Mucusso staff to conduct vegetation and mammal surveys over an 18 month period. Training in participatory research methods and facilitation techniques were utilized by basin stakeholder to assess the socioecological conditions of major communities in Kuando Kubango and facilitate numerous regional and national workshops.

IRBM transferred skills throughout its life that are still being utilized after the completion of the project. The key to capacity enhancement is to target trainees at different levels and ensure the immediate utilization of the newly acquired skills to implement partner programs.

4.7 UNDERSTANDING INCENTIVES IS IMPORTANT

As indicated in Table 4, incentives are an important element of participation. People, having numerous responsibilities and commitments, rationally weigh whether their participation in project activities will benefit them, their household, or their communities. Communities need to understand and realize expectations and returns for their contributing their participation. Most community initiatives fail due to lack of personal or group investment in the outcomes of an activity. Likewise, staff from institutions at regional, national, and local government levels also commits their efforts based upon an expected return – increased exposure to training and skills enhancement, improved visibility of programs and potential for more funding options, promotional potential and increased responsibilities, or increased exposure to media and academic acclimation.

IRBM promoted partners, clients, and regional institutions, not the project. This increased exposure led to increased opportunities for stakeholders contributed their time and effort. At the community-level, expectations and outcomes were clearly articulated and environmental management actions were clearly linked with either improved livelihoods, reduced costs to households, or improved health and social being. Incentives were clearly discerned, acknowledged, and incorporated into programming. At the regional level, project staff constantly discovered means to improve efficiencies of partner organizations while minimizing onerous and unnecessary commitments of additional resources.

4.8 BIODIVERSITY CONSERVATION IS A CRITICAL FUNCTION OF A TRANSBOUNDAY RIVER BASIN ORGANIZATION

OKACOM's mandate and functions are heavily focused on transboundary water management. However, IRBM continued to emphasize the inter-connectivity of water resources management and biodiversity conservation. Sustainable use and management of terrestrial resources affect significantly the quality, quantity, and availability of water to all users within the basin. During IRBM, OKACOM's embracing of a

conservation focus and the importance of sound land management gained momentum and resulted in the establishment of a Biodiversity Task Force. EPSMO continues to discover the importance stakeholders place on coordination and promotion of transboundary biodiversity and the minimization of land use conflicts and the SAP will propose a strong emphasis on coordination of sound land use planning with sustainable water resources management. OKACOM, through continuous internal acknowledgement of the role of biodiversity conservation and increased coordination with other regional institutions, like KAZA, involved in transfrontier conservation, will sustain its promotion of an integrated approach to resource management.

Table 1 - Lessons Identified by IRBM Stakeholders at November 2008 Workshop in Maun

IRBM Lessons Learned						
Institutional Development	**Capacity Building and Training**	**Biodiversity Conservation**	**Water Resources Monitoring**	**Community-based Program**	**Support to SADC**	**Project Management**
Building ownership in the project is absolutely critical for sustainability	APM training must be tailored to meet needs	Sharing biodiversity conservation information improves collaboration	Promote exchange visits and data sharing between countries	Communities need to see benefits to participate in conservation activities	Use national fora to build "political will" (eg. Minister's meeting)	Maintain stakeholder communication to respond to riparian states' needs
Create partnerships at all levels	Don't just focus on technical training but include project and financial management	Community empowerment and management of natural resources	Data must be processed into information	Project flexibility is important in order to achieve both livelihood improvement and conservation objectives	For SADC buy-in, project activities must conform with its regional protocols and policies	Maintain close integration with client institutions to build confidence and ownership of project activities
External technical support is important for institutional development	Go beyond "one-off" training – monitoring and follow-up is needed	Transboundary collaboration raises awareness, transfers knowledge, builds skills	Data are no good unless they are shared.	Capacity building and training at the local level is essential	Regional RBO workshops build sharing of experiences and best practices	Donor coordination is important to optimize resources and avoid overlapping funding
Institutional development requires a process-oriented and adaptive approach	On-the-job training is essential for institutionalizing new lessons	Integrating biodiversity promotes sustainable basin management	Data must be reliable, unified, and the collection methods should be standardized for the basin states	Participatory approaches are tedious but necessary	SADC-endorsed activities require project technical assistance to implement	Involve all stakeholders from beginning to establish clear objectives and outputs
Don't be afraid of infrastructure development in project implementation -- don't just finance "soft" activities	Exchange visits between organizations and study tours offer helpful learning opportunities	Demand driven or create the demand from communities	Sovereign rights to national data need to be transcended through trusting relationships	Involving community in Action Planning process is essential	Continuity among RBO stakeholders for institutional memory and building trusting relationships	Project management should: • Be engaged • Provide strong leadership • Motivate staff • Avoid top-down syndrome
Establish appropriate stakeholder platform for shared decision-making (local, donors, experts)	Capacity building and skills development is necessary for effective empowerment		Data sharing and information exchange key to informed decisions	Political buy-in at provincial, municipal, and community level is integral to sustainability of projects		Project management should be flexible and responsive to emerging needs while retaining overall focus on project objectives
Transcending the communication barriers is critical (language, technical, culture, gender, status)	Continuity of individuals trained needs to be reinforced so that "brain drain" is avoided			Communities need clear guidelines and information on expectations once project assistance ends		Leadership needs to be non-egoistic and demonstrate active and engaged reflective listening

5. ACHIEVING PROJECT GOALS

5.1 PERFORMANCE MONITORING PLAN AND MODIFICATIONS

The USAID Southern Africa and IRBM Performance Monitoring Plans evolved during the life of the project. An IRBM PMP was prepared in 2005 and approved by USAID/Regional Center for Southern Africa (USAID/RCSA) in February 2006. These PMP indicators were reported on until June 28, 2007, when USAID approved five new indicators, consistent with AID Guidelines for Operational Plans, for project and mission reporting.

The original PMP included the following indicators:

- Percent of institutional development targets for river basin resource management achieved as scheduled;
- River Basin Commission progress toward establishing a functional executive secretariat (% of total planned steps);
- Percent of River Basin Commission's "functions" for which functional roles and responsibilities are clarified;
- Documented success of partner River Basin Commissions in mitigating conflict between countries (annual qualitative assessment);
- Biologically important areas (has) identified for conservation and improved management
- Number of people trained on targeted skills;
- Number of local organizations engaged in sound environmental practices that address threats;
- Number of threats addressed through program-supported resource management activities;
- Percent of IRBM partner organizations directed to HIV/AIDS services and resources; and
- Number of organizations with whom co-financing alliances are established under IRBM

IRBM reported semi-annually and in each annual work plan the results of indicator tracking and progress. With the closing of the USAID/RCSA and adoption of the Operational Planning reporting format, USAID Southern Africa reviewed both the mission- and project-level requirements for reporting and prepared, with concurrence of the IRBM Project Implementation Committee (PIC), definitive indicators for 2007 and 2008.[10] These OP indicators include:

- Number of hectares under improved natural resource management as a result of USG assistance;
- Number of hectares in areas of biological significance under improved management as a result of USG assistance;
- Number of people receiving USG supported training in natural resources management and/or biodiversity conservation;
- Number of river basin resource management services delivered as scheduled (based on the number of services planned by the River Basin Commission for the given year); and
- Number of local organizations engaged in sound environmental practices that address threats.

The reference sheets for these indictors, with definitions and targets, can be found in Appendix A.

[10] Action Memorandum, USAID/Southern Africa, 28 June 2007.

