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# MIDTERM EVALUATION OF CONSERVATION OF BIODIVERSITY ACROSS THE BOMA-JONGLEI LANDSCAPE OF SOUTHERN SUDAN

**20 OCTOBER 2010**

This publication was produced for review by the United States Agency for International Development. It was prepared by Mark Renzi and Jody Stallings for Management Systems International.

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Contract No. DFD-1-00-05-00251-00, Task Order No. 2

Services under Program and Project Offices for Results Tracking (SUPPORT)

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## ACRONYMS

BJL	Boma-Jonglei Landscape
CA	Cooperative Agreement
CBO	Community Based Organization
COP	Chief of Party
CPA	Comprehensive Peace Agreement
CTAs	Critical Target Areas
DG	Democracy and Governance
EOP	End of Project
FY	Fiscal Year
GCC	Global Climate Change
GIS	Geographic Information System
GOSS	Government of Southern Sudan
GPS	Global Positioning Satellite
IPCC	International Panel on Climate Change
IUCN	International Union for the Conservation of Nature
LIFE	Living in a Finite Environment
MAPF	Mobile Anti-Poaching Force
MSI	Management Systems International
MWCT	Ministry of Wildlife Conservation and Tourism
NGO	Non-Governmental Organization
NP	National Park
NRM	Natural Resources Management
NRMG	Natural Resources Management Group
NSWS	New Sudan Wildlife Society
OPPR	Operational Plan Performance Reporting
PES	Payment for Environmental Services
PMP	Performance Monitoring Plan
REDD	Reducing Emissions from Deforestation and Forest Degradation
SGP	Small Grants Program
SOW	Scope of Work
SPLA	Sudan Peoples Liberation Army
SSNCO	South Sudan Nature Conservation Organization
SUPPORT	Services under Program and Project Offices for Results Tracking
UN	United Nations
USAID	United States Agency for International Development
USG	United States Government
VER	Verified Emission Reduction
WCS	Wildlife Conservation Society

## EXECUTIVE SUMMARY

Southern Sudan and the critical border areas (consisting of the northern states of Southern Kordofan and Blue Nile, plus Abyei—commonly referred to as the Three Areas) are characterized by years of underdevelopment, war, famine, drought and flood, producing a crisis of enormous proportions across the region and resulting in the devastation of economic, political and social structures. In addition to the loss of lives, opportunities and infrastructure, the war displaced families and divided communities. In consequence, the health, education and infrastructure status of the Sudanese people are among the poorest globally.

After decades of civil war, Sudan's warring parties signed a Comprehensive Peace Agreement (CPA) in January of 2005. Since that time, the country has taken steps toward peace, reconciliation and good governance, although the pace has been slower than expected or desired. As part of the CPA, the Southern Sudanese are expected to vote in January 2011 on whether to become an independent nation. The Government of Southern Sudan (GOSS) currently has a severely limited capacity to absorb all the administrative, political and leadership challenges required to manage a newly independent nation. This harsh reality requires the GOSS and donors to exert considerable discipline in shaping the scope of governance to be pursued by a new government that is high on ambition but low on capacity to deliver the most critical basket of services for an impatient, ethnically divided and heavily armed populace.

As peace is consolidated, USAID plans to continue to support a responsible transition from emergency to development assistance. The natural resource sector (oil, water, forest, rangelands, minerals, wildlife and protected areas) will play an important part in shaping Southern Sudan's economic future. Sound management systems can help increase the likelihood that resource use will promote sustainable economic growth.

In 2007 the Wildlife Conservation Society (WCS) started the conservation and development work with the results of its wildlife survey which indicated that a wildlife migration of what was then estimated to be over one million strong had survived the long and devastating war in Southern Sudan. Largely based on this realization, WCS secured a Cooperative Agreement (CA) with USAID/Sudan funding of \$12 million and an additional \$3 million from other private donors to address the challenges of conserving the migration and landscape in which this migration occurs. The evaluation of the resulting project—Conservation of Biodiversity across the Boma-Jonglei Landscape of Southern Sudan—occurred approximately 19 months into a 33-month project.

WCS appears to be implementing the project consistently with the CA, although it is substantially behind in developing Ministry of Wildlife Conservation and Tourism (MWCT) infrastructure, in helping residents of the landscape improve their livelihoods, and in installing a landscape-wide land-use planning process. Such delays are not uncommon in an operating environment as challenging as Southern Sudan. WCS has developed an impressive foundation to achieve impact: it has assembled an excellent team, erected a superb WCS operating infrastructure, and completed an impressive array of biological and social analyses. Those analyses—just being integrated by WCS staff when the external evaluators arrived—were invaluable in assisting the team in understanding the landscape.

However, the design of the project is flawed and requires attention for the excellent efforts of staff to be able to have an impact. The original CA was developed based on the incomplete information available in 2009 and includes four very general objectives, no purpose/strategic objective statement (which normally defines impact in the project period), and an appropriately long-term (possibly 20-

year) goal of sustaining biodiversity over the entire landscape (the size of Senegal). The timing of the evaluation seemed ideal to help WCS, USAID and MWCT review the existing GIS data the project has generated, and consider ways in which the project could be focused to realize better results in the remaining 14 months of funding and achieve lasting impact, should a follow-on phase be supported by USAID. Without such a focusing, little overall impact is likely by the end of project. Existing monitoring data and reporting systems were insufficient to measure impact at an end-of-project evaluation and make quarterly USAID monitoring of progress difficult. A “Phase II,” in the external evaluators’ judgment, is only advisable with a focused design and impact accountability structure, the key levers of USAID/NGO management of cooperative agreements.

The following key conclusions and recommendations emerged from the analysis:

- 1) WCS is on track in meeting the general obligations agreed upon in the CA, although it is behind in implementation and spending.
- 2) USAID and WCS should clearly define what would constitute meaningful impact in the project timeframe, and WCS should strive to meet those objective measures.
- 3) **If USAID and WCS wish to achieve impact under the project**, the project must:
  - a. Immediately focus interventions exclusively on the migration routes within the landscape, as described throughout the report. Six Critical Priority Target Areas (CTAs) are listed around which such a focusing could be developed. Definition of the CTAs could certainly be fine tuned.
  - b. Focus anti-poaching and community activities on CTAs, and land-use efforts on concessions and resource users in critical corridors at the state and local levels.
- 4) **If USAID and WCS wish to begin to address sustainability**, the project should:
  - a. Expand organizational support to MWCT and assist the Natural Resource Management Group (NRMG) to sort out its structure and mission.
  - b. Increase non-governmental organization (NGO), community-based organization (CBO) and university engagement.

# 1. INTRODUCTION

## 1.1. Country Context

Sudan is the largest country in Africa, borders nine countries, and has a population estimated at 40 million. Since gaining its independence in 1956, Sudan has suffered from continuous civil war, save for a decade of troubled peace lasting from 1972 to 1983.

Southern Sudan and the critical border areas (consisting of the northern states of Southern Kordofan and Blue Nile, plus Abyei—commonly referred to as the Three Areas) are characterized by years of underdevelopment, war, famine, drought and flood, producing a crisis of enormous proportions across the region and resulting in the devastation of economic, political and social structures. In addition to the loss of lives, opportunities and infrastructure, the war displaced families and divided communities. In consequence, the health, education and infrastructure status of the Southern Sudanese people are among the poorest globally. Inability to attend schools for decades has led to a severely under-educated population and massive illiteracy rates that make hiring and retaining qualified Southern Sudanese professionals extremely difficult. Challenges are magnified when seeking to post skilled staff to work in remote areas.

After decades of civil war, Sudan's warring parties signed a Comprehensive Peace Agreement (CPA) in January 2005. Since that time, the country has taken steps toward peace, reconciliation and good governance, although the pace has been slower than expected or desired. As part of the CPA, the Southern Sudanese are expected to vote in January 2011 on whether to become an independent nation. The Government of Southern Sudan (GOSS) currently has a severely limited capacity to absorb all the administrative, political and leadership challenges required to manage a newly independent nation. This harsh reality requires the GOSS and donors to exert considerable discipline in how they shape the scope of governance to be pursued by a new government high on ambition but low on capacity to deliver the most critical basket of services for an impatient, ethnically divided and heavily armed populace.

As peace is consolidated, USAID plans to continue to support a responsible transition from emergency to development assistance. The natural resource sector (oil, water, forest, rangelands, minerals, wildlife and protected areas) will play an important part in shaping Southern Sudan's economic future. Sound management systems can help increase the likelihood that their use will promote sustainable economic growth.

## 1.2. Sector Context

Until civil war broke out in 1983, the vast grasslands of Southern Sudan supported some of East Africa's most spectacular and important wildlife populations, including the world's second-largest wildlife migration. Twenty-two years of civil war and humanitarian crises led to widespread speculation that Southern Sudan's wildlife heritage had been lost, but the findings of January–February 2007 aerial surveys undertaken by Wildlife Conservation Society (WCS), in cooperation with the GOSS, made the front page of the *New York Times*, as well as being featured in magazines such as *TIME*, *Newsweek*, and *The Economist*.<sup>1</sup> Key findings from those surveys included the following:

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<sup>1</sup> See Annex G for a full listing of media coverage

- Migrations of white-eared kob, tiang, and mongalla gazelle in Boma and Jonglei are substantially intact and total more than 1.2 million animals, a size comparable to that of the 1980s.
- Elephant populations have actually increased in the Sudd (the vast swamp shown in Figure 1 that encompasses Zeraf Reserve and the proposed extension) from about 4,000 to about 6,000.
- The endemic Nile Lechwe (a type of antelope) persists.
- Lions remain in good numbers and wild dogs survive in the landscape.
- Sedentary ungulates, such as buffalo and hartebeest, have declined drastically in several areas. Most species can still be found in Southern National Park, but in greatly reduced numbers.
- It is still unknown whether rhino survive in Southern Sudan.

Overall, WCS describes the Boma-Jonglei Landscape (BJL) of Southern Sudan as the largest expanse of substantially intact, wild habitat in East Africa (see Annex I). Hundreds of species of birds, including the rare shoebill, dwell in this landscape or pass through it on migrations between Eurasia and Africa. In addition, WCS has undertaken socioeconomic surveys to better understand the traditional peoples and cultures (Anyuak, Murle, Jiye, Kacipo, Toposa, Dinka, Mundari, Nuer, Shilluk, Bari, Didinga, Lotuka, Nyangatom, etc.) that have strong ties to wildlife and live off the land through pastoralism, agriculture, hunting and fishing.

The surveys conducted by WCS also revealed that resource extraction plans have started in earnest in Southern Sudan since the signing of the peace accord in January 2005. Oil companies are active in Jonglei State, and concessions are being opened across Southern Sudan, including in migration corridors and several protected areas. Mining permits have been awarded in Eastern Equatoria State. Both internally displaced peoples and refugees are also returning, regaining grazing and agricultural lands and reestablishing their lives.

With support of the GOSS and the international community, including USAID, roads are being built for the development of the region; if not constructed with adequate environmental planning and management programs, however, they could rapidly become conduits for the commercial bushmeat trade and threaten the long term viability of protected areas and wildlife populations. Automatic rifles such as AK47s are common among the local communities and are often used for hunting. The Boma-Jonglei landscape falls within Jonglei, Eastern Equatoria and Central Equatoria States, parts of which are experiencing violent inter-tribal conflict and competition over natural resources. These areas also harbor former militia requiring disarmament.

The insecurity created as a result of tribal violence, banditry and the presence of a large number of armed forces—such as the Sudan People’s Liberation Army (SPLA) and police—in many regions of Southern Sudan renders working in remote areas and enforcing wildlife and protected areas laws challenging. WCS has had to remain flexible in adapting its program to security issues, including constant ethnic conflict that on one occasion spilled over into the WCS’s field site in Boma National Park, requiring staff to flee an armed incursion.

Publicly, the GOSS has prioritized wildlife conservation as a key component of its national development strategy and formally agreed for WCS to act as lead technical partner in the Boma-Jonglei Landscape. In reality, however, as in most countries, national level support for conservation must vie for attention with other national and individual priorities. WCS’s primary GOSS partner, the Ministry of Wildlife, Conservation and Tourism (MWCT) is blessed with an unusually (in the context of current Southern Sudanese human resources) talented and well-trained Undersecretary for Wildlife Conservation and a very capable (if small) set of second-tier leadership. Overall, however, the ministry lacks sufficiently trained staff. Complicating matters in the medium term is that the ministry has been tasked with employing thousands of ex-combatants—most of whom lack the basic skills and motivation required to be effective wildlife officers—as a critical tactic to maintain national

peace leading up to the referendum on independence. These constraints mean that the few talented men at the top are required to be many places at once, further stretching capacity.

### 1.3 Report Layout

Section 1 presents background information to orient the reader to the national and sectoral context of the project, the evaluation and the project itself. Section 2 reports on the methodology used. Section 3 begins the technical aspect of the report, presenting Findings and Conclusions on project design. Section 4.1 presents findings and conclusions on project implementation, beginning with an overview of implementation and then presenting the four project components and on project impact to date. Section 4.2 includes Key Conclusions for all of Section 4. Section 5 presents findings and conclusions on Global Climate Change; Section 6 on how the project can integrate with other USAID programs, and Section 7 Sustainability. Section 8 presents a framework for considering timeframes for impact and how to measure impact. The final section contains recommendations for all prior sections.

Text boxes are found throughout the body of this report that attempt to explain how some of the team’s most important recommendations might be operationalized in Southern Sudan. Many of the models used in nearby countries (such as Kenya and Tanzania)—including wildlife management (large fixed-position protection units), community outreach (via small grants) and tourism (large-scale, high revenue)—are very unlikely to succeed in Southern Sudan as it wrestles with the question of independence, severe internal security issues and institutional weaknesses. Accordingly, the “out-of-the-box text boxes” are aimed at helping readers to consider non-conventional approaches; their purpose is not to present a given approach as *the* most appropriate solution, but instead to provide a range of possible solutions that might be considered.

### 1.4 Evaluation Background

USAID/Sudan contracted with Management Systems International (MSI) under the SUPPORT Project (Project No. DFD-I-00-05-00251-00, Task Order #2) to conduct a midterm evaluation of the Conservation of Biodiversity Across the Boma Jonglei Landscape of Southern Sudan (BJL Project; Agreement Award No. 650-A-00-08-000-19-00), implemented by the Wildlife Conservation Society (WCS). The evaluation’s Scope of Work (SOW), attached as Annex A, states:

*The evaluation’s principle purpose will be to review project implementation progress to date, recognize the successes of the program, identify areas needing improvement and provide information to help the Implementing Partner (IP) and USAID review project design and assumptions to determine if they remain valid and modify implementation to improve potential impact.*

### 1.5 Project Description

The Cooperative Agreement (CA) was signed with USAID on December 1, 2008, with a completion date of September 30, 2011 (duration of 33 months). The project is located in Jonglei, Eastern Equatoria and Central Equatoria States; the project has its headquarters in Juba and a field station in Nyat, in Boma National Park. USAID funding for the project is \$12,642,000 with a WCS match of \$2,553,307. WCS has recently requested additional funding for infrastructure development. Different scenarios were presented, ranging from \$932,778 to \$2,063,083 in additional funds.

The project’s goal as stated in the CA is “to sustainably manage natural resources and conserve biodiversity across the Boma-Jonglei Landscape.” Its four objectives are as follows:

- Strengthen institutional capacity for sustainable management of natural resources;
- Develop participatory land-use planning, zoning, and resource management;
- Conserve biodiversity through protected area management, monitoring, ecotourism development, and other incentives for sustainable land use and resource management; and
- Improve community livelihoods and economic enhancement.

Like most goal statements, that outlined within the CA aspires to an outcome that could only be achieved in the long-term. The objective statements encompass general categories of activities, unspecified geographically, temporally or in substance. In the majority of USAID-funded projects, there is normally a statement (typically called a purpose or strategic objective) that expresses what the project should accomplish before the end of its funding period, offering USAID some a sense of what it is “buying” for its (in this case, \$12 million) investment. As depicted in Annex B, which displays these objectives in the form of a Results Framework format, such a statement of purpose is missing for the BJL Project, unless it is represented by the goal cited above that is likely to take 15–20 years to accomplish. After much discussion with WCS staff, the external evaluators concluded that the most probable, but implied, purpose of the activity was to establish the protected areas and connecting corridors needed to secure the targeted wildlife migration, as depicted in the map in Annex B. This will also take significantly longer than the current project period.

## 2. METHODOLOGY

The external evaluators, Mark Renzi and Jody Stallings, were selected for their extensive experience managing, implementing and evaluating many conservation projects in Africa and Latin America. Both have worked for U.S. conservation NGOs, for USAID, and in the private sector in a range of conservation and development scenarios. Both have significant post-conflict experience, including in Southern Sudan. Dr. Stallings holds a PhD in Conservation Biology; Mr. Renzi holds masters degrees in Public Policy and Urban and Regional Planning. This evaluation was meant to be conducted collaboratively (as expressed in the SOW) with the evaluation team including representatives from both WCS and the Ministry of Wildlife Conservation and Tourism (MWCT). This aim was partially realized, since the Chief of Party (COP) of WCS accompanied the external evaluators throughout the evaluation and two MWCT staff were able to participate in approximately 40 percent of the fieldwork.

Work began with a thorough review of project documents in the United States and continued with interviews with tour operators in Kampala to assess the factors that would make tourism a viable option for the BJL Project. The team then spent three weeks in Southern Sudan interviewing staff from USAID, WCS and GOSS as well as community members, local officials and individuals from civil society and academia (see Annex C: List of Persons Contacted).

The team was able to gain a general sense of the enormous Boma-Jonglei Landscape by flying over selected areas of much of it at a relatively low altitude, often seeking out animal concentrations identified via animal collar transmissions.<sup>2</sup> As indicated in the map depicting the team’s flight paths

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<sup>2</sup> The team flew at a low altitude for a total of 18 hours over a sample area of the project landscape as well as over two areas that are outside of the project landscape, the Mt. Imatong and the Loelle area. This reconnaissance occurred over a five-day period and included areas from the southeastern, southwestern, south-central, eastern, and northeastern portions of the project landscape. Due to security issues, the team did not cover areas along the Nile north of Badingilo nor farther to the north.

(Annex D), the evaluation team was not able to visit the northwestern area of the BJJ, anchored by the Zeraf Game Reserve; the area was declared a no-fly zone during the team's visit due to SPLA efforts to quash a renegade militia leader disgruntled at recent election results. In spite of this, the team felt it gained a good sense of the physical and settlement patterns in the part of the BJJ that it was able to visit. Fortunately the project has conducted aerial surveys, collared elephants and conducted a limited socioeconomic survey in Zeraf, which the team was able to draw on.

The Evaluation Team met with relatively few community members and local leaders for a project designed with a significant community level component. This is because, apart from completing community surveys and discreet interventions at several communities, the BJJ Project has not yet launched the majority of its intended work at the community level. Accordingly, the team had to rely mostly on WCS's socioeconomic research to gain an understanding of community dynamics in the BJJ.

Although WCS and MWCT received debriefings of emerging conclusions and recommendations as the team reached them, a formal debriefing was held for USAID, MWCT and WCS on July 6, 2010, at MSI's offices in Juba. The external evaluators prepared a draft report prior to their departure from Juba; USAID and WCS were invited to provide written comments on this draft, and these comments were taken into consideration by the team in completing the final draft report for USAID approval.

### **3. PROJECT DESIGN**

#### **3.1 Findings on project design**

In 2007, WCS signed a general Cooperation Agreement with the Government of Southern Sudan and a specific exclusive Cooperation Agreement with MWCT for management of the Boma-Jonglei Landscape. Aerial survey results of migratory species from 2007 laid the foundation for the preliminary definition of the Boma-Jonglei Landscape, an area of 200,000 square kilometers, or roughly the size of Senegal. This preliminary work within the landscape and with MWCT laid the groundwork for the project's design, and the resultant BJJ project included the four objectives listed in Section 1.5, above, that were premised on the following core assumptions:

- Working with populations in and around national parks can reduce pressures on wildlife species.
- Attributing value to natural resources, such as tourism or other livelihood alternatives, leads to decreased pressures on the natural resource base.
- Strengthening institutions at national and local levels is necessary to provide an enabling context and continuity in project interventions.
- Project activities at the local level provide a sound basis for inducing broader-scale policy changes at regional and/or national level.
- Increased infrastructure and strengthened wildlife forces will lead to protection of wildlife resources.
- Increased participation and understanding of land use planning will lead to sustainable and appropriate practices across the landscape.

The project does not appear to have been designed in a fully participatory manner with other stakeholders such as state officials, local communities and the private sector. The design evolved from an initial concept WCS submitted to USAID in February 2008 that was based on the WCS

Biodiversity Conservation at the Landscape Scale approach. However, the actual design presented in and funded under the Cooperative Agreement appears to be based more on the WCS Equity, Sustainable Growth, and Natural Resources Conservation or “Translinks” approach.

The Landscape approach identifies a large area that can include multiple ecosystems and can be defined by species that require such an area for their ecological needs and requirements. Indeed, the results of the initial wildlife surveys conducted by WCS revealed significant numbers of migratory species, such as the white-eared kob, tiang and mongalla gazelle, that move substantial distances seasonally. WCS later added the African elephant as a key landscape species due to its movement patterns and conservation status (Table 1).

**Table 1: Conservation Status of the Key Migratory Species Selected by WCS to Define the Boma-Jonglei Landscape.**

Species	Common Name	IUCN Status/Population Trend	Southern Sudan Status
<i>Loxodonta africanus</i>	African elephant	Vulnerable/increasing	Schedule I
<i>Damaliscus lunatus</i> <i>tiang</i>	Tiang	Least concern/decreasing	Schedule II
<i>Kobus kob leucotis</i>	White-eared kob	Least concern/decreasing	Schedule II
<i>Eudorcas albonotata</i>	Mongalla gazelle	Least concern/unknown	Schedule II

Source: IUCN website and Southern Sudan Wildlife and Protected Areas Policy Bill

WCS’s Translinks approach (Nature, Wealth and Power) uses natural resources, sustainable livelihoods and good governance as the path to effective management. This approach integrates biodiversity conservation with the tangible and equitable benefits to the resource user and resource manager from the sustainable use of natural resources. While the two WCS approaches are not mutually exclusive, one focuses more on key landscape species while the other emphasizes livelihoods, tenure and equitable benefits.

The underlying rationale embedded in the CA consists of four major problem areas: (a) a general lack of strategies, policies and organizational arrangements to manage biodiversity and natural resources; (b) a paucity of information that contributes to participatory land use planning; (c) challenges in the design, management, and resources for protected areas; and (d) a lack of “wildlife-friendly” livelihood opportunities for rural families in Boma-Jonglei. These constitute the project implementation components as listed in Section 1.5.

### 3.1.1 Threats-Based Approach

The BJL Project is a biodiversity project supported by a USAID congressional biodiversity earmark and must be congruent with USAID’s principles for effective biodiversity conservation. Key among these is that biodiversity projects must include a *threats-based approach*. As a congressional earmark, biodiversity programs must meet four key criteria, at all levels of programming:

- The project must have an explicit biodiversity objective;
- Activities must be identified based on an analysis of threats;

- The project must monitor associated indicators for biodiversity conservation; and
- Site-based programs must positively impact biologically sensitive areas.

Overall, the BJL Project meets these four criteria. The project goal statement indicates that biodiversity in the Boma-Jonglei landscape will be conserved, and the Boma-Jonglei landscape is critically important for migratory species as well as other sedentary species of conservation importance. BJL migrations are key ecological functions and occur over large geographic areas, including across international boundaries.

All project activities have direct links to biodiversity conservation except for the proposed school for the Nyat village in the Boma National Park. The proposed \$162,000 construction is not tied to an environmental education program or any other direct conservation benefits resulting from project interventions, and represents a significant expenditure in relation to the approximately 100 school-aged children that it is intended to serve. Perhaps even more problematic is that this approach of supporting community infrastructure in order to win their “hearts and minds” has been characterized as a fatal flaw of the integrated conservation and development paradigm of the 1980’s and 1990’s.<sup>3</sup> Such an approach has frequently led to confusion over the objectives of a conservation project. For example, when the evaluation team questioned project beneficiaries on their perceptions of the BJL Project, they expressed their gratitude for having their boreholes repaired.

#### **Direct vs. Indirect Threats:**

Threat analyses for the BJ landscape were drafted as part of the USAID proposal in September 2008 and were produced for the Boma National Park in October 2009. In both cases, direct and indirect threats were listed indiscriminately and no priorities were identified. Of the five main direct threats to biodiversity conservation in USAID’s conservation paradigm, the project identified habitat alteration/loss/fragmentation and over-exploitation of species as the key threats to be mitigated for biodiversity conservation in the target area.

The evaluation team learned from interviews that poaching (over-exploitation of species) was the key immediate threat across the landscape, with the majority of responses on poaching being related to the migratory species. Project-generated socioeconomic surveys also indicated that over-exploitation of some tree species used in charcoal production is a threat in some geographic areas within the landscape. Other interviewees listed habitat loss as a *potential or future* threat. Project technical staff have recently generated socioeconomic, land-use and poaching hot spot maps to refine the threat analysis to take geographic and seasonal priorities into account.

### **3.1.2 Geographic Focus**

The BJL project design and implementation to date has followed the terms of the MWCT-WCS agreement. This has meant a great focus on turning the Boma National Park into a more formal national park, instead of focusing on threats in critical priority areas. WCS has established their long-term facility in Boma as a launching point for proposed MWCT construction, anti-poaching and park management activities.

Based on the excellent ecological and socioeconomic data generated by the BJL Project, the evaluation team, with WCS input, developed an illustrative list of potential critical priority areas across the landscape (Table 2). This is an attempt to demonstrate how project activities might be

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<sup>3</sup> This is based on evaluation team’s extensive experience.

prioritized for areas of high threat levels. Though there may be areas other than the ones indicated, the evaluation team expansion beyond six areas would reduce project impact.

**Table 2: Critical Target Areas (CTAs) Where Key Migratory Species are Threatened**

<i>CTA</i>	<b>Panyagor</b>	<b>Larger Ayod Area</b>	<b>Juba-Bor Road</b>	<b>Lafon</b>	<b>Pibor</b>	<b>Pochalla/Akobo</b>
<i>Geographical Explanation</i>	Northern end of tiang migration near Panyagor (between Duk-Padiat communities)	<i>Acacia</i> woodlands east of Sudd and Zeraf	Juba-Bor road (eastern area of Bandingalo)	South of Bandingalo National Park	Northwest region of Boma National Park	North-northeast region of Boma National Park and referred to as Akobo River Drainage
<i>Function</i>	Corridor	Elephant key habitat	Corridor and partial wet-season range	Wet-season range	Corridor	Dry-season range
<i>Conservation Status</i>	None	None	Borders Bandingalo National Park	Borders Bandingalo National Park	None	Partially covered by Boma NP
<i>Migratory Species of Concern</i>	Tiang	Elephant	White-eared kob, elephant, and tiang	White-eared kob, elephant and tiang	Principally white-eared kob and some tiang	White-eared kob
<i>Major Threat</i>	Poaching Competition for water and grass for cattle	Poaching for ivory	Poaching Habitat loss	Poaching	Poaching Competition for water and grass for cattle	Poaching Competition for water and grass for cattle
<i>Critical Resource</i>	Corridor to grass and water	Elephants use <i>Acacia</i> woodlands for food	Species attempt to move to Nile River to obtain water	Overlap and concentration of species for grass and water	Murle pastoralists and others poach as white-eared kob migration moves through area	Critical lekking <sup>4</sup> grounds for white-eared kob reproduction
<i>Temporal Nature of Threat</i>	Dry season	Year-round	Mostly dry season, year-round	April-November	Dry season	Dry season

### 3.1.3 Key Assumption of Design as Related to Threats Analysis

The BJL Project project monitoring plan (PMP) and associated intermediate results that reflect the project intervention strategies are based on multiple assumptions, ranging from GOSS political will to community interest in natural resource management and protected area management processes. However, a key implicit, but crosscutting, assumption of the project design is that “local populations [are] the stakeholders who most directly impact wildlife populations and natural resources.”<sup>5</sup> While it

<sup>4</sup> Breeding grounds

<sup>5</sup> This was extracted by the evaluation team from training workshop reports for trainings given to both local government leaders and traditional leaders in May 2009

is not yet clear if pastoralists or agriculturists pose the biggest threat to wildlife populations from a subsistence or commercial hunting perspective (Table 2), the project has clearly identified communities as targets for interventions that would foster change in the direction of more “wildlife-friendly” livelihoods.