The indicators for 2007 and 2008, including targets and results, are shown in Table 5. Additionally,

Table 2 -- PMP Indicators for 2007-2008

Indicator	Baseline (2006)	FY07 and Planned	FY08 and Planned	Actual Achieved	% of Target Achieved
Number of hectares under improved natural resource management as a result of USG assistance	1,494,300	1,994,300	0	1,994,300	0%[N.B.]
Number of hectares in areas of biological significance under improved management as a result of USG assistance	1,494,300	1,994,300	0	1,994,300	0%[N.B.]
Number of people receiving USG supported training in natural resources management and/or biodiversity conservation (m/f/t)	65/25/90	65/35/100	65/35/100	179/34/213	138%/49%/107%
Number of river basin resource management services delivered as scheduled	4	5	8	11	85%
Number of local organizations engaged in sound environmental practices that address threats	-	-	-	-	-
Initiated:	0	6	0	6	100%
Completed:	0	5	6	6	100%
Additional Relevant Indicators from Original IBRM PMP	**Baseline (2004)**	**Original LOP Target**	**LOP Plus FY07/08 Target**	**Actual Achieved LOP**	**% of Target Achieved**
Percent of steps completed toward establishing a functional Executive Secretariat (Percent of total planned steps)	NA	18/26 = 69%	69%	24/26 = 92%	133%
Number of people trained on targeted skills (total trained only)	0	315	515	1,514	294%
Biologically important areas (has) identified for conservation and improved management	0	500,000	500,000	>7.7 million	>1,540%

5.2 COMMENTS ON THE INDICATORS

Based upon threats identified in the September 2005 NBSAP Kuando Kubango workshop (see Table 6), IRBM actions, and PMP indicators addressed and mitigated these threats. Additional threats were identified during implementation of the IRBM *Kuando Kubango Biodiversity Program*, including potential threat to traditional wildlife corridors from human encroachments and veterinary fences, threat to biodiversity from uncontrolled late-season fires, and threats due to uncoordinated planning.

Table 3 -- Okavango Basin Threats

Threats to biodiversity in the Okavango Basin	Actions needed to mitigate threats	IRBM Activities to support needed actions
Increases in abstraction	Monitor flows, so as to provide the information needed to conduct ecologically appropriate decision making on proposed abstractions.	Installing hydromet systems in critical locations of the Angolan upper basin that will monitor flows and water levels.
Changes to the flow regime		Providing training in data collection and management of information on river flows and water levels throughout the basin.
Increases in abstraction	Strengthen an institutional structure that promotes good governance and use of sound science to inform decision making on resources management and water-related infrastructure development.	Strengthening OKACOM's institutional capacity to fulfill its mandate of advising member nations on water works development, monitoring and prevention of pollution, reasonable water demand, conservation of biodiversity and sustainable utilization of resources in the Okavango River Basin.
Changes to the sediment supply		
Changes to the flow regime		
Water quality		
Land use in the upper Delta, panhandle and Angolan catchment area		
Increases in abstraction	Effectively capture, store and use data on the entire system for decision-making that is based on sound scientific information.	Supporting the development of a distributed database of key information on water and related resources in the basin that all countries legitimize.
Changes to the sediment supply		
Changes to the flow regime		Conducting institutional needs assessment for the collection, management and use of information for decision making.
Water quality		Providing training in key areas of information collection, management and use for decision making.
Lack of knowledge about biodiversity in Angola	Identify biologically sensitive areas, and inventory biodiversity in these areas.	Identifying priority areas and inventory their biodiversity; supporting delineation of boundaries for parks and protected areas if requested (and if funds allow it).
Land use in the upper Delta, panhandle and Angolan catchment area	Promote soil and water conserving land use practices along the river in the upper basin.	Identifying biologically sensitive areas and pressure on resources in Angola. Supporting management practices needed in Angola to reduce threats on resources.
Water quality	Ensure that proper sanitation systems are developed for riparian Angolan communities along the river.	Promoting demonstration of improved sanitation systems and solid waste management in the Kuando Kubango province.

For FY2007 and FY2008, IRBM successfully met the targets in the approved USAID Action Memo and Reference Sheets, except for indicators for the number of hectares under improved natural resources management and addressing biodiversity conservation. Both indicators, for improved management of natural resources and number of hectares in areas of biological significance did not meet the definition required for the indicator in the reference sheets.

"*Improved management*," as defined in the Reference Sheets, means that, with guidance from IRBM, national or local organizations develop plans that address threats to the natural resource base in the designated area of the watershed. Additional area is counted when **its management plan** is completed with USG support and approved at the local level.

At the First Angolan Biodiversity Implementation Committee Meeting in March 2008, a legal review conducted by MINUA revealed that a hunting area (coutada), such as Mucusso, could not be designated for conservation under the existing law. Therefore, the Implementation Committee agreed to recommend to the Supervision Committee (Minister of Environment, Governor of Kuando Kubango Province, and USAID) that the scope of the IRBM project for preparing a management plan for Mucusso should be revised to first re-evaluate the protected area status and the existing boundaries of the area according to the existing categories for nature conservation. IRBM would, considering the data for the larger ecological landscape of Luiana, Mucusso and Luengwe, propose boundaries for upgrading the protected area status of Mucusso and any relevant contiguous areas.

At the subsequent Biodiversity Implementation Committee meeting, September 2008, a proposal for the upgraded protected area status was endorsed for submission to the Supervisory Committee, hence locally approved, as required in the Reference Sheets. The combined area of the proposed upgraded protected area (see Map 3), covers about 7.7 million hectares, far more than the proposed target of 500,000 in the Reference Sheets. However, although discussed and approved by the PIC and the USAID COTR, the indicators in the Reference Sheets do not reflect the changed objectives voiced by the Government of Angola or the decisions reached in the PIC to redirect IRBM resources for a more significant program output. Hence, the proposed protected area landscape of southeastern Angola, although a significant step forward in the country's conservation programming, does not fully meet the definition of the OP Reference Sheets. IRBM met the needs and existing legal and policy requirements of the Angolan government, and demonstrated a flexible implementation approach, and with continued USAID support, the Ministry of Environment can further develop programs in support to improved conservation protection in Kuando Kubango. The proposal to upgrade the protected areas landscape within southeastern Angola is currently being reviewed by the Ministry of Environment for further action with the Council of Ministers.

Those indicators in Tables 6 and 8, from the original PMP, highlight the significant achievements in the areas of targeted training, steps achieved towards a functioning OKACOM Secretariat, and hectares of biologically significant areas identified and inventoried.

Overall, IRBM achieved significant accomplishments, and appropriately, as highlighted in the November 2008 Stakeholder Evaluation Workshop, these accomplishments are seen as those of the basin stakeholders, not IRBM, as the project became the ownership of OKACOM and its clients within the basin.

"We wondered why we kept promoting IRBM accomplishments at the workshop, and being seen by outside consultants as biased. Then we realized that we were not biased towards IRBM, but instead intensely proud of the accomplishments of our project, because IRBM had provided the resources for us to implement our designed program"

Sekgoa Motsumi, DEA Regional Director, Maun

Table 4 - Steps for a Functional Secretariat

Steps for Functional Secretariat	Status
1. OKACOM agrees in principal to establish a Secretariat	Completed in October 2004 workshop and re-confirmed by MOU signed at 10th OKACOM meeting
2. OKACOM approves a specific schedule to establish a Secretariat	Approved by OKACOM at 11th meeting in Windhoek
3. OKACOM requests donor funding to support establishment of Secretariat	Completed. First requested at 10th OKACOM meeting
4. Interim Secretariat staff in place and providing services	Established under IRBM at 10th Meeting and continued providing services through September 2008
5. Draft legal agreement on establishing OKACOM Secretariat established, ready for signature	Completed and submitted to respective water ministers from the three countries for signature in early 2007
6. Legal agreement signed	Agreement, attached as cover note to the newly prepared and approved OKACOM Organizational Structure document, signed at 13th OKACOM meeting in Maun in May, 2007
7. Secretariat bank account established	Established in August 2007 in Gaborone.
8. OKACOM member states confirm commitment to support long-term recurrent costs of Secretariat	Agreed and approved at 15th OKACOM meeting in Lubango, Angola, May 2009.
9. Terms of Reference and procedures for selecting an Executive Secretary submitted for approval	Approved at 11th OKACOM Meeting
10. Executive Secretary (ES) in place and providing services in terms of reference	Contract signed in August 2007 and ES started operations in Maun in December 2007 and continues to provide services.
11. OKACOM and donors sign commitments to fund start-up costs of Secretariat	Completed at 13th Meeting in Maun in May 2007.
12. Financial management plan submitted for approval	Submitted at 13th Meeting and approved at 14th Meeting.
13. Information management plan developed, vetted and submitted for approval	Completed at EMPSO PSC meeting in Windhoek in May 2008
14. Information management system demonstrated and handed over	Being developed for OKACOM by EPSMO (OBIS). Not completed. However, metadata based developed for OKACOM and handed over to Secretariat.
15. Balance sheet evaluation of office location sites and support services submitted	Completed in 2007.
16. Permanent secretariat office functional, with at least three staff in place	Functional with three staff in place.
17. OKACOM Secretariat operations strategy and administrative procedures submitted for approval	Submitted by ES at 14th Meeting in Windhoek and approved by OKACOM and Sida.
18. Secretariat prepares an annual work plan	Prepared, submitted to and approved by OKACOM and Sida at 14th Meeting in Windhoek
19. Terms of Reference and procedures for selecting a communications specialist submitted for approval	Completed and approved by OKACOM and Sida.
20. Communications specialist in place and providing services in terms of reference	Communications Specialist recruited, hired and participated in 15th Meeting. Subsequently (June 2009), she resigned her post. So, completed, but post presently unoccupied, next ranked candidates being contacted.
21. Financial management plan demonstrated and handed over	Completed by KPMG in January 2009. Financial operations now being managed by OKACOM.
22. Staff from each of the three countries identified	Plan for providing technical services approved at 15th Meeting. Technical staff currently being provided through respective country NCUs.
23. Permanent Secretariat demonstrates ability to sign contracts and manage funds on behalf of OKACOM	Financial manager in place and ES presently signing contracts with vendors for management of website

24. Permanent Secretariat role, location, functions and effectiveness evaluated	Will be completed in 2010 as part of agreement with Sida and to determine next location for Secretariat.
25. Staff from each of the three countries in place and providing services	Completed. Technical staff providing services through NCUs, not located permanently at OKACOM but on-call for TDA and SAP.
26. At least two member states begin making contributions toward core recurrent costs of Secretariat	Approved process and amounts. Contributions to commence during next fiscal year.

6. ADMINISTRATION AND FINANCIAL MANAGEMENT

IRBM operated in a highly successful consultative manner through a four-tier project management, advisory, and coordination structure. The four structures included OKACOM, the Okavango Basin Steering Committee (OBSC), OKACOM task forces (existing one for hydrology and new ones for institutional development and biodiversity) and the Project Implementation Committee (PIC). OKACOM provided overall policy and implementation guidance responsibility for IRBM, including review, critique, and endorsement of annual work plans and acceptance and review of progress reports. The OBSC became a critical advisory body to IRBM, providing technical guidance and monitoring achievement of benchmarks and progress indicator targets.

The PIC provided the key mechanism for routine implementation oversight and a forum for decisions on implementation and management issues. The PIC, represented by the Botswana OKACOM liaison, USAID Contracting Office Technical Representative (COTR), and the IRBM Chief of Party, met frequently during the year of IRBM and resolved numerous implementation issues.
USAID conducted a mid-term evaluation of the project during Project Year 3 and concluded that the main activities of the project continue to be relevant and priorities for implementation. No changes were recommended in the final year of implementation, except to suggest that the Interim Secretariat continue to provide mentoring services to the Secretariat during the coming year.

Key management actions over the four and one-half years of IRBM implementation include:

- Developing Interim Secretariat Services and staffing of Institutional Specialist and Secretariat Manager from 2005 to 2008;
- Expanding the community-based governance program in Angola, with additional resources for community grant program;
- Adding Biodiversity Conservation Specialist and Inventory and Assessment Specialist to the IRBM team from April 2006 to October 2008 to develop and conduct biophysical and socioeconomic surveys in Mucusso and prepare proposal for enhancing the conservation of larger protected areas landscape; and
- Extending original IRBM contract from September 30, 2008 to May 31, 2009.

Financially, the project spent approximately $8,136,961 million by the end of May 2009, including $386,459 on SADC-approved activities.