In addition, groups other than local populations (SPLA, prison, police and MWCT) appear to engage in commercial poaching, which complicates the decision as to how to allocate project resources to reduce or mitigate threats to the key wildlife species. The political will of GOSS has been and will be tested repeatedly with respect to poaching done by government representatives and other inappropriate land use practices by government representatives within and outside of protected areas in the Boma-Jonglei landscape.

### **3.1.4 Project Design and Implementation**

The BJL Project initiated the design process with sufficient data to gain a good sense of general ecological patterns, most of which were related to the now-famous wildlife migrations. During the first 18 months of implementation the project has generated an enormous amount of data on wildlife movements, distribution, densities, human activities and socioeconomic patterns, as well as on other development schemes that are operating on or planned for the landscape.

## **3.2 Key Conclusions on Project Design**

- 1 Project design was based on one WCS paradigm and funding mechanism, but the project is funded and implemented under another, confusing the implementation approach. As presented in Table 2, to date there is no precise data on what kinds of poachers are operating at specific locations during specific times of the year, although those interviewed by the evaluation team consider poaching the biggest threat among potential indirect and direct threats.
- 2 The BJL project was designed to demonstrate that a landscape model is an effective and sustainable approach to support biodiversity conservation across an enormous area. It is still too early, however, to determine whether the model will be successful over time, as some of its underlying principles and hypotheses have yet to be confirmed.
- 3 The project design was based largely on aerial survey data recording appreciable amounts of migratory wildlife across a large landscape with a very low human presence. The design does not appear to have been conducted in a participatory fashion, which seems to have led to misassumptions about the resource user.
- 4 While a threat analysis was conducted as part of the design process, there was not a clear distinction made between direct and indirect threats, nor were priorities identified either for the landscape as a whole or at individual sites, such as Boma National Park. Neither were the threats analysis findings used to develop priority interventions or strategies. The indirect threats, or drivers, of biodiversity loss should be prioritized, and strategies and interventions should then be designed to reduce or mitigate these indirect threats.
- 5 While geographical areas have been identified, project interventions to target specific human groups will depend on who does what, where. The justification for the Livelihoods Component is to interface with communities to foster behavior change to more “wildlife-friendly” alternatives. The link between conservation of biodiversity and a school or

boreholes is weak at best and usually soon forgotten, if even recognized. Determining the principle actors normally guides the implementation paradigm.

- 6 While a focus on making the Boma National Park an operational national park does consolidate activities in one geographical area, it does not necessarily take into account the targeting of priority areas needed to reduce the major threat of poaching. As such, the current geographic focus of BJL investments does not address CTAs and therefore is unlikely to have a significant impact.
- 7 In essence, the preliminary work carried out by WCS prior to the signing of the CA and during the first 18 months of the project implementation largely represents a “design phase” for future interventions. Such a rolling design would enable the establishment of CTAs that could allow the project to achieve impact.

## **4. PROJECT IMPLEMENTATION**

### **4.1 Key Findings on Project Implementation**

#### **4.1.1 Overall Management and Implementation against the CA**

WCS expatriate and Southern Sudanese staff seem well-qualified for their tasks to date (with appropriate technical abilities) and appear to be dedicated and hard-working, as well. WCS has also created a highly functional suite of facilities in Juba and Boma National Park, with communications and transport (including two small aircraft) to support implementation.

Comparing progress described in the annual report against the projected activities detailed in the work plan for the first nine months of operations (FY 2009) reveals a significant number of gaps in accomplishment. This often happens with ambitious projects launched in Southern Sudan and can reflect the difficulties of the operating environment. On the other hand, as of June 2010, WCS was on time or ahead of schedule in completing 70 of 76 activities from its current (FY 2010) work plan. However, review of the first two items in the FY 2009 work plan indicates that neither was accomplished on schedule, the failure to accomplish them was not mentioned in the three following quarterly (and annual) reports, and targets for each were reduced and extended by 12 months in the FY 2010 Work Plan (see Annex E). The FY 2010 work plan lacks the prose section of the FY 2009 work plan and does not mention the reduction in accomplishment targeted, nor does it explain the reason for divergence. Many of the activity cells in the FY 2010 work plan matrix describe processes rather than completed activities. Combined, these reporting practices would make it difficult to track implementation progress, even though it would seem USAID and WCS have agreed upon the reporting format.

A major component of the projects work in strengthening institutional capacity has been in building the capacity of key institutions to identify gaps and make revisions on key policies. Unfortunately, key government policies regarding tourism and wildlife management have experienced significant delays in adoption since drafting, although this may well be a systemic challenge since the GOSS is reported to be currently suffering from a sizable “bottleneck” of policies trying to make their way through the overall political and bureaucratic process. Reviewing progress on another major project component showed the evaluation team that the bulk of the basic scientific analyses of data collected has been completed and approximately three-quarters of the survey area for socioeconomic research has been completed. Although socioeconomic data have yet to be published, the quality of the data

and the analysis provided is extraordinary. Landscape-wide land-use planning has been initiated, but is behind the original schedule. Efforts to implement a small grants program to support livelihoods efforts are behind schedule, partly due to the need to await analysis of socioeconomic data for proper targeting and partly due to the departure of the sub-contractor originally hired for this purpose. Construction/establishment of WCS operating bases in Juba and Boma were completed on time. Construction of MWCT facilities in Boma is significantly behind schedule due to logistical challenges.

Delays are reflected in project spending to date (see Annex F). The project has spent approximately 34% of its funding over approximately 55% of the elapsed time of the project. The project pipeline (funds obligated but not yet spent) amounts to \$5,018,773. WCS spent \$683,469 of privately raised funds on the purchase of aircraft, generators and vehicles used in the project that may be able to be counted as towards its match as “in-kind” contributions, even though spent prior to the project period.

WCS has created a Results Framework and a PMP for the project that contains over 50 indicators. The GIS Expert has also created a useful database to store information for the PMP and other important project documentation. Most indicators are process or impact measures. Two of the seven impact-oriented indicators are mandated by USAID (OPPR indicators):

- OPPr 1: Number of hectares of areas under biological significance under improved management as a result of USG assistance” is interpreted to include four stages of progress, but the project (as agreed with USAID) “counts” the hectares as soon as it has achieved Phase 2 (“surveys completed and preliminary management strategy developed”). This is a leading process indicator and does not convey impact. It counts progress as completed, even though the project will continue through Phase 4.
- OPPr 2: Number of people with increased economic benefits derived from sustainable natural resource management and conservation as a result of USG assistance” is calculated (with USAID concurrence) to include, for example, each person employed by WCS, even if only a casual worker for a day. Using USG funds to hire a person to repair an airstrip is not sustainable Natural Resource Management (NRM). Using a multiplier of six (to connote the impact on families) to convey the impact on families in some WCS documentation would appear excessive.

The PMP—apart from the two OPPr indicators—is used internally by WCS and not for reporting to USAID. WCS is planning to develop a comprehensive Monitoring Tool “to measure conservation effectiveness and adapt the management strategy as the context changes in the landscape,” as indicated in the FY 2010 work plan matrix.

#### **4.1.2 Development of Participatory Land Use Planning and Resource Management**

Per the Cooperative Agreement, the purpose of this component is to conduct a targeted set of ecological, livelihood, land-use, infrastructural, private sector and wildlife-livestock health assessments as a basis for effective land-use planning. This component is the principle research arm of the project. The BJL project component coordinator and technical advisors develop their work plans in collaboration with the GOSS, but largely carry out these activities through WCS staff, due to a critical shortage of trained technicians within the MWCT, or with national NGOs and universities. Many of these activities serve as diagnostic studies and surveys. Others, such as training initiatives

and land use planning workshops, reflect the urgent need for skilled technicians and scientists capable of providing, analyzing and interpreting these data.

To date, the diagnosis and applied research component has reported on aerial surveys on wildlife, livestock, and human activity that are based on approximately 70 percent aerial coverage of the Boma-Jonglei landscape. These data also include fire and land cover/use mapping, which were used to produce an integrated Geographic Information System (GIS) analysis of human impact on the landscape.

WCS has also undertaken radio-collaring operations on three key migratory species, resulting in 20 white-eared kob, 18 tiang and 22 African elephants, being fitted with GPS/Satellite tracking devices. The results from this research have generated data on the movements and migratory corridors of these species and represent not only the first time that animals have been radio-collared in Southern Sudan, but also the first attempt to systematically track the migration patterns of these key species. These movement data, coupled with aerial surveys, have documented the joining of the tiang and white-eared kob migrations in the northern Bandingalo area. These data have also been used to help target anti-poaching efforts along the Bor-Juba Road.

The radio-collaring data on white-eared kob, tiang and African elephants have revealed vulnerabilities, both geographically and seasonally. The BJL project has indicated the location of a large number of white-eared kob reproduction leks outside of Boma National Park in the Pochalla area and into Ethiopia. These leks sites are of utmost importance for protection, since they occur outside of a conservation unit.

WCS technical staff, supported through WCS private donors, have also assisted the Ethiopia Wildlife Conservation Authority to undertake the first systematic aerial survey of wildlife, livestock and human activity in the Gambella Reserve area which is adjacent to, but not abutting, the Boma National Park. Several of the white-eared kob that were radio-collared in the Bandingalo and Boma area crossed the border into Ethiopia, where approximately 200,000 kob were observed during the survey; elephants radio-collared by the BJL Project also crossed into the Gambella area. These results provide the technical basis on which to design a trans-boundary conservation strategy between the two countries.

Additionally, this component reports on socioeconomic data generated from the technical team under the Livelihoods Component. Through the end of the 2<sup>nd</sup> quarter of FY 2010 (as reported in the FY 2010 2<sup>nd</sup> Quarter Report), the socioeconomic team surveyed 87,000 km<sup>2</sup> across the Boma-Jonglei landscape. The socioeconomic surveys still need to be carried out north of the Bandingalo National Park along the tiang migration corridor toward the Sudd. These data have not yet been analyzed and shared with the entire BJL project staff. Once data are analyzed in other such interventions, they are typically shared with the subject communities. These results provide the baseline on resource use, human movement, livelihood activities and community infrastructure in the landscape and can be used to integrate communities into conservation initiatives and livelihoods programs.

### **Out of the box Text Box #1: Corridors are Where the Action Is**

Threat identified by WCS: Unrestricted development schemes throughout landscape will adversely affect wildlife through habitat alteration, poaching, and pollution.

Operational Challenge: Due to the enormous size of the landscape and the difficulty of reaching consensus with all stakeholders, landscape-scale land-use planning decisions may be delayed and ineffective while wildlife resources decline. Currently, many private sector schemes have been approved by GOSS and are operating in the landscape.

Potential Approach: Immediately focus land-use planning efforts and action within the migratory wildlife corridors that occur outside of protected areas to gain traction on community agreements and private sector best practices. Once agreements are put into practice in critical corridors, scale-up from corridors to other critical areas in landscape. Focus planning at the state and community levels.

Rationale: Reduces planning exercise at the macro landscape scale to critical pathways for migratory species that are under current and future threat. Would increase impact by targeting specific geographic areas and stakeholders.

A land use/cover map has been completed for the Boma-Jonglei landscape. It represents arguably the most comprehensive map of its kind in Southern Sudan and provides the basis for the preparation of a vegetation map. The BJL project has over 2,000 geo-referenced aerial photographs that will be used to “ground truth” the final vegetation map.

Much of this component’s success is attributable to the technical acumen that the skilled technical advisor brings to the project. Several WCS technicians use GIS and GPS technologies. One Southern Sudanese WCS employee is being trained in the use of these technologies, but few Southern Sudanese outside of WCS have knowledge of or access to the use of GIS systems. Few outside of WCS can gather, analyze, and interpret ecological data.<sup>6</sup>

BJL project data have been used in the preparation of training modules and workshops for GOSS (multiple ministries), NRMG, MWCT, and local and traditional leaders. The land-use planning process has only recently begun, with a Boma-Jonglei Landscape Technical Planning Workshop occurring in May 2010. To date no resource management decisions have been based on the land use planning process, but preliminary steps have been taken to develop a zoning plan for land uses across the Boma-Jonglei landscape.

**Land-Use Planning:** The current WCS Land Use Planning Specialist only arrived during the second quarter of FY 2010. The approach to date has been to gather a wide array of data on actual and potential land use patterns in the BJL, develop GIS-based overlays and presentations, and engage in discussions through workshop and meetings with GOSS and state level officials.<sup>7</sup> The workshop presented data on BJL project research results and other land use data for the Boma-Jonglei Landscape. The BJL project workshop summary does not mention the resource users in the landscape as participants.

WCS conducted two workshops for local government leaders at the state level and for traditional leaders in April and May 2009. The key themes presented at these workshops were wildlife conservation, protected area management principles, Southern Sudan wildlife laws, sustainability issues, the benefits of conservation and planned conservation activities for Boma National Park. While these themes are appropriate for what WCS has proposed to do in Boma National Park, these

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<sup>6</sup> A Sudanese master’s student from the Ministry of the Environment (studying Nile Lechwe) has been trained and is being mentored by WCS.

<sup>7</sup> The process was grounded in the experience of developing a Boma Park Management Plan

themes do not address land use planning across the landscape and do not address the traditional and recognized rights of communities that is articulated in the Land Act of 2009. Since a large portion of the WCS corridor strategy falls outside of the jurisdiction of the GOSS, states—and, more importantly, communities—are an important target policy audience and are resource users that should be included in the land use planning process.