APPENDIX A: USAID/SOUTHERN AFRICA STRATEGIC OBJECTIVE FRAMEWORK

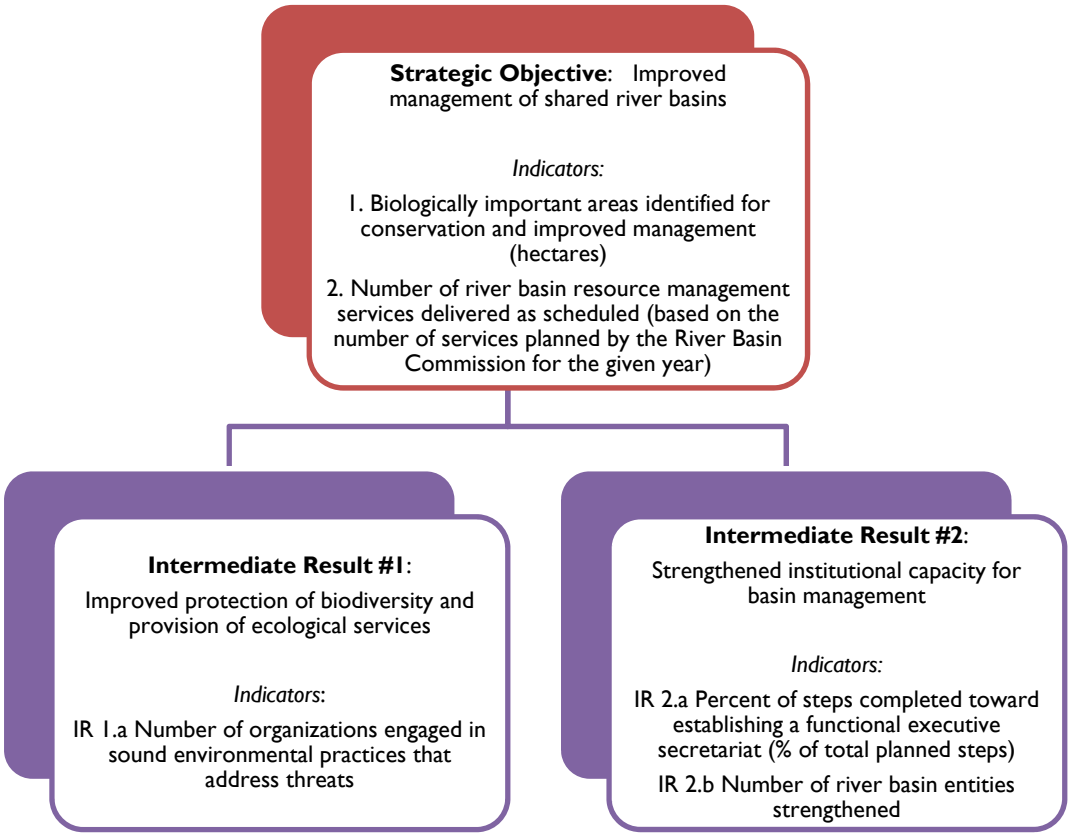


Table 5 – Performance Indicator Sheets for 2007 and 2008

Performance Indicator Reference Sheet
Element: 4.8.1 Natural Resources and Biodiversity
Indicator 1: Number of hectares under improved natural resource management as a result of USG assistance
Is this an Annual Report indicator? Yes, for Reporting Year(s) FY 2007-10
DESCRIPTION
Precise Definition(s): "Improved NRM" includes activities that promote enhanced management of natural resources for one or more objectives, such as sustaining soil and/or water resources, mitigating climate change, and/or promoting sustainable agriculture, etc. Management should be guided by a stakeholder-endorsed process following principles of sustainable NRM, improved human and institutional capacity for sustainable NRM, access to better information for decision-making, and/or adoption of sustainable NRM practices. For this program, measurement is focused on land units identified for conservation due to their regional importance in the shared river basin watershed. "Improved management" means that, with guidance from the program, national or local organizations develop plans that address threats to the natural resource base in the designated area of the watershed. Additional area is counted when its management plan is completed with USG support and approved at the local level. "Locally approved" means that the plan will be approved by those communities and other stakeholders that will be directly affected by the management plan. IRBM will propose a procedure for formal approval through the various Government Institutions as part of the management planning process.
Unit of Measure: Annual by Fiscal Year - Number of hectares (cumulative)
Disaggregated by: Ecosystem Management Unit Type (Watershed Management for this indicator) - See Table 1.
Justification & Management Utility: A spatial indicator is an appropriate measure of the scale of impact of NRM interventions. The standard of 'improved' management as defined by implementation of best practices and approaches demonstrates progress and results across a wide range of development programs. Disaggregate by management purpose facilitates using data collected for diverse reporting requirements. As an initial step toward improved management, resources and ecological services in the area were documented, threats assessed, appropriate and representative sites identified. This step was completed 2005-07 with USG assistance. Subsequent steps include participatory inventory and planning; management plan adoption; formal designation of Protected Area (PA) status; organizational structure and funding for management; management measures. This indicator quantifies the areas within the trans-national watershed that are designated by government counterparts for special protection and that benefit from improved management plans as a result of USG assistance.
PLAN FOR DATA ACQUISITION BY USAID
Data collection method: Implementing partner (IRBM) reports on progress based on field data validated by regional government counterparts
Data Source: IRBM annual reports based on data validated by member states; reporting is contractual requirement of implementing partner
Frequency and timing of data acquisition by USAID: Annual by Fiscal Year
Estimated Cost of Data Acquisition: $3,000 / year
Individual responsible at USAID: Chris Schaan
Individual responsible for providing data to USAID: Chief of Party of IRBM (ARD Inc)
Location of Data Storage: Program PMP file in Gaborone Field Office; USAID/SA ASIST Program Office Cabinet:PMP; and IRBM PMP file
DATA QUALITY ISSUES
Date of Initial Data Quality Assessment: Baseline reviewed in Oct 2005 but definition of basin yet to be confirmed (affects PA area baseline).
Known Data Limitations and Significance (if any): Definition of trans-boundary "basin" area to be documented. Boundaries of watershed units for improved management will be defined with local input and approved at local, regional, national and/or multi-national levels. This may take time and could involve revisions. We will count areas when and as "approved locally" – but norms for that step are not formalized.
Actions Planned to Address Data Limitations: Use best available data from local organizations and government sources. Document any local decisions that approve/clear proposed management plans. Work with other donors and OKACOM to define extent of basin for planning and management purposes. Assist counterparts in member states to apply IUCN categories to any new units to be counted under this indicator.
Date of Future Data Quality Assessments: Completed in July 2007. Next DQA on or before July 2010.
PLAN FOR DATA ANALYSIS, REVIEW, & REPORTING
Data Analysis: Analysis of the raw data is done by implementing partner (IRBM)
Presentation of Data: Table listing name, area (has), location, and improved management steps realized
Review of Data: Activity Manager and PIC will review data prior to annual portfolio reviews
Reporting of Data: In Annual Reports by FY – Operational Plans
OTHER NOTES
Notes on Baselines/Targets: Original baseline year was 2004. This 2007 revision sets baseline in 2006. See prior PMP.
Other Notes: (a) This indicator replaces the indicator in prior PMP for: "Biologically important areas identified for conservation and improved management." The LOP target for the prior indicator (500,000 has) was exceeded by over 100% in Feb 2007. See IRBM reports for detail. (b) Under the present program, the areas reported under indicators 1 and 2 are identical.

PERFORMANCE INDICATOR VALUES			
Year	**Target**	**Actual**	**Notes**
2006	BASELINE	1,494,300 has	Area of designated PA's in Okavango Basin – See attached baseline in Table 1
2007	1,494,300 has	1,494,300 has	Prior PMP target to *identify* 500,000 has. for designation and improved management was met and exceeded.
2008	1,994,300 has		Management plans to be completed for at least 500,000 has.
2009	2,494,300 has		Add'l management plans completed for at least 500,000 has.
2010	2, 594,300 has		Add'l management plans completed for at least 100,000 has.
THIS SHEET LAST UPDATED ON: 6/28/07			

Performance Indicator Reference Sheet
Element: 4.8.1 Natural Resources and Biodiversity
Indicator 2: Number of hectares in areas of biological significance under improved management as a result of USG assistance
Is this an Annual Report indicator? Yes, for Reporting Years FY 2007-10
DESCRIPTION
Precise Definition(s): "Improved Management" includes activities that promote enhanced management of natural resources for the objective of conserving biodiversity in areas that are identified as biologically significant through national, regional, or global priority-setting processes. Management should be guided by a stakeholder-endorsed process following principles of sustainable NRM and conservation, improved human and institutional capacity for sustainable NRM and conservation, access to better information for decision-making, and/or adoption of sustainable NRM and conservation practices. For this program, measurement is focused on land units identified for protection status due to their regional importance in the shared river basin watershed. "Improved management" means that, with guidance from the program, national or local organizations develop plans that address threats to the natural resource base in the designated land unit . Additional area is counted when its management plan is completed with USG support and approved at the local level. "Locally approved" means that the plan will be approved by those communities and stakeholders that will be directly affected by the management plan. IRBM will propose a procedure for formal approval through the various Government Institutions as part of the management planning process.
Unit of Measure: Annual by fiscal year; Number of hectares (cumulative)
Disaggregated by: Ecosystem Type (Terrestrial for this PMP, see Annex 1) and IUCN Protected Area Classification type (See Table 1)
Justification & Management Utility: A spatial indicator is an appropriate measure of the scale of impact of NRM interventions. The standard of 'improved' management as defined by implementation of best practices and approaches demonstrates progress and results across a wide range of development programs. Disaggregate by management purpose facilitates using data collected for diverse reporting requirements. As an initial step toward improved management, resources and ecological services in the area were documented, threats assessed, appropriate and representative sites identified. This step was completed 2005-07 with USG assistance. Subsequent steps include participatory inventory and planning; management plan adoption; formal designation of PA status; organizational structure and funding for management; management measures. This indicator quantifies the areas within the trans-national watershed that are designated by government counterparts for special protection and that benefit from improved management plans as a result of USG assistance.
PLAN FOR DATA ACQUISITION BY USAID
Data collection method: Implementing partner (IRBM) reports on progress based on field data validated by regional government counterparts
Data Source: IRBM annual reports based on data validated by member states; this is a contractual requirement of the implementing partner
Frequency and timing of data acquisition by USAID: Annual by Fiscal Year
Estimated Cost of Data Acquisition: $3,000 / year
Individual responsible at USAID: Chris Schaan
Individual responsible for providing data to USAID: Chief of Party of IRBM (ARD Inc)
Location of Data Storage: Program PMP file in Gaborone Field Office; USAID/SA ASIST Program Office Cabinet:PMP; and IRBM PMP file
DATA QUALITY ISSUES
Date of Initial Data Quality Assessment: Baseline reviewed in Oct 2005 but definition of basin yet to be confirmed (affecting PA area baseline).
Known Data Limitations and Significance (if any): Definition of trans-boundary "basin" area to be documented. Boundaries of watershed units for improved management will be defined with local input and approved at local, regional, national and/or multi-national levels. This may take time and could involve revisions. We will count areas when and as "approved locally" – but norms for that step are not formalized.
Actions Planned to Address Data Limitations: Use best available data from local organizations and government sources. Document any local decisions that approve/clear proposed management plans. Work with other donors and OKACOM to define extent of basin for planning and management purposes. Assist counterparts in member states to apply IUCN categories to any new units to be counted under this indicator.
Date of Future Data Quality Assessments: Completed in July 2007. Next DQA on or before July 2010.
PLAN FOR DATA ANALYSIS, REVIEW, & REPORTING
Data Analysis: Analysis of the raw data is done by implementing partner (IRBM)
Presentation of Data: Table listing name, area (has), location, and improved management steps realized.

Review of Data: Activity Manager and PIC will review data prior to annual portfolio reviews			
Reporting of Data: In Annual Reports – Operational Plans			
OTHER NOTES			
Notes on Baselines/Targets: Original baseline year was 2004. This revision sets baseline in 2006. See prior PMP.			
Other Notes: (a) This indicator replaces the indicator in prior PMP for: "Biologically important areas identified for conservation and improved management." The LOP target for this prior indicator (500,000 has) was exceeded by over 100% in Feb 2007. See IRBM reports for detail. (b) Under the present program, the areas reported under indicators 1 and 2 are identical.			
PERFORMANCE INDICATOR VALUES			
Year	**Target**	**Actual**	**Notes**
2006	BASELINE	1,494,300 has	Area of designated PA's in Okavango Basin – See baseline in Table 1
2007	1,494,300 has	1,494,300 has	Prior PMP target was to *identify* 500,000 has. for improved management
2008	1,994,300 has		Management plans to be completed for at least 500,000 has. (Mucusso)
2009	2,494,300 has		Add'l management plans completed for at least 500,000 has.
2010	2, 594,300 has		Add'l management plans completed for at least 100,000 has.
THIS SHEET LAST UPDATED ON: 6/28/07			

Performance Indicator Reference Sheet
Element: 4.8.1 Natural Resources and Biodiversity
Indicator 3: Number of people receiving USG supported training in natural resources management and/or biodiversity conservation
Is this an Annual Report indicator? Yes, for Reporting Years FY2007-09
DESCRIPTION
Precise Definition(s): The number of individuals participating in learning activities intended for teaching or imparting knowledge and information on natural resources management and biodiversity conservation to the participants with *designated instructors* or lead persons, *learning objectives, and outcomes*, conducted fulltime or intermittently. NRM and biodiversity conservation training can consist of transfer of knowledge, skills, or attitudes through structured learning and follow-up activities, or through less structured means, to solve problems or fill identified performance gaps. Training can consist of long-term academic programs, technical courses, non-academic seminars, workshops, on-the-job learning experiences, observational study tours, or distance learning exercises or interventions. For this program, measurement focuses on training to support improved management of water, wildlife, ecological services and biodiversity in selected watersheds.
Unit of Measure: Annual by Fiscal Year - Number of people (cumulative) If the target is exceeded in one year targets for subsequent years must still be met.
Disaggregated by: Sex - M/ F/ T (male/female/total)
Justification & Management Utility: Lack of capacity and technical skills is a predominant constraint to improved management and conservation of resources in the targeted watersheds. Tracking the number of people trained in NRM/Biodiversity Conservation provides information about the reach and scale of training and capacity building efforts.
PLAN FOR DATA ACQUISITION BY USAID
Data collection method: Implementing partner (IRBM) reports on progress based on formal course registrations and certificates of completion
Data Source: IRBM semi-annual reports timed to Fiscal Years
Method of data acquisition by USAID: Contractual requirement of implementing partner
Frequency and timing of data acquisition by USAID: Semi-Annual
Estimated Cost of Data Acquisition: $3,000 / year
Individual responsible at USAID: Chris Schaan
Individual responsible for providing data to USAID: Deputy Chief of Party of IRBM (ARD Inc)
Location of Data Storage: Program PMP file in Gaborone Field Office; USAID/SA ASIST Program Office Cabinet:PMP; and IRBM PMP file
DATA QUALITY ISSUES
Date of Initial Data Quality Assessment: Baseline reviewed in Oct 2005. The DQA conducted in 2007 identified several minor areas for improvement. As a result, documentation tables consistent with the standard USAID definition were developed and completed. These new tables will be used for future reporting to USAID, and will be supported by detailed lists including the names of each participant in the Project files at IRBM. The Implementing Partner completed a review and verification process in July 2007 to ensure that reported numbers were consistent with the standard definition for USAID reporting in this Reference Sheet.
Known Data Limitations and Significance (if any): Using the new system to document training, no limitations were identified.
Actions Planned to Address Data Limitations: Completed per above based on prior DQA (2007).
Date of Future Data Quality Assessments: Completed in July 2007. Next DQA on or before July 2010.
PLAN FOR DATA ANALYSIS, REVIEW, & REPORTING

Data Analysis: Analysis of the raw data is done by implementing partner (IRBM)			
Presentation of Data: Table listing course name, dates, purpose (linked to definition above), instructor and number of trainees successfully completing the training (male, female, total) based on registrations and certificates. Details listing names of each trainee will be maintained by IRBM and made available upon request.			
Review of Data: IRBM COP; plus Activity Manager and PIC will review data prior to annual portfolio reviews			
Reporting of Data: In Annual Reports – Operational Plans			
OTHER NOTES			
Notes on Baselines/Targets: Original baseline year was 2004. This revision sets new baseline in 2006. See prior PMP.			
Other Notes: This indicator and the standard definition are required by USAID for global reporting.			
PERFORMANCE INDICATOR VALUES			
Year	**Target: M/F/Total**	**Actual: M / F / T**	**Note—Units are Male/ Female/ Total**
2006	BASELINE	65/ 25/ 90	
2007	65/ 35/ 100		
2008	65/ 35/ 100		
2009	65/ 35/ 100		
THIS SHEET LAST UPDATED ON: 6/28/07			

Performance Indicator Reference Sheet
Element: 4.8.1 Natural Resources and Biodiversity
Indicator 4: Number of river basin resource management services delivered as scheduled (based on the number of services planned by the River Basin Commission for the given year) – See Table 2.
Is this an Annual Report indicator? No
DESCRIPTION
Precise Definition(s): "River basin resource management services" are pre-defined activity targets in the OKACOM Institutional Strengthening Assessment Tool (ISAT), an index of operational goals that OKACOM identified in the initial program planning meeting (Feb 2005—See prior PMP). These goals measure the degree to which OKACOM is effectively operating per its commission Charter (see Annex I for Charter). "As scheduled" means in compliance with the targets for service provision that OKACOM identified in 2005 and reviewed or updated annually per procedures described below for data analysis and reporting. The full ISAT tracks milestones and practices in 5 categories: governance, management, financial resources, service delivery, and sustainability.
Unit of Measure: Annual, numerical (ISAT target is to provide at least 75% of the services as planned; See Table 2)
Disaggregated by: NA
Justification & Management Utility: This indicator measures the ability of OKACOM to provide useful services to stakeholders in accordance with its mandate and planned targets. It is a proxy reflecting OKACOM progress with institutional development goals.
PLAN FOR DATA ACQUISITION BY USAID
Data collection method: The ISAT is reviewed at least once per year by OKACOM, OBSC and the Secretariat following a set of standard instructions. The review assesses progress towards specific goals in a process facilitated by the Secretariat and/or IRBM team. Results from this self-assessment are documented in a short Memo-report. The implementing partner provides ISAT results report to USAID.
Data Source: OKACOM ISAT (Institutional Strengthening Self-Assessment Tool) Review Memo-Reports
Method of data acquisition by USAID: OKACOM, OSBC and Secretariat completes assessment at least once per calendar year.
Frequency and timing of data acquisition by USAID: Annual by FY for USAID reporting
Individual responsible at USAID: Chris Schaan
Individual responsible for providing data to USAID: Deputy Chief of Party for IRBM, with COP supervision
Location of Data Storage: ISAT Memo-Report should be included in Program PMP file in Gaborone Field Office; USAID/SA ASIST Program Office Cabinet:PMP; and IRBM PMP file
DATA QUALITY ISSUES
Date of Initial Data Quality Assessment: Nov 05 (self-assessment process tested with OKACOM and documented in Memo to files)
Known Data Limitations and Significance: Self-assessment and interpretation of goals can be somewhat subjective – but process of self-assessment by OKACOM members in and of itself contributes to goals for institutional strengthening.
Actions Taken or Planned to Address Data Limitations: Standard written instructions and definitions are being improved with input from PIC (target for completion: Oct 2007). Project facilitator supervises assessment process to ensure consistency in procedures and objectivity, as well as accurate reporting of the opinions expressed by OKACOM representatives.
Date of Future Data Quality Assessments: Done July 2007. To be updated annually; next update no later than November 2008.
Procedures for Future Data Quality Assessments: Annually via facilitated process with entity representatives