The following land-use decisions are being supported by the GOSS with respect to concessions at least partially within National Parks in the BJL:

1. A United Arab Emirates company was granted a tourism concession in the heart of Boma National Park, but appears to have intentions that include illegal hunting. The company has developed an infrastructure that compromises national security, but despite receiving information on the issue, GOSS has not taken action;
2. Oil concessions are overlain on Bandingalo and Boma National Parks and a mining concession exists in Boma National Park. According to WCS, the Boma oil concession is scheduled to begin exploration in the coming year; and
3. A sugarcane plantation has been approved for location partially within Bandingalo NP, as have a prison facility and an SPLA training center.

During interviews, WCS asserted that gazetted areas will “lock them up” (i.e. protect them) for conservation. However, the above examples—all occurring in the two NPs prioritized for attention by the project—demonstrate the ways in which current land use decisions that are contrary to conservation and the generally accepted rules for national park use that have been approved by the GOSS.

The land-use component of the project hopes to establish land-use norms throughout the landscape and zoning over at least a significant portion of it. However, implementing land-use planning requires a strong government that is relatively free of corruption and has clear authority of land use, efficient administration (particularly at the state levels), and the political will to make tough decisions and to implement the plan outside of national parks. These factors will not be extant in Southern Sudan in the medium term.

According to an expert on land tenure in Southern Sudan, “the land belongs to the people,” was an important wartime battle cry for Southern Sudanese and remains a defining theme in land-use politics today. Currently, Southern Sudan is flush with rumors and proposals for schemes and concessions across much of the territory, including the BJL. This phenomenon is consistent with many nations emerging from long-term conflict. Initial wars are often based on ideology, but subsequent conflict can emerge due to conflicts over natural resources. Negotiations between powerful individuals and investors for development schemes could come into direct conflict with the resource users, or communities, that occupy or claim the land upon which the development is based. WCS has an opportunity to use the livelihoods component to approach those communities that are located in areas of conservation concern (the corridors) to begin a land-use planning process based on incentives, not just top-down governance (currently a weak element in Southern Sudan). The socioeconomic surveys have initiated resource mapping with local communities that could be seen as an initial step in this direction. This approach strengthens the land-use planning fabric at the grassroots level based on local needs and commitment to implementation and would provide valuable input for a more systematic and broader application.

### **4.1.3 Conserving Biodiversity through Protected Area Management, Ecotourism Development, and Other Incentives for Sustainable Land Use and Resource Management**

According to the Cooperative Agreement, the purpose of this component is to assess protected area network gaps, design protected area boundaries, and undertake the official processes for the creation and management of protected areas through consultation with stakeholders. The project plans to design and implement activities to raise awareness, understanding and support for natural resource management and the policies and practices required to conserve the landscape's valuable biodiversity. This component also plans to examine, and where appropriate, develop options for creating financial incentives for protecting wildlife and sustainable management of natural resources, including tourism.

WCS and GOSS efforts to raise community awareness of the value of the landscape have been extremely successful and probably represent the project's greatest impact to date. The project has created significant awareness about BJL wildlife migrations at the national, regional and international levels, as evidenced by the 49 news reports in newspapers, magazines, television, radio and internet nationally and internationally (see Annex G). Many of the reports have been covered by prestigious internationally recognized media companies.

The flip-side is that the campaign has also created unrealistic expectations about tourism possibilities in the BJL. All people interviewed directly related the heightened awareness of the wildlife migrations to tourism; perhaps tourism expectations were high prior to the discovery and announcement by WCS, but stakeholders interviewed directly attributed their expectations of increased tourism to the WCS awareness campaign.

Tourism may become a viable enterprise in a few areas, but not at the levels expressed in the GOSS draft Tourism Policy.<sup>8</sup> The draft policy projects that with proper tourism infrastructure in place, the number of international tourists will be around 300,000 by 2014 and will reach 600,000 by 2019. These estimates are calculated from the current number of daily arrivals at Juba International Airport. However, these numbers do not directly translate as tourists that would be engaged in wildlife tourism, especially given the limited geographic and seasonal tourism opportunities that exist around the two migrations. In addition, using Ugandan statistics as an example, the number of arrivals at Entebbe International Airport is an order of magnitude greater than the number of tourists that go to national parks for tourism. Nevertheless, the proposed tourism area in Bandingalo National Park would be an excellent site to jump-start tourism in Southern Sudan. The area is geographically near to, and can be made accessible from, Juba and would be a great recreational and tourism opportunity for the expatriate community working in the capital city.

Interviews with tour operators in Uganda indicate a strong interest in visiting Southern Sudan to explore low-volume/high-cost tours to witness the kob and tiang migration. WCS reports similar interest with a Spanish tour operator WCS hosted in Southern Sudan and with other tourism enterprises it has contacted. During over 18 hours of aerial observations across the landscape, however, the evaluation team did not see appreciable levels of wildlife (apart from the three main migratory species) outside of the main migratory routes.<sup>9</sup> It is unclear how potential tour operators will respond to low density non-migratory species. Given the size of the landscape, distance of the migrations, security concerns and lack of infrastructure, tourism opportunities would be constrained to a couple of key areas at specific times of the year, as well as to serving relatively few tourists in the

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<sup>8</sup> WCS participated in tourism policy dialogues, including assisting in the development of a fee structure.

<sup>9</sup> An important exception was in the Loelle area, which is outside the main migratory route.

medium-term. Sedentary wildlife populations in general, including large bodied herbivores and carnivores, are extremely low. Therefore, the migrations are the key product for wildlife-based tourism development. Since the key migratory species are radio-collared, their presence in tourism areas can be determined. The excellent movement and density data produced by the WCS technical team corroborate these findings.

In the Boma area, tourism possibilities are much higher outside of the current park boundaries on Anyuak land as indicated in Text Box #2. Bandingalo National Park offers a unique tourism option that is not available elsewhere in the Boma-Jonglei landscape. The southern terminal ends of both the tiang and the white-eared kob migrations overlap May–July in an area inside the park and in the proposed extension area northeast of the Park. This massive concentration of these antelope species, associated with other migratory (such as mongalla gazelle and reedbuck) and sedentary species could anchor a quality seasonal tourism product.

#### **Out of the box Text Box #2: Cross-Border Community Wildlife Conservancy**

Threat identified by WCS: Poaching threat to the only kob lekking area.

Operational Challenge: Kob lekking area is mostly outside Boma NP and crosses into Ethiopia. Expanding Boma into the Southern Sudan side of this area would deprive the Anyuak of some of the last land they hold in South Sudan, possibly leading to conflict. Intergovernmental cooperation can be a challenge.

Potential Approach: Work with the king and other leaders to establish a community conservation unit, managed by the community under government guidance. It is a tested approach with 15 years experience in Namibia, but may be the first cross-border effort.

Rationale: Major governance advantage: one traditional leader (king of the Anyuak) is an enthusiastic conservationist that rules over his people on both sides of the border. Critical criteria for Community-Based Natural Resource Management: defined area; quickly acquired benefits (prime tourism site in South Sudan), educated people, committed leadership, homogenous group, mostly agriculturalists, committed

According to the WCS and MWCT Cooperation Agreement and the WCS/USAID CA, WCS and MWCT will develop the Boma NP infrastructure and management plan. During the first 18 months of the BJL project, infrastructure was established for the WCS base camp in Nyat, which consists of 11 high-quality tented structures. The Nyat landing strip was rendered operational, vehicles and radio systems were deployed, and procurement of other equipment was initiated; construction of the Boma NP headquarters and other park-related construction has not yet begun. Such delays in construction are due to border closings that slow down the importation of goods and services and delays in decision-making from the GOSS regarding the location of protected area infrastructure.

WCS proposes to build significant infrastructure in Boma National Park, depending on available additional USAID resources. MWCT has high expectations, both in Boma and Juba, that this infrastructure will be built. A significant issue centers on construction of a Park headquarters senior office (\$238,000). In 2003, USAID built an excellent wildlife training center in Boma, but recently, MWCT has decided not to use the facility for training due to logistical constraints, costs, challenges, security, and ethnic and tribal difficulties. The facility is rarely used, except by WCS for project training events. The facility manager teaches English to individuals from the local Nyat village to occupy his time, and another MWCT facility staff has been located in Juba for over two years.

The Evaluation Team discussed with WCS and MWCT the possibility of using the existing training infrastructure in Boma as part of the proposed park headquarters in order to reduce costs and take advantage of an existing USAID-funded infrastructure. WCS has already negotiated the entire

construction package for Boma and Bandingalo National Parks, and due to the delays in construction, feels pressure to proceed with the construction as planned.

Infrastructure, including ranger posts, has not been adequately analyzed in the context of the threat analysis to the migrations. Instead, infrastructure appears to have been planned in order to make Boma National Park a functional park, rather than move the focus to Bandingalo National Park. The Undersecretary of MWCT expressed his interest in making Boma National Park a functional park before moving on to another park.

The development of the Boma National Park management plan is well-advanced. Based on BJL project data, the park has at least five communities representing approximately 10,600 people living within the park, as well as thousands of cattle entering the park during specific times of the year. This presence and encroachment challenge the definition of a national park and raises the question as to whether it makes more sense to manage it as a conventional park or instead as one that recognizes the way in which residents and others are currently using the resource base.

### **Out of the box Text Box #3: Mobile Anti-Poaching Force (MAPF)**

Threat identified by WCS: Poaching of wildlife

Operational Challenge: Developing competent anti-poaching forces system-wide is a daunting task. Wildlife Forces lack equipment, effective weapons, transport, and training. Morale is low and motivation to patrol is weak. Traditional Protected Areas design calls for fixed ranger posts and static placement of rangers to patrol around ranger posts. But, major threats to migration are seasonal in each location, depending on the migration. Static forces are sub-optimal in the off-season. Increasing the number of National Parks exacerbates the challenge.

Potential Approach: Establish a highly trained Mobile Anti-Poaching Force (MAPF), comprised of several units that can be deployed to CTAs as dictated by migration patterns. The ethnic composition of the groups would be varied to permit entry of different units to different CTAs.

Rationale: Would enable immediate impact while addressing larger structural challenges and ensure that officers trained can have an operating environment supportive of training. Would reduce overall infrastructure, staffing, and recurrent cost needs.

Under the GOSS and WCS exclusive agreement, both parties will have joint management of Boma NP. WCS is expected to cooperate with the GOSS to design, implement and monitor a wildlife law enforcement operational program with a particular emphasis on the re-integration of ex-soldiers. The WCS Protected Areas Management Specialist dedicates 25 percent of his time to the day-to-day management of the wildlife forces and 75 percent of his time to managing WCS's infrastructure in Boma. Anti-poaching patrols began in January 2009 and resulted in arrests and the confiscation of weaponry and bush meat from both the Boma and Bandingalo areas. These are signs of progress resulting from WCS support.

However, wildlife forces in Boma NP, many of whom are former combatants challenged with reintegration, have low morale due to a lack of equipment, guns and infrastructure, an absence of incentives to conduct patrols, and having little control over vehicles. In addition, they do not feel fully engaged in the planning process. The park headquarters is unoccupied, mud-walled and topped with a (broken) thatched roof. Military rank and lack of English are constraints to successfully implement the program as designed. For example, in some cases national park directors are of a higher military rank than the MWCT program directors in Juba, complicating supervision of the ranger forces. Many of the ranger forces do not speak English, but the BJL project patrol reports are in English. Outside of Boma National Park (indeed outside of protected areas) MWCT and WCS

joint anti-poaching efforts along the Juba-Bor road demonstrated important progress that could be built upon. An example is indicated in Text Box 2.

MWCT and WCS are interested in expanding the boundaries of existing protected areas, reclassifying others from a lower status to national park status, and creating new national parks throughout the landscape. Proposals to expand Boma NP would include extending the eastern boundary of the park to the Ethiopian border, an expansion that would cover the important lekking areas for the white-eared kob. However, this proposed area is also the land of the Anyuak people near the Pochalla area and along the Akobo River drainage. Bandingalo expansion to the north and east would include the important area where the white-eared kob and the tiang migrations meet and overlap during the wet season. There are no permanent villages in the park or in the proposed expansion area. Loelle, located south of Boma National Park, currently has no protected area status and could harbor important populations of wildlife. The Evaluation Team observed appreciable levels of wildlife during the flyover of the Loelle area, including one group of 138 oryx. This region is outside the area of the main kob/tiang migratory route.

#### **Out of the box Text Box #4: Reaching Pastoralists Where They Are**

Threat identified by WCS: WCS analysis indicates that young male cattle herders are the key demographic responsible for potential overgrazing of sensitive areas and for hunting while at cattle camps during the dry season.

Operational Challenge: It is a challenge to design and deliver livelihood and programs for them as they are mobile, very concerned about their cattle and are sometimes involved in cattle raiding, a security threat.

Potential Approach: Hire and train herders (immediate economic benefit) to also work for WCS monitoring wildlife and herding, helping communities to learn about improved rangeland management, adapting to global climate change, and the need to conserve wildlife for future consumption and benefits.

Rationale: Permits precise targeting, reduces non-community member staff exposure to security threats, addresses priority livelihood issues related to conservation, provides important monitoring data, provides conservation message in locally appropriate manner.

Creation of a protected area network within the BJI requires not only infrastructure development, but also human and financial resources to manage the protected areas. This approach also requires MWCT and WCS to work across the entire landscape, which by definition takes the focus off of the key migratory species in general. The MWCT struggles to manage anti-poaching operations currently in Boma, and the threat level in Boma with respect to the migrations is not high as compared to other areas throughout the landscape (Table 2). Creating new protected areas in the landscape would force WCS to expand their operations under the BJI Project.

### **4.1.4 Improving Community Livelihoods and Economic Enhancement**

The original CA included Enterprise Works/VITA as a partner to focus on livelihoods through a Small Grants Program (SGP). That organization is no longer involved in the program, and WCS has only recently acted to replace that institutional capacity through technical assistance provided by a consultant.

Although not yet fully documented in a formal report, the BJI Project has created a very thorough socioeconomic database on the demographics, governance, ethnicity, institutional landscape, land tenure, sacred sites, NRM decision-making process, other donor investments, and economic profile of a sample of significant communities in and near targeted protected areas (see Annex H, for display

of the villages surveyed). Supplemented by data on hunting and human settlement patterns from aerial surveys, the competent Sudanese and expatriate WCS team has analyzed the data to develop extremely useful spatial analyses of threats from hunting, grazing and agriculture. The team has also examined livelihood alternatives that could be supported by the project, including (much to the team's credit) noting cases where otherwise appealing economic activities (shea butter from lulu trees or gum acacia production) cannot be marketed effectively—thus potentially avoiding some pitfalls common in conservation projects.

The overall WCS team, partly in preparation for its land-use planning work, is beginning to integrate its biological migration data and village and pastoralist socioeconomic data to indicate the areas of greatest threat from commercial and subsistence hunting and potential habitat destruction from cattle grazing.

A livelihoods program, such as Component 4 in the BJJ Project, is normally designed to provide a framework to encourage sustainable NRM consistent with a program's conservation objectives. In the evaluators' experience in other African, Asian and Latin American conservation programs, activities that directly target resource-use decision-makers related to conservation of the targeted resource (in this case hunters of migrating kob, tiang, and elephant) are far more effective than general community development activities. Some WCS staff referred to general community input investments as a "hearts and minds" approach. For example, when community members who had benefited from borehole provision by BJJ were asked, "why is WCS working with you?" they responded, "to provide us employment and water"—a response linked to the gift, not to long-term conservation goals. Examples of such investments under consideration include construction of a school in the community where Boma NP staff live (Nyat) and rehabilitation of boreholes in communities (unless a leveraged investment from other projects).

At the time of the Evaluation Team's visit, WCS had just begun to target its livelihood efforts spatially and conceptually, as indicated in the Small Grants Program (SGP) Maps (See Annex J). The most frequently articulated mechanisms to reach communities in the BJJ Cooperative Agreement design were tourism and small grants provided through NGOs. Other important options include leveraging and partnering with other US government and international NGO projects, training tied to livelihoods, and direct interventions.

The interventions displayed in the map generally track critical migration routes and hunting pressures, although efforts under consideration near Loelle (SW of Boma NP) and south of the main kob migration (classified as "possible" and "difficult" to mount SGPs) are not. The socioeconomic team's research revealed a paucity of NGO/CBO capacity through much of the landscape that effectively reduced the areas in which the SGP could be "probable" to Pochalla (northwest of Boma NP) and Lafon (south of Bandingalo NP) and "possible" for the Juba-Bor corridor, leaving Pibor and areas east of Zaraf as areas where the SGP would not be very feasible. Even in areas where small grants are possible, however, there are often considerable constraints in aligning local NGO mission/capabilities with BJJ program needs and logistics.

WCS is only now beginning to integrate socioeconomic and biological data in order to effectively target its conservation education and livelihood interventions demographically. WCS has developed a good understanding of the gender systems at work in the landscape and is just beginning to be able to use that data to inform program decision-making. Community analysis appears to have full gender integration, although other formal project reporting on project beneficitation is not yet disaggregated by sex. Although the team has a strong desire to promote gender equity, it would seem that most conservation education and livelihood efforts need to be targeted to men, as they are the key resource users with respect to subsistence hunting, cattle herding, and commercial hunting—the key threats in the BJJ.

Data indicate that the major threat (hunting) is mostly conducted by men. WCS has already wisely targeted its conservation message to traditional and local government leaders who apparently still exert considerable influence over the behavior of older members of society. Herders who are responsible for bringing cattle into protected areas during the dry season and hunting during their stay at seasonal “cattle camps” during the dry season are mostly younger men, accompanied by younger wives and small children.

WCS has equipment to produce conservation education videos, as well as mobile equipment to enable presentation of such videos at the community level. The quality of material already produced for local television appears good, although it will reach a very limited audience. WCS plans to produce additional segments to carry defined messages to communities, supplemented by dialogue.

One of the major constraints to developing effective livelihood and education strategies to conserve wildlife is that there is currently no legal method to benefit economically from wildlife consumption. In practice, however, the wildlife migration has been an essential element of rural survival strategies for generations of southern Sudanese. It has also served as a strategic resource: the SPLA was based in Boma during the war and benefited from consumption of all sorts of wildlife in support of the war effort, including sedentary species that are just short of being “hunted out” as a result. Despite the intense nature of the harvesting throughout these years—and continuing today—the migration still appears to include approximately 800,000 kob and 150,000 tiang, plus lesser, but significant numbers of reedbeak and mongalla gazelle. Kob and tiang appear to thrive in the seasonal BJJL and to use the migration far more efficiently than herders could shift their cattle grazing. Once a prime safari hunting destination, there is currently a ban on hunting in Southern Sudan. Nevertheless “illegal” and “subsistence” hunting continue, only slightly abated by anti-poaching efforts to date. Sources agree that the ban applies to all commercial hunting, but disagree as to whether the ban applies to all subsistence hunting or only subsistence hunting that relies upon certain techniques, such as firearms and snares.

The draft Protected Areas and Wildlife Act devotes considerable attention to legislating safari hunting in the future. As the project develops more precise wildlife density estimates and is successful in containing unsustainable forms of hunting, and if more sustainable conservation systems evolve, in the future the GOSS may be able to consider lifting its ban on hunting in some areas to include a mix of consumptive use (safari hunting, game ranching, local harvesting). This would expand the range of potential community and commercial benefits from wildlife. The greatest current benefit from wildlife is via consumption, and it is likely to remain an important source of protein for some time to come.

#### **4.1.5 Strengthening Institutional Capacity for Sustainable Management of Natural Resources**

Conservation projects typically consider institutional capacity at the following levels: government (national and local, as appropriate), NGO/CBO and community. Indeed the CA says that it will seek results by “demonstrably increasing capacity of government, civil society organizations, citizens and the private sector, to participate and make decisions governing access to and use of natural resources and by developing viable opportunities for economic growth for the people who live in and around the Boma-Jonglei landscape” (Section 2.3, page 6). Dimensions of strengthening can be categorized as follows: infrastructure support; training, mentoring and other individual human capacity improvements; and organizational work on structure, systems, procedures, etc.

## **Natural Resources Management Group: NRMG.**

WCS has continued USG-funded support to the Natural Resources Management Group (NRMG) that was initiated well before the CPA was signed. This has included training, mentoring, technical assistance from a professor from University of Pretoria, training ministry staff in GIS, and support for coordination, meetings, and other expenses. WCS's NRMG Coordinator position is currently vacant, with the NRMG GIS Expert (scheduled to resign in mid-July) filling in while the position is being filled.

*Infrastructure.* No infrastructure support has been provided, since NRMG members already work for GOSS ministries.

*Human Capacity.* The NRMG is comprised of very senior officials of seven NRM-related ministries.<sup>10</sup> By all accounts the group is led by well-educated, committed public servants that appreciate the training and technical assistance provided. The NRMG played an important role in preparing policies to support governance immediately after signing of the CPA. Members appear to value their participation and the cross-sectoral exchanges—always a challenge for any government.

*Organizational.* The NRMG lacks its own budget, and depends on USAID/WCS funding and some support by member ministries to cover expenses. By virtually all accounts, the NRMG is currently struggling with its structure and mission, related to the following:

- Work on the NRMG is in addition to their regular ministry duties, and it is not a simple matter for a USAID-funded project to provide additional incentives desired by participants and commensurate with labor required for NRMG to succeed;
- The NRMG advisor reported that the NRMG completed 15% of its work plan in the last year;
- Occupying a political “dead space” for ministries, it has been difficult for the NRMG to move beyond analysis to policy impact. One approach the NRMG is pursuing to address this challenge is to establish itself as an Environmental Authority.
- With the recent establishment of a Ministry of Environment (which may well be charged with inter-ministerial coordination), there is a risk that the NRMG may become an entity duplicating activities of another part of the GOSS.
- Many of the case studies pursued by the NRMG on a technical basis—such as the suspicious tourism concession inside Boma National Park and a study of oil in Melut—appear to have significant political dimensions, areas that can be difficult to address from inside government.
- Another model under discussion would be for the NRMG to contract out the analyses it has been working on (thus reducing the labor burden) and to include NGOs in its ambit as a way to publicize findings and provide advocacy space on critical environmental issues.
- One organization—mentioned in WCS's original CA as a likely partner—that might play a greater role is the University of Juba. It has a relevant set of expertise (and will increasingly as the University fully moves to Juba in the coming year), can provide a useful forum for dialogue, and university leadership has expressed a willingness to support the government in this area, should the GOSS decide it could provide a useful role. The University of Pretoria (the home of the NRMG Advisor) is planning to establish a partnership with University of Juba next year that could reinforce any NRMG/University of Juba collaboration.

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<sup>10</sup> Ministries of Animal Resources and Fisheries; Agriculture and Forestry; Energy and Mining; Wildlife Conservation and Tourism; Cooperatives and Rural Development; Water Resources and Irrigation; Housing, Physical Planning and Environment.

GIS training has been provided to government staff in several ministries that lack the office infrastructure to apply what they are taught; professional staff indicate that GIS training in that organizational context is unlikely to have a lasting impact.

### **Ministry of Wildlife Conservation and Tourism: MWCT**

*Infrastructure.* WCS has plans to build park headquarters, ranger posts and other physical infrastructure in targeted national parks. Strategically locating these investments is an important element of securing the BJJ.

*Human Capacity.* Training received by MWCT leaders and rangers appears to have been of adequate quality and is an important element of developing effective protected area management. However, senior MWCT staff, field staff and WCS staff point to the difficulties in implementing such training when students return to their working environment (see Section 4.1.3). This is further exacerbated by the fact that staffing of the MWCT may well be drastically reduced from its current force of over 16,000 persons after the upcoming national referendum. Little is to be gained from training individuals who might soon be leaving the MWCT.

*Organizational.* Following on the human capacity constraints reflected in the sector context, investments to improve the organizational capacity of MWCT could help maximize the effectiveness of the significant BJJ project investment in infrastructure and training. In a sense, the MWCT has an opportunity to use USAID/WCS support not only to recreate its former infrastructure and organization, but also to re-think how it can succeed, given the realities facing a possibly independent Southern Sudan in 2011. Revisions in mission that might be reflected in organizational change include:

- Establishment of a highly trained mobile anti-poaching force
- Establishment of a Community Conservation Team to manage the community outreach requirements of working with communities in parks (such as in Boma) and in the corridors
- Developing similar Community Conservation Teams or capacities in targeted State MWCT units, since they will likely be at the front lines of conservation in corridors and other conservation units outside national parks.

### **Civil Society/NGOs**

WCS's Cooperative Agreement with USAID and its Cooperation Agreement with the MWCT identify the New Sudan Wildlife Society (NSWS) as an implementation partner. No work has yet been completed with them and none is referenced in the work plan. Another NGO, South Sudan Nature Conservation Organization (SSNCO) has also recently been registered. NSWS appears to be mostly dormant at this point and SSNCO is only beginning as an organization. The evaluation team did not identify any other environmental or conservation NGOs, although conversations with University of Juba staff indicated that universities might be able to play an important non-governmental role. Given the limited capacity implied above, it is likely to take some time for such work to yield results. The above groups are mentioned only as illustrative possibilities.

In many African countries NGOs play an essential role in advocacy, supporting communities and working with government towards common conservation objectives. This is currently a significant gap in the conservation institutional support system.

### **Communities/CBOs**

WCS has provided training to traditional and local leaders, and is just now poised to begin substantial work at the community level. The SGP is chiefly targeted towards livelihoods development; where feasible, this could involve funding NGOs to strengthen CBOs as a way to promote livelihoods. However, in many areas such NGO support is not feasible, or larger-scale institutional development

may be required at the community level to promote sustainable resource management in communal areas over common resources. The case of the LIFE Program in Namibia may be instructive.<sup>11</sup>

#### 4.1.6 Impact

One would not normally expect to be able to observe significant impact halfway into a three-year project, but that is the case with the BJL project. The only area of significant impact is with respect to gathering data and creating awareness on the large migrations, based on work begun prior to this project and continuing.

Unfortunately, as mentioned in Section 4.1.1, current data systems will not be able to measure project impact by the end of the project.

## 4.2 Key Conclusions on Project Implementation

1. WCS has created an excellent platform for implementation. Progress has been slow in construction of MWCT facilities, livelihood creation for targeted communities, and land-use planning compared to original expectations. In such a difficult operating environment, particularly in Boma, this is a reasonable accomplishment.
2. WCS quarterly reports do not clearly indicate shortcomings in implementation, except when due to external events, such as security, border closings, weather, or other organizations' activities. USAID would have a difficult time gauging implementation progress by reading standard reporting documents. Additionally, USAID and WCS will not be able to use the existing PMP to measure project impact. The scale and logic of the Results Framework do not appear to be sufficiently aligned with what is achievable in the life of the project, and only seven of the PMP indicators are designed to track change at the level of impact. WCS's planned Monitoring Tool may help gauge impact, although it has yet to be developed.
3. The problems the project is having with respect to reporting on the OPPR 1 are common in USAID NRM everywhere and are a reflection of internal USAID monitoring challenges worldwide. Issues with respect to OPPR 2 may be peculiar to USAID/Sudan. Data reviewed by the evaluation team for OPPR 2 would be unlikely to pass a data audit. Overall these indicators do not appear to provide useful data to the project or USAID.
4. WCS has been relatively slow in spending USAID funds. The project has a sizable pipeline, with \$8,318,534 remaining as of May 31, 2010, to spend in the remaining 16 months of the project. This would require more than doubling of historic spending rates (\$519,908/month, compared to \$240,192/month) over the remaining period. This would seem a daunting task, especially allowing for project close-out, should the project not be extended. It would be even more difficult to spend the additional construction funds—ranging from an *additional* \$932,778 to \$2,063,083, depending on the scenario adopted—recently requested from USAID for infrastructure development.
5. The robust datasets created are of excellent quality and scientific rigor, representing some of the first ecological research carried out in Southern Sudan since the 1980s.