PLAN FOR DATA ANALYSIS, REVIEW, & REPORTING
Data Analysis: Review and analysis of raw data will be done by implementing partner (facilitator) and USAID Team Leader
Presentation of Data: Raw data tables show baseline, annual targets, and actual status as perceived by the representatives of each riparian states for the years assessed. Memo-Reports will include comments/notations to show links between project interventions during the year and progress toward institutional goals. A summary page will list the number of annual development targets for the year, the number of targets met by total consensus, categories of improvements, and any recommended changes generated during the self-assessment process.
Review of Data: Implementing partner, activity manager and PIC will review the data in October/November and prepare to present and discuss the results in the November Portfolio Review for mission management.
Reporting of Data: IRBM Annual Reports and Portfolio Reviews
OTHER NOTES
Notes on Baselines/Targets: Baseline year was 2004 (see prior PMP); updated to 2006.
Other Notes: (a) See detailed targets in Table 2. (b) This indicator replaces the indicator in the prior PMP for: "Steps completed towards establishing a functioning Executive Secretariat" because the LOP target for the Secretariat were substantially achieved upon formal establishment of the Secretariat in 2007 and because future support for the operations of the Executive Secretariat will come primarily from another donor (Sida). Whereas this indicator captures the results of interactions among USG inputs for TA, training and equipment.

PERFORMANCE INDICATOR VALUES

Year	Target	Actual	Notes
2006	Baseline	4	Memo report from ISAT review dated Sept 2006
2007	5		
2008	8		
2009	13		

THIS SHEET LAST UPDATED ON: 6/28/07

Element: 4.8.1 Natural Resources and Biodiversity
Indicator 5: Number of local organizations engaged in sound environmental practices that address threats
Is this an Annual Report indicator? No
DESCRIPTION
Precise Definition(s): "Sound environmental practices" are natural resource conservation practices that support long term sustenance of the resource base. "Threat" is a human activity that is scientifically deemed to have a potential long term, negative impact on the health of the natural resource base, including those identified through the NBSAP process[11]. **"**Engaged in" means developing or implementing discrete activities that result in a measurable impact on behaviors associated with defined threats. "Local organization" is a grouping of people that share a common mandate, and collaborate on an activity. This includes community based organizations, government and non governmental organizations, and private sector organizations.
Unit of Measure: by Fiscal Year - Cumulative number of organizations that have (a) initiated and (b) completed a project
Disaggregated by: a) projects initiated and b) projects completed (practices adopted)
Justification & Management Utility: Indicates progress in stakeholder river basin resources stewardship. Promotes sustainability and environmental governance through attention to group planning for environmental practices.
PLAN FOR DATA ACQUISITION BY USAID
Data collection method: Data collected from implementing partners; analyzed and tabulated by IRBM
Data Source: Implementing NGO partners and local government
Method of data acquisition by USAID: Reports of primary implementing partner
Frequency and timing of data acquisition by USAID: Annual by FY
Individual responsible at USAID: Chris Schaan
Individual responsible for providing data to USAID: Community Component Coordinator, supervised by IRBM COP
Location of Data Storage: PMP file in Gaborone Field Office; USAID/SA ASIST Program Office Cabinet:PMP; and IRBM PMP file

[11] The NBSAP workshop in Menongue identified an initial set of threats in the upper Okavango catchment area that included: water contamination; deforestation; unsustainable exploitation of forest products (wood, grass/thatch, reeds, honey, game meat, fish, etc.); illegal hunting and burning; and inappropriate land use in riparian areas. IRBM identified key threats to the overall river ecosystem in the Biodiversity Threat Matrix included in the Original PMP. These include water abstraction projects and related infrastructure, and other activities affecting flow and quality of water and sediments.

DATA QUALITY ISSUES					
Date of Initial Data Quality Assessment: July 2007					
Known Data Limitations and Significance: Determination of "sound environmental practices" and degree of adoption is qualitative. Projects may be completed with minimal impacts on threats. Reporting format and stages were reviewed with DQA in 2007 and prior stage for "projects under development" (planning) was deleted.					
Actions Taken or Planned to Address Data Limitations: Improved definitions based on USAID threat criteria and NBSAP are now incorporated. Project Manager will make field visits to ascertain degree of adoption and impacts on targeted threats. Results to be reflected in trip reports and subsequent semi-annual reviews related to this indicator.					
Date of Future Data Quality Assessments: no later than July 2010					
PLAN FOR DATA ANALYSIS, REVIEW, & REPORTING					
Data Analysis: By implementing partner					
Presentation of Data: Table showing: Organization, activity/practice to be adopted, threat(s) addressed, and dates when project was initiated and completed. Summary per table below noting which communities are being counted.					
Review of Data: Activity Manager and PIC review reporting table in Oct/Nov prior to portfolio reviews					
Reporting of Data: In Annual Portfolio Reviews and IRBM Reports					
OTHER NOTES					
Notes on Baselines/Targets: Original PMP baseline year was 2004. Updated to 2006.					
PERFORMANCE INDICATOR VALUES					
Year	**Initiated**		**Completed**		**Notes (numbers are cumulative by FY)**
	Target	**Actual**	**Target**	**Actual**	
2006	Baseline	0	Baseline	0	Four projects near Menongue were in planning stages; none started FY06
2007	6		5		
2008	-		6		No additional community projects are planned to begin after 2007
THIS SHEET LAST UPDATED ON: 28-Jun-07					

APPENDIX B: IRBM REPORTS

Assessment of the HIV/AIDS Programs in Ngamiland, Prepared by Nathan Tlhalerwa: January 28, 2005.

Report of Strategic Action Planning Workshop, 9-10 February 2005, Balalaika Hotel Johannesburg South Africa: February 2005.

Life of Project Strategy, First Annual Work Plan and Performance Monitoring Plan: May 2005.

Rapid Survey of Ongoing Community Development and Natural Resources Management Activities in the Okavango River Basin – Namibia Section, Prepared by Brian Jones: February 2005.

Enhancing Data Management for OKACOM, Prepared by Lynnette Wood: November 2005.

Relatorio Final – Workshop Regional da Zona Kuando Kubango sobre a Estratégia para a Conservação da Biodiversidade, Governo da Província do Kuando Kubango 1 e 2 de Setembro de 2005 Menongue – Kuando Kubango.

Results of Scouting Exercise in Kuando Kubango Province, Angola: December 2005.

Improving Hydrometric Systems, Instituional and Training Assessment for Hydrological Monitoring, Prepared by Jonathon Hodgkin, February 2006.

Strengthening River Basin Organizations (RBO's) in the SADC Region, Programme Document, Prepared by Brian Hollingsworth from Proceedings of Workshop held in Gaborone, Botswana, November 2006 (funded by IRBM, GTZ, and InWEnt) and Consultancy funded by GTZ, 23 January 2007.

Participatory Rural Appraisal Methods Training Workshop: March 2006.

Participatory Rural Appraisals, Results of PRAs Conducted in Ten Communities in Kuando Kubango Province, Angola: June 2006.

Summary of Findings – Diagnostic of the Mucusso Hunting Reserve: November 2006.

Final – Okavango IRBM Performance Monitoring Plan: Updated February 23, 2006.

Rapid Socio-Ecological Assessment of Okavango River Basin Communities in Kuando Kubango Province, Angola: March 2006.

Diagnóstico Rápido Socioecológico das Communidades da Bacia Hidrográfica do Okvanango na Província do Kuando Kubango, Angola: Março de 2006.

Advanced Participation Methods, ***Training Workshop in Group Facilitation Techniques*** **Level One,** ***Participant Manual***: May 2006.

Métodos Avançados de Participação, ***Seminário de Formação em Técnicas de Facilitação de Grupo,*** **Nível 1,** ***Manual do Participante***: **Patrocinado por ARD, Inc., (Projecto de Gestão Integrada da Bacia do Okavango), Ao abrigo do Contrato LAG-1-811-99-00018-00 da USAID,** Maio, 2006.

Okavango IRBM Reporting and Communication Plan, 27 February 2006.