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<sup>11</sup> USAID, *NAMIBLA: Living in a Finite Environment (LIFE) Plus Project*. Available at: <http://www.nric.net/tourism/factsheets/Namibia.pdf>

6. The diagnostic surveys and applied research that has been carried out are of enormous importance in determining key patterns and basic information on which to base conservation strategies to protect key migratory wildlife species across the BJL project area.
7. The BJL project has produced an excellent data set on distribution, movement and preliminary density estimates of key migratory species. Movement, distribution and density estimate data will allow the BJL Project to fine tune original ideas on size and shape of corridors and to pinpoint wildlife sanctuaries, as well as vulnerable times and places during the year.
8. Ecological data on white-eared kob reproduction areas identify key areas for management strategies.
9. Other uses for the landscape, some perhaps not sustainable, nor appropriate for critical conservation zones, are occurring inside and outside of parks in critical zones where wildlife migrations occur.
10. In cases where there are constraints in aligning local NGO mission/capabilities with BJL program needs and logistics, other tactics, such as direct work with communities by WCS or a subcontractor, must be considered if the threat is severe.
11. The assumption that gazettement of areas as national parks will “lock them up” from extractive, organized hunting, large-scale farming, or government exploitation does not appear to adequately take account of the current political and governance realities in Southern Sudan. Gazettement—without adequate enforcement, rule of law, and government commitment—would seem to create little more than unenforceable paper parks.
12. State and national government in Southern Sudan does not appear to have the capacity to implement land-use directives emanating from the landscape-scale land-use planning process. Efforts targeted at providing direct incentives to targeted resource users in clearly defined corridors (since far less government capacity would be required to implement them) may have a greater chance of success. Progress might be enhanced by focusing on land-use governance regimes closer to the resource user: the state and community. Beginning one state at a time (possibly beginning with Jonglei) and with critical communities within targeted CTAs could provide some traction.
13. In conservation projects, especially those located in post-conflict settings, tenure insecurity and confusion over rights to access resources and decision-making with respect to natural resources are oft-cited constraints to achieving conservation results. Conversely, these can also be used as opportunities for gaining “entry points” to achieve conservation objectives. Working with traditional leaders, chiefs, sub-chiefs and communities would represent a bottom-up approach and would link directly with one of the project premises, “project activities at the local level provide a sound basis for inducing broader scale policy changes at regional and/or national level.” Thus far, land-use planning exercises with multiple stakeholders have allowed a relatively participatory approach at mapping, although it appears to be a predominately top-down effort.
14. The Land Use Planning workshop has created expectations that appropriate land use in the landscape could result from this land-use mapping and planning exercise. To date, the information generated by the project has been used for mapping purposes but has not yet been used for decision-making, zoning or protected area management. The external evaluators are skeptical that Land Use Planning will result in a change of political will.

15. The BJL project threat analysis for the landscape and the Boma National Park has not been refined to address the current and urgent threat of poaching, especially with respect to the wildlife migrations. Recent socioeconomic surveys have been carried out in over 40 villages and communities in the southern and eastern portion of the landscape, but these data have not yet been cross-checked with other project data on threats and interventions. Discussions with staff and review of WCS maps (see Annex I, Migration and Poaching Hotspots) led the evaluation team to encourage WCS to concentrate on the Critical Target Areas described in Table 2 above.
16. Infrastructure, including ranger posts, has not been adequately analyzed in the context of the threat analysis to the migrations. Rather, infrastructure is planned in order first to make Boma NP a functional park, based on standard notions of park management, and then subsequently to move the focus to Bandingalo National Park.
17. Anti-poaching patrols are not keeping up with poaching problems in key areas of the landscape and are unlikely to succeed given the structure, motivation, and level of training of the ranger forces.
18. Another opportunity is where the project introduces “new” livelihood alternatives locally, such as through tourism. Tourism may be a viable enterprise within the parks and outside of the parks in a few key areas, but not at the levels expressed in the GOSS draft Tourism Policy. The area where the two great migrations of tiang and white-eared kob converge in the proposed extension of Bandingalo National Park would be a good location for tourism. The area is close to a sizeable potential tourism market in Juba and would have large numbers of antelopes at specific times of the year. The area north of Boma NP, leading to Ethiopia, also has excellent potential (see Text Box 2).
19. Although the SGP was the central mechanism to address livelihoods in the CA, the grants mechanism cannot address all, or perhaps even the majority, of program needs to provide conservation incentives to address Critical Priority Areas.
20. The current ban on hunting provides a clear message on conservation (although it is not clear how it applies to “subsistence hunting”) and may contribute to species protection as effective conservation regimes and accurate game counts are developed and as education, anti-poaching, livelihood incentives take hold. Consumptive use of wildlife, however, has been the norm for generations and is likely to remain an important element of “the value of wildlife,” when honestly assessed. In the future, sustainable consumption of certain species could be an important element of expanding economic benefits from wildlife.
21. The BJL project now has sufficient data to fully integrate gender into programming and is beginning to understand how this translates into education and livelihood interventions.
22. Institutional strengthening efforts are soundly targeted at partner GOSS entities with respect to infrastructure and training. Greater work is required on an organizational level with MWCT with respect to community conservation, rationalizing anti-poaching efforts, and with improving the organizational fit of the NRMG. Apart from providing funding to a limited number of NGOs to provide services, little institutional strengthening targeted to make NGOs and CBOs catalysts in conservation is planned at this stage, although NGO and CBO engagement is essential to effective conservation strategies. Where governance systems permit, the project can promote female participation in decision-making.

23. GIS training will not have a sustainable impact without establishing at least one accessible GIS center in government. Spreading such efforts across many ministries is less likely to be successful than establishing fewer GIS centers of excellence.
24. The willingness of the GOSS and MWCT to sign a Cooperation Agreement with WCS and to support the BLJ project is very positive. However, the difficulty MWCT and NRMG have had obtaining government action (for example, with respect to the tourism concession in Boma NP), the challenges of assigning effective staff to Boma and Bandingalo, and the delays in the passage of tourism and wildlife policies all point to possible limitations to government political will to support the objectives of the project.
25. The exclusive nature of the MWCT/WCS Agreement may complicate any future initiatives by USAID to competitively procure assistance to the landscape.

## 5. GLOBAL CLIMATE CHANGE (GCC)

### 5.1 Findings on GCC

As the global carbon credit market develops, the GOSS, or any other developing nation, will require a GCC Secretariat or department located within a ministry to monitor and track the carbon trade. This Secretariat will need to be GIS-fluent, have the necessary equipment to establish and use a GIS database, and will need to have the capacity to carry out carbon accounting. Carbon accounting can estimate national changes in above-ground and below-ground biomass, soil, soil surface litter, and harvested wood products for all forests, scrublands, grasslands and agricultural lands in a country. The cornerstone of the UN Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (REDD) Program is that carbon accounting that follows the International Panel on Climate Change (IPCC) guidance should be in place for any country that wants to be in the carbon market. The IPCC produced a reference manual that provides a comprehensive approach to carbon accounting.

The ministry or agency that controls carbon accounting will, in effect, control the way the implementation will unfold at the country level. Currently, IPCC accounting does not take biodiversity into account, so any ministry that has the GIS capability, mapping and carbon accounting ability could determine the implementation program in the country. This implies that a country could decide, for example, to invest in a program of reforestation of *Eucalyptus* plantations as the main focus of their GCC agenda and leave protected areas, biodiversity and other natural resources out of program. Therefore, a decisive capacity building investment in carbon accounting in the wildlife, protected area or environmental sector, ministry or agency, would go a long way toward ensuring that REDD will support, rather than compete with, biodiversity conservation. In June, 2010, the REDD policy board approved an additional \$8.7 million to fund global activities aimed at supporting national REDD-readiness efforts. These funds could be used to assist countries to design and implement their REDD strategies. Sudan is now considered a REDD partner country.

**Field-Based Activities or Projects.** Currently, USAID may report on climate change efforts in a country under other activities, such as biodiversity, forestry or agroforestry projects. However, there are GCC projects that are based directly on REDD, REDD+, and the voluntary carbon market.<sup>12</sup> Some REDD and REDD+ projects are pilot projects that support reforestation, as well avoiding

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<sup>12</sup> For more information on REDD and REDD +: <http://www.un-redd.org/>

deforestation on private lands. Similarly the Climate, Community and Biodiversity Alliance projects heavily favor projects that focus on reforestation, but there are some projects that attempt to avoid deforestation through Payment of Environmental Services (PES) on private lands, not on public lands such as national parks, forest reserves, or other types of protected areas. Emission reductions from avoided deforestation can be sold as Verified Emission Reduction on the voluntary carbon market, generated by countries and private enterprises looking to support the reduction of greenhouse effect gas emissions outside of the Kyoto protocol.

## 5.2 Conclusions on GCC

USAID could consider new activities in Southern Sudan that address GCC through adaptation and sustainable land use management. One of the key factors with avoided deforestation of forests on private lands is that of land tenure security. This could be a difficult constraint to overcome given the current tenure insecurity situation in Southern Sudan. Clear ownership is key because payment of environmental services goes to the landowner as compensation for not cutting the forest. If the tenure situation could be resolved, there are several options:

- Imatong Mountains grazing lands across the BJL project area
- The Sudd
- Acacia woodlands

The most promising of the three geographical areas currently would be the Imatong Mountains. Under different USAID funding, and not targeted to REDD, WCS has completed an excellent study of the region that would be very helpful in moving forward.<sup>13</sup> This area is classified as a national forest, but the surrounding forests occur on private land. Therefore, the privately-owned forests would be a good candidate for a REDD pilot to create a PES that would benefit landowners to avoid deforestation, thereby reducing the amount of carbon released into the atmosphere. Areas already deforested could be considered for reforestation activities as well.

There are multiple benefits to a GCC activity focused on the Imatong Mountains, including biodiversity conservation, watershed management, and tourism potential. These mountains arguably represent the highest biodiversity value in Sudan and have been classified as part of the Afromontane Biodiversity Hotspot. A biodiversity hotspot is an area that has high levels of species endemism and is under threat of habitat loss. Any project focused on the Imatongs would contribute to biodiversity conservation. The mountains also provide extremely important environmental services as a watershed for the Torit, Juba, and Bandingalo areas. Lastly, the Imatongs have good tourism potential, since they are relatively close to Juba and provide excellent hiking and bird-watching opportunities. But the most compelling reason that the Imatongs represent an ideal area for a GCC project site is that the vegetation map of the area has already been produced. A vegetation map is crucial to determine the baseline on which to base the carbon accounting mentioned above. Under a different funding mechanism, WCS conducted an excellent and detailed study of the Imatong Mountains as part of the Uganda-Southern Sudan trans-boundary agreement in 2008.

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<sup>13</sup> Although only in draft form, WCS has also produced a four-page concept note entitled “Feasibility Study for Reducing Deforestation and Supporting Local Livelihoods in the Greater Boma-Jonglei landscape of Southern Sudan through REDD Mechanisms.” The document is undated, but was completed just prior to the team’s arrival.

## 6.0 INTEGRATING WITH USAID/SUDAN'S PROGRAM

As the largest donor in Southern Sudan, USAID's diverse program reaches into many important areas in the BJL. Based on interviews, document review and the extensive knowledge of the external evaluators, the following possibilities emerge for ways in which USAID and WCS could pursue integration with the bilateral program:

### **Leverage other USAID initiatives to support BJL objectives**

- Attempt to influence infrastructure in support of BJL objectives. For example, use USAID's roads project to improve a critical road to Bandingalo NP.
- Contact the Democracy & Governance (DG) Office to see if civil society strengthening projects could be used to develop the non-governmental conservation sector.
- Leverage planned U.S. and Republic of South Africa university linkages with Juba and Bor universities to productively engage those centers of learning with the project while reinforcing USAID/Sudan's institutional strengthening objectives.
- Discuss land tenure needs with USAID as it designs its land tenure project to try to include in the design a practical application to targeted corridors and work with the eventual project implementers on corridor land use as soon as the project is underway.
- Follow a similar strategy with the livestock project currently under consideration, targeting CTAs.
- Discuss with the DG office whether any existing governance strengthening projects could be targeted to critical partners, such as the newly formed Ministry of Environment and the MWCT. Similar coordination has already occurred with the drafting of the Wildlife and Protected Areas Act.

### **Do not let the eagerness to integrate programs lead to distortions**

- At the same time, it is important to avoid the natural bureaucratic imperative to merge project outputs for the sake of merging them and displaying integration. For example, some infrastructure might actually promote human population growth in inappropriate areas or distort incentives.

### **Influence other USAID initiatives to avoid negative impact from them**

- Dialogue with roads project to ensure that roads through protected areas do minimal damage.
- If USAID's new Food, Agribusiness, and Rural Markets (FARM) project promotes an agriculture project in BJL, the project should examine Reg. 216 requirements regarding the use of pesticides near critical habitat and work with USAID and the GOSS to determine best practices. Since the GOSS Environmental Policy Bill is still in draft form, no GOSS policies have been approved for the use of pesticides near water bodies or near protected areas.

### **Shape BJL activities to remain consistent with Mission priorities**

- Coordinate with health and education offices prior to BJL investments to create health or education infrastructure to avoid distorting rationalization of services.
- Contact the mission Capacity Development Specialist to ensure capacity development and reporting is consistent with current thinking.

## 7.0 SUSTAINABILITY

### 7.1 Findings on sustainability

One must consider sustainability in the current context of Southern Sudan: just five years from signing of the CPA, on the verge of a referendum on independence, most government functions are only beginning to become functional at the national level and are much less developed at the State and local levels, the private sector is spotty at best, and the level of education is very low.

Accordingly, for most projects—realistically—one must plan for considerable time for local institutional, political, and financial capacity to absorb improvements. Nevertheless, it is important to at least “do no harm” with respect to sustainability and at best to begin to work to develop a path towards sustainability.

An examination of the map in Annex K indicates the scale of increase in coverage of national parks (managed by the MWCT) contemplated by the project: expansion of Boma Park; expansion of Bandingalo NP, establishment of Loelle NP; converting Zeraf Game Reserve into a NP; and—possibly—conversion of Imatong Forest Reserve (not pictured, near Torit) into a NP. The project is also engaging government in large-scale land-use planning exercises and government (at the state level, with MWCT support) will need expanded capacity to manage wildlife migrations in proposed corridor areas. Training provided by the project could help somewhat by increasing efficiency. However, as indicated in Section 4.1.5, additional organizational strengthening with government counterparts may be called for.

One approach to analyzing sustainability is to examine the different systems created by the project and see if anything has been engineered into the design to lead to sustainability over time, as indicated in the table below. If USAID, WCS, and MWCT decide that moving towards sustainability—rather than increasing the burden on government via project interventions—is worth the investment, the column at the right records possible suggestions that emerged during interviews or have been discussed previously in this report as to what might be done to promote sustainability.

**Table 3: Sustainability of Systems and Approaches Introduced by the BJJ Project**

System/Approach introduced by project	Sustainability in design?	Possible approaches to designing-in greater sustainability
Capacity to create/use GIS data/maps	Some training in GIS	Locate a home for GIS in the GOSS and develop the system so that training can take hold, possibly with assistance from other USAID projects.
Data gathering and analysis essential to management	Some training in aerial surveys and GPS	<ul style="list-style-type: none"> <li>• Increase and deepen training of MWCT staff.</li> <li>• Foster and develop MWCT partnership with College of Natural Resources at universities in Bor and Juba.</li> </ul>
Increased law enforcement requirement as NP network expands	Some strategy development and training in law enforcement	Help MWCT rationalize use, based on existing resources and real demand. One example is the Mobile Anti-Poaching Force, which would enable relatively few officers to have a major impact on poaching of key migrants.
Increased area under National Park management	Not significant	Help the MWCT consider a range of conservation schemes beyond NPs, such as community conservancies and multi-use regimes, to limit the amount of NP area to be managed.
Increased need to engage communities living within NPs and corridor	Not significant	<ul style="list-style-type: none"> <li>• Help MWCT to develop Community Conservation department.</li> <li>• Work with universities and/or NGOs to develop community interface capabilities.</li> </ul>

System/Approach introduced by project	Sustainability in design?	Possible approaches to designing-in greater sustainability
management		<ul style="list-style-type: none"> <li>Assist state governments to develop programs.</li> </ul>
Increased recurring cost obligations of greater infrastructure and management	Not significant	<ul style="list-style-type: none"> <li>Ensure GOSS budget commitment and rationalization (reduce salaries as share of expenditure).</li> <li>Reduce operating costs by rationalizing investments in ranger posts, law enforcement, etc.</li> </ul>
NRMG operating costs	Not significant	<ul style="list-style-type: none"> <li>Require budget allocation by relevant ministries. or</li> <li>Shift functions to new Ministry of Environment.</li> </ul>

The above list may be somewhat daunting. It is intended to initiate a discussion on where to focus sustainability efforts and ensure that the program does not place excessive demands on government capacity.

## 7.2 Conclusions on Sustainability

The outputs and capacities of the program are currently not sustainable, and planned activities are unlikely to significantly address sustainability issues arising from the interventions. While sustainability does not appear to have been a significant consideration in designing the project, options exist for beginning on a path towards sustainability.

## 8.0 ILLUSTRATIVE TIMEFRAME AND IMPACT INDICATORS

Conservation projects such as the BJL project—even when perfectly designed—require significant time frames to succeed. For any targeted species or area, it can take years to formally gazette areas (where necessary), to construct infrastructure, to develop the capacity of government and communities to manage areas, to engage communities in conservation, and to develop incentives to ensure sustainable management. The greater the number of protected areas, corridors, state governments, ethnic diversity and community interests involved, the longer it will normally take to observe impact and sustainable improvements. Conversely, the greater the focus on specific species and habitats and the smaller the geographic area and degree of ethnic diversity, the more quickly impact is likely to be evident and become sustainable.

As discussed throughout this report, given the absorptive capacity of the GOSS, the potential landscape, and likely funding available, the evaluation team does not think that it is feasible to achieve impact unless the program investment is focused on conserving targeted migrations. As indicated in the previous section, it will also remain fully dependent on WCS (and USAID funding) unless investments in sustainability begin very soon. As indicated elsewhere in this report, the likelihood of success would increase if the project set clear impact and sustainability targets that USAID held them accountable for achieving.

In that vein, during the evaluation, USAID asked the external evaluators to develop some indicators to target impact. The table below includes illustrative indicators through the end of the current project and with a potential five-year Phase II, assuming the project focuses as described in this report.

**Table 4: Illustrative Leading and Impact Indicators**

EOP (end of project)	EOP + 5 years
Tiang poaching decreased “significantly”	Poaching of other targeted migratory species decreased
“Best Practice” Agreements negotiated with at least two concession holders in critical corridors	Private sector concessions are not negatively affecting migrations along critical corridors
Agreement reached on “Akobo” Conservancy” or similar	Akobo Conservancy operational, generating \$10,000/year
Two tourism operations agreements reached in BJL	Tourism operating in Boma, Bandingalo, and Zeraf areas
Community Conservation staff operational within MWCT	Community Conservation Department institutionalized
One Sudanese NGO and University partner engaged	University of Juba and NGOs full partners in landscape
Project working with two CBOs	Four CBOs operational
Precise population numbers on key migratory species	Increased population of migratory ungulates
NRMG niche in GOSS clear or replaced	TBD

These, like the out-of-the-box text boxes, are meant to be illustrative—to assist USAID and WCS to engage more fully in striving for impact. Certainly those players can devise even better indicators; it is hoped that this table will provide a start.

## 9.0 RECOMMENDATIONS

### 9.1 Management

1. WCS should consider restructuring the work plan and reporting system so that activities are described with clearly time-bound completion dates, and divergence from that timeline is systematically communicated.
2. While awaiting development of the WCS Monitoring Tool, USAID and WCS may want to consider focusing the BJL project strategy as outlined in this report. In so doing, it could ensure internally consistent design logic as well as develop useful impact indicators. Although the project has been ongoing for 18 months, real impact is yet to come, thus offering potential for development of a baseline for impact time-series data (see section 9).

### 9.2 Research and Participatory Land Use Planning

1. The project should continue to take advantage of its excellent data sets to define and prioritize threats across the landscape. Project interventions should be guided to these target areas in order to mitigate threats. A clear articulation of this approach would enhance project design and improve implementation. The evaluation team recommends that the BJL project direct interventions toward the priority threats and geographical areas presented in Table 2.
2. Given finite resources and high investment in research to date, future research priorities should increase the precision for estimating densities of migratory species. Elephant, tiang and white-eared kob counts could be conducted during the dry season when the populations are concentrated, and not during both seasons, which would be more costly.

3. Continue to work with the United States Forestry Service to produce a vegetation map based on the land use/cover map. This map will provide the basis for future climate change or carbon credit accounting programs in the landscape.
4. Continue collaring-related research for monitoring purposes of the key migratory species. For example, during the wet season, elephants remain in the Sudd for their sanctuary, while in the dry season they move out into the Acacia woodlands where they are vulnerable to poachers. Use these movement data to mobilize anti-poaching operations to reduce this threat to the population.
5. The evaluation team highly recommends that, within the land use planning process, immediate measures be initiated to search for mechanisms to formally recognize the key corridor areas for migrations. Given the constraints to implementation of a government-regulated land-use regime, the project should drill-down and focus its work. Specifically, the WCS project should immediately engage directly with private sector operators that will operate in the landscape to ensure best practices within their respective sector and should direct less effort toward landscape-scale planning. This engagement should be initiated with Madhvani Group for sugarcane plantations near Bandingalo and Total Oil Company for Block B, which would cover portions of Bandingalo and Boma National Parks.
6. The corridors are of utmost importance in allowing the migratory species to move from one end of their migratory routes to another. Since the local populations traditionally occupy these corridor areas, WCS should engage directly to initiate a dialog regarding the use of these areas.
7. In line with the previous recommendation, when appropriate, socioeconomic analytic results and recommendations on what the project plans to implement should be shared with the pertinent communities.
8. Engage with other USAID sectors that are investing in the Boma-Jonglei landscape, such as infrastructure, education, agriculture, land tenure and livestock programs, to identify synergies of cooperation and added value.

### **9.3 Tourism**

1. Tourism possibilities can be directly tied to the wildlife migrations, but only at low levels and certainly not at the level expected by the various groups interviewed. Even if the security, infrastructure, and logistical constraints could be solved overnight, the landscape simply does not have sufficient numbers of the “Big Five” or the diversity of species that are present in better-known wildlife destinations, such as Kenya, Tanzania, and South Africa. Significant tourism development in BJJ for the medium-term is only realistic for the Bandingalo National Park and, to a much lesser degree, the area north of Boma National Park.
2. Develop a tourism strategic plan for the BJJ project as soon as possible in order to manage expectations and to demonstrate traction with communities and with MWCT. The plan should include familiarization trips with potential tourism operators with solid reputations operating in remote areas and, in particular, working with communities. The evaluation team recommends that the GOSS not develop the infrastructure in Bandingalo National Park for tourism. Rather, a tour operator should do this. For Bandingalo National Park, the GOSS should negotiate the terms of the agreement with the private sector, while perhaps a different arrangement could be developed for the Pochalla area. Under a Pochalla model, the Anyuak king would be a central

figure in negotiating a tourism model. The Anyuak king controls the Anyuak communities on both the Sudanese side of the border as well as the Ethiopian side. The lekking area largely occurs outside of the park boundaries. The evaluation team recommends that the park boundaries not be expanded to the Ethiopian border, but rather some other management regime be considered due to the presence of the Anyuak communities. Community conservancies, wildlife reserves, or some other management arrangement could be considered.

## 9.4 Infrastructure

1. The project should shift WCS infrastructure to reflect CTAs. This would likely involve shifting some WCS tented facilities from Nyat to other areas, such as Pochalla and Lafon. It would also call into question erecting more permanent structures at WCS facilities in Nyat.
2. Resolve the dilemma over the Boma National Park headquarters infrastructure as soon as possible. One recommendation would be to use part of the existing training facility that USAID funded in 2003 as part of the park headquarters. In addition, build a smaller facility next to the training center as the headquarter main reception building, rather than spending \$238,279 where USAID has already spent over \$1,000,000 on the Training Center that will not be used by MWCT. The proposed garage is needed.

## 9.5 Livelihoods

1. WCS should ensure that all livelihood schemes have a direct conservation linkage and avoid general “community benefits” investments, such as the construction of schools or boreholes. The construction of a \$162,000 school in a village of 900 people with approximately 100 school-aged children may not be a strategic investment, or an allowable cost, for a USAID-funded biodiversity conservation project. Even if funded with other resources, the recipients may not understand the conservation benefit. USAID, WCS, and MWCT should consider using the existing infrastructure in the Boma Wildlife Training Center as a possible alternative.
2. WCS now needs to accelerate its engagement in providing conservation incentives, such as through its livelihoods program, and provide the promised MWCT infrastructure.
3. Livelihood and conservation education messages should be targeted to key threats and consider the resource use patterns and demographics of the targeted area. For example:
  - Pibor: target young men, with a message emphasizing sustainable rangeland management and wildlife use and livelihoods interventions based on improved cattle management.
  - Pochalla: target young men, with a message emphasizing sustainable wildlife use, and women regarding containing the agricultural “footprint” in sensitive areas. Livelihoods might be based on improved agriculture, high-end eco/cultural tourism, and sustainable use of wildlife.
  - Juba-Bor Road and Panyagor, and the Zeraf area: target members (predominantly male of all ages) of the Southern Sudan security organs, with messages emphasizing the illegality of commercial hunting and anti-poaching. This should be coupled with high-level intergovernmental dialogue.
4. WCS should only use the SGP where existing local institutional capacity makes this feasible. WCS should consider other levers—particularly direct intervention in highest-potential areas, such as the Pochalla area—to provide conservation incentives to communities.

## 9.6 Anti-Poaching

1. The BJL project should intensify its efforts in targeting anti-poaching efforts to government units known to be poaching at significant scale, including the SPLA, prisons, police, and MWCT. MWCT should lead internal GOSS dialogue, supported by communication materials from WCS and followed-up with WCS-supported GOSS anti-poaching efforts.
2. Consider developing an elite mobile anti-poaching force. This squad could move quickly to areas of high poaching activity during specific times of the year. This does not mean that fixed ranger stations are not needed throughout the landscape, but it does mean that anti-poaching methods should be responsive to geographic and seasonal vulnerabilities that have been identified through the BJL project's applied research. The MAPF, once trained and experienced, could then train other rangers in the off-season.
3. In keeping with recommendations presented elsewhere in this report, WCS should concentrate its training on individuals who will work in Critical Target Areas, including the MAPF described in Section 4.1.3. MWCT should assign to the MAPF only highly capable staff likely to remain with the ministry after the referendum, and should endeavor to do likewise with staff assigned to areas targeted for WCS support, such as Bandingalo and Boma NPs. The staff should be assigned to CTAs of their respective ethnic background.
4. WCS should immediately conduct bush meat studies in CTAs to determine who is doing the poaching, the magnitude of the poaching, and the reasons behind this use.
5. Consider instituting a patrolling incentive award for increasing morale of the anti-poaching rangers. This should be tested immediately.
6. As a milestone of achievement, WCS and the MWCT should present evidence that multi-night patrolling is occurring in Boma National Park and with the MAPF.

## 9.7 Global Climate Change

1. If the mission wishes to ensure that GOSS efforts in GCC are compatible with wildlife conservation, it should encourage the establishment of GIS capability that could eventually serve as the home for GIS accounting in a wildlife-friendly institution.

## 9.8 Gender

1. WCS should disaggregate by gender its reporting indicators for training and wherever else individual beneficiaries are counted. It should also proactively promote gender equity in project-supported resource decision-making forums and in “new” alternative livelihood interventions, such as tourism.
2. Distinct conservation education and communications messages, in addition to livelihood strategies, should be developed—based on WCS's excellent data—for each of the six Critical Target Areas, possibly as described above, and targeted to specific gender, age, and resource user groups.