USDA Forest Service Forest Resource Assessment Trip, Kuando Kubango Province, Angola. In support of the USAID Southern Africa's Okavango Integrated River Basin and the Angolan Ministry of Agriculture and Rural Development's National Institute for Forestry Development and Management Project. Trip and Assessment Report – Mission Dates: May 16 – June 1, 2006. Report prepared by Michelle Zweede, USDA Forest Service, International Programs, Hugh Safford, USDA Forest Service, Region 5, and Glen Juergens, USDA Forest Service, Monongohela National Forest.

Second Annual Work Plan, Okavango Integrated River Basin Management Project (IRBM), April – September 2006: 17 may 2006.

Workshop Report, Strengthening River Basin Organizations for Transboundary Water Resource Management in SADC, Workshop held in Gaborone, Botswana, 11-12 September 2006.

Advanced Participation Methods – Level Three, Participation Manual, Community-Based Project Planning, July 2006.

Training in Advanced Participation Methods – Level 3 (APM3), Menongue, Angola: April 2006.

Third Annual Work Plan, Okavango Integrated River Basin Management Project (IRBM), For the Period October 1, 2006 – September 30, 2007: 31 August 2006.

IRBM Semi-Annual Report, October 1, 2005 – March 31 2006: April 2006.

Quarterly Report, Okavango Integrated River Basin Management Project (IRBM), January 1 – March 31, 2006: April 2006.

ENVIRONMENTAL REVIEW REPORT. Okavango Integrated River Basin Management Project, USAID/Southern Africa, USAID Contract No.: LAG-I-811-99-00018-00, February 2007.

Assessment of the Use and Economic Value of Selected Critical Wetland Resources, Sakeus Ihemba, Nature Conservation School, Polytechnic of Namibia, Integrated River Basin Management Project Intern: July – December 2006.

Fourth Annual Work Plan, October 1, 2007 to September 30, 2008. Okavango Integrated River Basin Management Project, USAID/Southern Africa, USAID Contract No.: LAG-I-811-99-00018-00, September 30, 2007.

Annual Report, October 1, 2007 to September 30, 2008. Okavango Integrated River Basin Management Project, USAID/Southern Africa, USAID Contract No.: LAG-I-811-99-00018-00, October 15, 2008.

The Potential of the Lower Okavango River in Namibia as a Ramsar Site, Richard Kavari, Nature Conservation School, Polytechnic of Namibia, Integrated River Basin Management Project Intern: January - June 2006.

Report on Training of Tree Identification, Vegetation Assessments and Mammal Inventories, Okavango Integrated River Basin Management Project, Kuando Kubango Biodiversity Conservation Program, March 2007.

Strengthening River Basin Organizations (RBOs) in the SADC Region, Programme Document, Infrastructure and Services Directorate, Water Division, SADC, 23 January 2007.

APPENDIX C: TRAINING COURSES

Date and Location	Target Group	Trainer	Methodology and Objective	Number of Trainees			Project Year
				F	M	Tot	
February 2005 – Johannesburg	Facilitators from basin stakeholder group	Gary Forbes	APM training in facilitation methods to assist with Strategic Action Planning workshop	5	2	7	**October 2004 to September 2005**
June 2005 - Menongue, Angola	Local community residents and technical staff from ACADIR	World Vision – Angola	Training in PRA methods and approaches, including field work completed in local communities	3	17	20	
November 2005 – Windhoek, Namibia	OKACOM and OBSC members	Center for Conflict Mediation, Boulder, Colorado	Training in conflict resolution and mediation	19	3	22	
July 2005 – Menongue, Angola	Staff from local NGO – ACADIR	World Vision – Angola	Conducting a rapid scoping exercise among local government and key civil society informants	1	5	6	
TOTAL FOR PROJECT YEAR 1				**28**	**27**	**55**	
March 2006 - Johannesburg. SA	Technical staff from basin-level agencies, NGOs, and OKACOM	Gary Forbes	APM1 and APM2 training. APM 1 aimed at general facilitation skills and APM 2 at advanced planning and implementation of facilitated workshops.	9	21	30	**October 2005 to September 2006**
May 2006 – Cunene, Angola	Technicians from Kuando Kubango DPA	Cunene Regional Water Department staff	Field visits to hydrometric stations on the Cunene to provide hydrologic technicians with an improved understanding of techniques for the collection, processing and management of hydrological data	0	3	3	
May 2006 – Windhoek	Technicians from member states' DWAs	Division of Hydrological Services, Ministry of Agriculture, Water and Forestry- Namibia	Exchange visits, including field visits to hydrometric stations on the Kavango and direct training in data collection and processing. Portuguese translation provided. To provide hydrologic technicians with an improved understanding	1	9	10	

			of techniques for the collection, processing and management of hydrological data, with emphasis on the importance of accuracy and attention to detail in all steps of the process				
May 2006 – Menongue, Angola	Members of local NGO and line agency staff responsible for community programs	Trevor Spence	Training course provided to participants from NGOs in Menongue, Angola, for use in oranizing communities and helping them prepare and implement action plans for CB-river basin management activities	5	12	17	
September 2006 – Lubango, Angola	Community organizers mid-level government technicians, and OKACOM representatives from Angola	Gary Forbes	Training in APM1 and APM2 for Angolan participants. APM 1 aimed at general facilitation skills and APM 2 at advanced planning and implementation of facilitated workshops. Trainees were selected as part of trainers of trainers approach. These future facilitators would lead regional and national workshops, OKACOM meetings and community-based workshops. Course was conducted in Angola and presented in Portuguese.	7	13	20	
September 2006 – Pandera, Kuando Kubango, Angola	Community members from Pandera along the Kuebe River	World Vision – Angola	Conservation agriculture – methods and approaches for small-scale irrigated conservation agriculture within a flood plain	188	190	378	
September 2006 – Ndumbo, Angola	Community members from Ndumbo	World Vision – Angola	Conservation agriculture – methods and approaches for small-scale irrigated conservation agriculture within a flood plain	76	68	144	
TOTAL FOR PROJECT YEAR 2				**286**	**316**	**602**	
January 2007 – Shakawe, Botswana	DWA staff from Angola, Botswana and Namibia	Botswana DWA and Angola DNA	Comparison of approaches to collecting water resources data, including comparison between ADCP and data loggers	0	26	26	**October 2006 to September 2007**
February 2007 – Kavango Region, Namibia	Community members from Pandera, LUKA, Ndumbo, and Bairro Azul	NNF	CBNRM Exchange Training. Community members from CBNRM sites in Menongue visit ERP CBNRM sites in Namibia	6	16	22	
March 2007 – Divundu, Namibia	Foresters and wildlife technicians	USFS, IRBM, and HOORC	Training in mammal and vegetation surveys in protected areas. Learned how to	7	38	45	

and Mucusso, Angola	from government departments and Mucusso community members		conduct both ground vegetation and forest inventories as well as determine presence and sign of mammals. Trained in transect methods for vegetation surveys. Numerous community trainees employed to conduct inventories in Mucusso over 18 month period				
January 2007 – Pandera, Kuando Kubango, Angola	Community members from Pandera along the Kuebe River	World Vision – Angola	Conservation agriculture – methods and approaches for small-scale irrigated conservation agriculture within a flood plain	87	78	165	
March 2007 – Ndumbo, Kuando Kubango, Angola	Community members from Ndumbo	World Vision – Angola	Conservation agriculture – methods and approaches for small-scale irrigated conservation agriculture within a flood plain	108	85	193	
April 2007 – Bairro Azul, Kuando Kubango, Angola	Community members from Bairro Azul	World Vision – Angola	Conservation agriculture – methods and approaches for small-scale irrigated conservation agriculture within a flood plain	6	3	9	
TOTAL PROJECT YEAR 3				**281**	**179**	**460**	
October 2007 – Mucusso, Angola	Mucusso Field Team	IRBM	Administrative and management training for field-based staff given transition in responsibility.	0	7	7	**October 2007 to September 2008**
January 2008 – Mucusso, Angola	Community members from Shamue Association	Elephant Pepper Development Trust (EPDT)	Training on how to use chili peppers as a deterrent to elephant crop invasion	4	9	13	
February 2008 – Mucusso, Angola	Community members from Shamue Association	Robert Cunliffe	Training in community-based consultation and land use planning	4	8	12	
April 2008 – Namibia	Community members from Shamue Association	IRDNC	Exchange training on CBNRM in Kavango and Caprivi Regions of Namibia	3	9	12	
May 2008 – Mucusso, Angola	Namibia trust members	IRDNC and IRBM	Exchange training on CBNRM in Mucusso involving community trust members from Namibia	5	10	15	
May 2008 – South Africa	Angolan Technician from	South African Department of Water and Forestry	SADC HYCOS Training	0	1	1	

	DNR					
August 2008 – Kavango Region, Namibia	Foresters and community members from Namibia and Angola	USFS	Fire management and prevention training. How to construct fire barriers and control fire through proven community-based techniques	2	43	45
July 2008 – Mucusso, Angola	Community extension agents	EPDT	Training in extension of chili pepper HEC techniques to additional farmers within the Shamue Association	3	12	15
February – August 2008, Maun and elsewhere	OKACOM Executive Secretary	IRBM COP	Provided on-going mentoring on work planning, financial management, and production of handbooks and manuals for organizational operations	0	1	1
TOTAL FOR PROEJCT YEAR 4				**21**	**99**	**120**
2006, Menongue, Angola	Community members from Pandera, Bairro Azul, LUKA, and Ndumbo	World Vision – Angola and ACADIR	Training in HIV/AIDS, public health and sanitation, administration, financial management of community development groups	156	121	254
TOTAL SPONSORED TRAINING UNDER IRBM				**772**	**742**	**1514**

APPENDIX D: SOUTHEAST KUANDO KUBANGO IRBM GIS DATA

This list refers to the content of the GIS data base that was developed as part of the Kuando Kubango Biodiversity Program. The folders and subfolders are indicated in bold and capital letters; the GIS files are presented in *Italic* text. The data base is accessible through USAID/Southern Africa.

RASTER DATA WGS84 REFERENCE SCALE
• LANDCOVER
►MUCUSSO GAME RESERVE
MGR Landcover ——————————1/100 000
Mucussolandcover_1st rendition ——————1/100 000
• REMOTE SENSE
►LANDSAT 5 TM
Landsat5TM(421) ——————————1/100 000
►LANDSAT 7 ETM ORTO-IMAGES
Folha 1 – Luengue ——————————1/100 000
Folha 2 – Massive ——————————1/100 000
Folha 3 – Pumumo ——————————1/100 000
Folha 4 – Mucuve ——————————1/100 000
Folha 5 – Nacafumbo ——————————1/100 000
Folha 6 – Cuando ——————————1/100 000
Folha 7 – Mavengue ——————————1/100 000
Folha 8 – Uambafuca ——————————1/100 000
Folha 9 – Sacatchai ——————————1/100 000
Folha 10 – Calonga ——————————1/100 000
Folha 11 – Nota ----------1/100 000
Folha 12 – Bambangando ——————1/100 000
Folha 13 – Liaxut ——————————1/100 000
Folha 14 – Luiana ——————————1/100 000
Folha 15 – Calai ——————————1/100 000
Folha 16 – Xamavera ——————————1/100 000
Folha 17 – Dirico ——————————1/100 000
Folha 17a – Foz do Cuito ——————1/100 000
Folha 18 – Temuangue ——————————1/100 000
Folha 19 – Chimbaranda ——————1/100 000
Folha 20 – Buabuata ——————————1/100 000
Folha 21 – Jamba ——————————1/100 000
Folha 22 – Bico do Luiana ——————1/100 000
Folha 23 – Mucusso ——————————1/100 000
Folha 24 – Divundo ——————————1/100 000

Folha 25 – Omega ——————————1/100 000
Folha 26 – Caprivi ——————————1/100 000
Folha 27 – Linyanti ——————————1/100 000

►ORTO-PHOTOS NAMIBIA

> DSM UTM34S

1722 ——————————1/20 000
1723 ——————————1/20 000
1724 ——————————1/20 000
1725 ——————————1/20 000
1818 ——————————1/20 000
1821 ——————————1/20 000
1918 ——————————1/20 000
1919 ——————————1/20 000
1920 ——————————1/20 000
2018 ——————————1/20 000
2019 ——————————1/20 000
2020 ——————————1/20 000

> KUMBILO WETLANDS

1720dd21 ——————————1/10 000

►SPOT ORTO-IMAGES

Folha Spot 18 – Temuangue ——————1/100 000
Folha Spot 19 – Chimbaranda ——————1/100 000
Folha Spot 23 – Mucusso ----------1/100 000
Folha Spot 24 – Divundo ——————1/100 000

• TOPOGRAPHIC DATA WGS84

Srtm_hsutm ——————————1/100 000
Srtm_kkutm ——————————1/100 000
Srtm_Slopeutm ——————————1/100 000

VECTOR DATA WGS84 ***REFERENCE SCALE***

• BOUNDARIES

►SOUTHERN AFRICA REGION

Southern Africa Countries_bd ——————1/1 000 000

►ANGOLA BOUNDARIES

Angola communes ——————————1/500 000
Angola provinces ——————————1/500 000

►KUANDO KUBANGO PROVINCE

Kuando Kubango Province_bd ——————1/500 000
Kuando Kubango Municipalities_ bd ——————1/500 000

►KUANDO KUBANGO RESERVES (PRESENT)

Kuando Kubango Hunting Reserves_bd ————1/200 000
Kuando Kubango Luiana Partial Reserve_bd ——1/200 000
Kuando Kubango Mavinga Partial Reserve_bd —1/200 000

• FIRE DATA 2007

►MUCUSSO RESERVE 2007 DRY SEASON BURNED AREAS

Mucusso Reserve Burned Areas 2007 ————1/10 000 000

• GEOMORPHOLOGY

►SOUTHEAST KUANDO KUBANGO

SE Kuando Kubango Quaternary Formations——1/200 000
SEKK Contours 50m ——————————1/100 000

• HYDROGRAPHY
►SOUTHEAST KUANDO KUBANGO
SEKK Hydrographic Basins ----------1/100 000
SEKK Permanent rivers----------1/100 000
SEKK Seasonal streams----------1/100 000
• INFRASTRUCTURES
►FENCES NAMIBIA & BOTSWANA
Fences nambots----------1/100 000
►SOUTHEAST KUANDO KUBANGO
SEKK Roads and Tracks----------1/100 000
Kubango River Front Tracks ----------1/50 000
• LANDCOVER & VEGETATION
►KUANDO KUBANGO PROVINCE
Kuando Kubango Vegetation----------1/2 500 000
►SOUTHEAST *KUANDO KUBANGO*
Southeast Kuando Kubango Vegetation----------1/500 000
Southeast Kuando Kubango Wetlands----------1/100 000
►MUCUSSO GAME RESERVE
Landcover Mucusso GR 250k Topo Maps----------1/250 000
Vegetation Sample Areas----------1/50 000
• MAMMALS
► MUCUSSO GAME RESERVE
Mammals Grid 5km----------1/500 000
• POPULATION LIVELIHOOD
►MUCUSSO GAME RESERVE
Crops 1990----------1/100 000
Crops 1996----------1/100 000
Crops 2002 ----------1/100 000
Crops 2006 ----------1/100 000
• POPULATION SETTLEMENTS
►SOUTHEAST KUANDO KUBANGO
Settlements ----------1/100 000
• TOPONYMY
► SOUTHEAST KUANDO KUBANGO
Toponymy----------1/100 000
• PROPOSED PROTECTED AREA STATUS
► SOUTHEAST KUANDO KUBANGO
Proposed Protected Areas Block – Option A----------1/100 000
Proposed Protected Areas Block – Option B----------1/100 000
Proposed Protected Areas Block – Option C----------1/100 000
Proposed National Park Zoning – Option A----------1/100 000
Proposed National Park Zoning – Option B----------1/100 000
Proposed National Park Zoning – Option C----------1/100 000