## 9.9 Capacity Building and Sustainability

1. WCS should consider more direct engagement in community capacity building—where necessary—to achieve BJL conservation objectives. WCS would appear to have the institutional capacity in to perform this function. If not, it should access a partner with the applicable skill set.
2. WCS support to the NRMG should focus on helping the GOSS define an optimal structure, mission and operating framework for such a function and consider solutions that engage a center such as the University of Juba to enable such effectiveness. Continued support to NRMG *after* this project should be dependent on demonstrated NRMG impact by the end of the project.
3. WCS should continue its work in infrastructure and human development with the MWCT while significantly expanding organizational strengthening so that it can adapt to current conservation realities. A critical strategic and tactical analysis of the way forward may well reveal ways in which organizational change—combined with ongoing infrastructure and training inputs—could have an enormous effect on conservation impact and sustainability.
4. Given the lead role WCS has assumed in the BJL through its Cooperation Agreements with the GOSS and MWCT, WCS should consider what it could do to begin to develop a non-governmental presence in conservation. It may choose to use its SGP to provide small grants to NSW, SSNCO, University of Juba, or other players. This may require expanding the SGP beyond livelihoods support. Where current institutional capacity does not permit grants, support to achieve that capacity while pursuing other collaborative efforts (joint analyses; guest lectures; sharing of data; joint field work) might be appropriate.
5. The BJL project should recognize the societal importance of current consumptive use of wildlife and consider, over time, how to expand economic benefits from *sustainable* consumptive uses.
6. To help institutionalize WCS's superb GIS work, WCS should work with USAID and GOSS to identify the best home for GIS capacity in Sudan. Candidates include the Department of Statistics, the Ministry of Environment, or the University of Juba. This may well be best pursued by another USAID initiative.
7. Strengthen institutional capacity through:
  - For the MWCT:
    - Developing community conservation capabilities at MWCT, perhaps focused initially on Bandingalo. Consider the feasibility of strengthening state capabilities where essential.
    - Helping MWCT rationalize investments through the creation of MAPF and considering alternative models to protected area management.
  - Assisting NRMG to define its mission and niche to have impact, or find another institutional home for the capacity.
  - Engaging NGOs and Universities in the project
  - Establishing and strengthening CBOs, where necessary, to achieve impact. Continuing to identify and train key players in MWCT and perhaps professors and students at local universities in Juba and Bor in ecological methods, analysis, and interpretation of results to train a cadre of Sudanese technicians.

## ANNEX A: SCOPE OF WORK

Management Systems International (MSI) SUPPORT Project with USAID/Sudan<sup>14</sup>

Midterm Evaluation of  
Conservation of Biodiversity Across the Boma-Jonglei Landscape of Southern Sudan”  
(June, 2010)

### 1. Program to be Evaluated

**Program Identification:**

“Conservation of Biodiversity Across the Boma-Jonglei Landscape of Southern Sudan” Referred to as the CB-JL Program in this SOW.

Funded via Leader with Associates Cooperative Agreement No.EPP-A-00-06-00014-00: “Equity, Sustainable Growth and Natural Resources Conservation”

Agreement Award No. 650-A-00-08-00019-00

**Program Funding:**

\$12,642,000

**Program Beginning/End dates:**

1 December 2008 to 30 September 2011

**Key Agreement/Contract Modifications:**

Modifications: None

**Implementing Partners (IPs):**

Prime: Wildlife Conservation Society (WCS)

**USAID/Sudan Technical Office:**

Economic Growth

**AOTR:**

Carmelita Maness

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<sup>14</sup> MSI holds a 3-year contract to provide Mission-wide support to USAID/Sudan in program and project evaluation and designs, MIS management, translation services, logistics support, facilities management, VIP hosting, and research. An in-country team, based in Juba, provides these services, supplemented by short-term technical assistance.

## 2. Evaluation Purpose

This will be a formative mid-term evaluation, roughly 1-½ years into the three-year duration of the project (intended to be Phase I of a long-term program, in the WCS and GOSS partnership vision). Its principle purpose will be to review project implementation progress to date, recognize the successes of the program, identify areas needing improvement and provide information to help the Implementing Partner (IP) and USAID review project design and assumptions to determine if they remain valid and modify implementation to improve potential impact.

## 3. Background

### A. Country Context

Sudan is the largest country in Africa, borders 9 countries, and has a population estimated at 40 million. Since independence in 1956, Sudan has suffered from civil war, with only a decade of troubled peace from 1972 to 1983.

Southern Sudan and the critical border areas (consisting of the northern states of Southern Kordofan and Blue Nile, plus Abyei – commonly referred to as the Three Areas) are characterized by years of underdevelopment, war, famine, drought and flood, producing a crisis of enormous proportions across the region and resulting in the devastation of economic, political and social structures. In addition to the loss of lives, opportunities and infrastructure, the war displaced families and divided communities. In consequence, the health, education and infrastructure status of the Southern Sudanese people are among the poorest globally.

After decades of civil war, Sudan's warring parties signed a Comprehensive Peace Agreement (CPA) in January of 2005. Since that time the country has taken steps toward peace, reconciliation and good governance, although the pace has been slower than expected or desired.

Despite the signing of the CPA, Southern Sudan remains a vulnerable state. Its children, many of whom are orphans, returning refugees and ex-combatants, are particularly at risk - especially in the "hot spots" of the Three Areas. It is essential that displaced and other affected people, particularly orphans and ex-combatant youth, be safely reintegrated into their communities. In the case of the youth, affected by the many conflicts and tensions during the past 21 years, the provision of basic education is critical to providing a solid foundation upon which their future success and contribution to society can be based. The provision of education can also be seen as a tangible result of the "peace dividends" expected by Southern Sudanese citizens and, in turn, will contribute to stabilization in the region. Durable stability is contingent upon demonstrative and observable change "on the ground" and education, highly valued by the Southern Sudanese, is both a necessary and visible symbol of that change.

In many areas, primary health and education services have been almost exclusively externally funded. Non-governmental organizations (NGOs), faith-based organizations (FBOs), and multilateral and bilateral aid agencies offering humanitarian relief became the prime providers of an array of much needed services. As peace is consolidated, USAID will continue to support a responsible transition from emergency to development assistance that seeks to improve access to and quality of basic education. Education and health activities are reinforced by investment in other essential services, such as water and sanitation, in an effort to rebuild local communities, reduce tensions and provide the much sought-after peace dividends. The natural resource sector (oil, water, forest, rangelands, minerals, wildlife and protected areas) will play an important part in shaping Southern Sudan's

economic future. Sound management systems can help increase the likelihood that their use will promote sustainable economic growth and environmental management in the region.

## B. Sector Context

Until civil war broke-out in 1983, the vast grasslands of Southern Sudan supported some of East Africa's most spectacular and important wildlife populations, including the world's second largest wildlife migration (*Figure 1*, below). Twenty-two years of civil war and humanitarian crisis led to widespread speculation that Southern Sudan's wildlife heritage had been lost. However, the results of January-February 2007 surveys undertaken by WCS in cooperation with the GOSS made the front page of the *New York Times* and other articles in *TIME Magazine*, *Newsweek*, *The Economist*, and others. Key findings included the following:

- Migrations of white-eared kob, tiang, and mongalla gazelle migrations in Boma and Jonglei are substantially intact, totaling more than 1.2 million animals, numbers comparable to those of the 1980s;
- Elephant populations have actually increased in the Sudd (the vast swamp shown in *Figure 1* encompassing Zeraf Reserve and the proposed extension), from about 4,000 to about 6,000
- The endemic Nile Lechwe persists.
- Lions remain in good numbers and wild dogs survive.
- Sedentary ungulates, such as buffalo and hartebeest, have declined drastically in several areas. Most species also persist in Southern National Park, but in greatly reduced numbers.
- It is still unknown whether rhino survive in Southern Sudan.

The Boma-Jonglei Landscape (*Figure 1.*) of Southern Sudan is the largest expanse of substantially intact, wild habitat in East Africa, featuring spectacular high altitude plateaus and escarpments, wooded savanna, grassland savanna, wetlands and floods plains. Hundreds of species of birds, including the rare shoebill, dwell in the Landscape or visit on migrations between Eurasia and Africa. Traditional peoples and cultures (Anyuak, Murle, Jiye, Kacipo, Toposa, Dinka, Mundari, Nuer, Shilluk, Bari, Didinga, Lotuka, Nyangatom, etc.) with strong ties to wildlife live off the land through pastoralism, agriculture, hunting, and fishing.

The surveys also revealed that resource extraction plans have started in earnest in Southern Sudan since the signing of the peace accord in January 2005. Oil companies are active in ecologically sensitive areas of Jonglei and concessions are being opened across Southern Sudan, covering the great migration corridors and several protected areas. Mining permits have been awarded in Eastern Equatoria State. Both Internally Displaced Peoples (IDPs) and refugees are also returning, to regain grazing and agricultural lands and reestablish their lives. Deforestation and habitat degradation is reported in several regions of Jonglei State. This expansion of land-use pressures, including extractive industry, is occurring without proper land-use planning that might help to balance competing claims in light of sustainable development objectives.

Roads are being built for the development of the region with support of the Government of Southern Sudan (GOSS) and the international community, including USAID. If not constructed with adequate environmental planning and management programs they could rapidly become conduits for the commercial bush meat trade and threaten the long-term viability of protected areas and wildlife populations. Automatic rifles (AK47) are common among the local communities and often used for hunting. The Boma-Jonglei landscape falls within Jonglei, Eastern Equatoria and Central Equatoria States, parts of which are experiencing violent inter-tribal conflict and competition over natural resources. These areas also harbor former militia requiring disarmament.

The insecurity due to tribal violence, banditry, and large number of armed forces (SPLA, Police, Wildlife, etc.) in many regions of Southern Sudan renders working in remote areas and enforcement of wildlife and protected areas laws challenging. The MWCT's task of protecting wildlife requires patrolling in the field, controlling vehicles at check points along roads, arresting of armed poachers, necessitating a step by step approach. High-level GOSS, State level and local stakeholders' understanding and support are essential to successfully support wildlife law enforcement efforts, especially in this context.

The GOSS has prioritized wildlife conservation as a key component of its national development strategy and formally agreed for WCS to act as lead technical partner in the Boma-Jonglei Landscape. President Salva Kiir Mayardit stated at the opening of the second session of the Southern Sudan legislative assembly in Juba on April 10, 2006: "Our Wildlife (fauna and flora) is a national natural wealth and heritage that should be preserved, protected, propagated, managed and utilized sustainably for the present and future generations of Southern Sudan...." The President cited the urgent need for the development of wildlife protection efforts, development and rehabilitation of Park infrastructure, education and awareness campaigns, transboundary conservation and protection of wildlife, and encouragement of the public and private sectors to invest in tourism.

### **C. Program Description**

The peace of 2005 brings greater opportunity for biodiversity conservation and sustainable natural resource use and management in Southern Sudan. However, there are growing threats to natural resources and sustainable livelihoods, including insecure tenure and weak governance leading to habitat loss, unsustainable agriculture, commercial and illegal hunting, poorly planned road development and uncontrolled fire. WCS posits that effective management and sustainable use of natural resources can improve the lives of Southern Sudanese communities which, in turn will help reduce conflict, conserve biodiversity and allow peace to take root.

The Boma-Jonglei Landscape encompasses the region of the great wildlife migrations (covering an estimated 200,000 sq. km. (3% of the area of Southern Sudan) including an estimated 48,000 sq. km. of protected areas. It hosts the second largest land mammal migration in the world, the largest wetland and largest intact grassland in Africa, and directly supports the livelihoods of some two million people of 15 different ethnic groups. The CB-JL Program's design hypothesizes that sound management and conservation of Boma-Jonglei's natural resources – wildlife, pasture, water, forests, minerals, and petroleum – will contribute to peaceful and sustainable development and nation building in Southern Sudan.

The CB-JL Program aims to help the GOSS create and consolidate a protected area system to conserve globally important biodiversity while improving rural livelihoods. The project posits that well-managed wildlife and protected areas of Boma-Jonglei can provide a cornerstone for natural resource management, contribute to sustainable livelihoods of local communities, contribute to improved security and facilitate development of an ecotourism industry. Immediate threats to this vision include: unsustainable commercial hunting, automatic weapons proliferation, deforestation and over-grazing, unplanned road and infrastructure development, hydrocarbon development and resettlement.

WCS serves as the overall lead for the CB-JL Program – in partnership with the GOSS in accordance with the March 2007 agreements.<sup>15</sup> The CB-JL Program seeks long-term sustainable natural resource

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<sup>15</sup> In March, 2007, the Government of Southern Sudan and WCS formally agreed for WCS to lead conservation efforts in the Boma-Jonglei Landscape (MOUs available on request).

management and conservation of biodiversity in the Landscape through an approach, which focuses on the interconnections and interdependencies of natural resources, livelihoods and governance. The program aims to help address threats to wildlife, involve local stakeholders in strategy development for sustainable land and natural resource management, and begins to put in place the institutions and capacity for managing the landscape. WCS works in partnership with the GOSS, the Ministry of Wildlife Conservation and Tourism, Line Ministries of the Natural Resources Management Group (NRMG), and State and local government agencies. It intends to develop active cooperation with local government, local communities and diverse local and international organizations involved in development, governance and humanitarian assistance in the region, and the private sector.

Over the course of the project, the CB-JL Program expects to make significant advances with the GOSS and other partners to sustainably manage the natural resources and conserve the biodiversity of the Boma-Jonglei landscape. The project partners are working towards this goal through the achievement of four complementary objectives and associated activities:

- 1) Strengthen institutional capacity for sustainable management of natural resources*
- 2) Develop participatory land-use planning, zoning, and resource management*
- 3) Conserve biodiversity through protected area management (Boma, Bandingalo, Zeraf, and proposed Loelle protected area), monitoring, ecotourism development, and other incentives for sustainable land use and resource management*
- 4) Improve community livelihoods and economic enhancement*

The project is working to establish the foundation and processes for biodiversity conservation and land-use management in the Boma-Jonglei landscape, build capacity of Government, civil society and local communities for sustainable natural resource management, improve livelihoods, security and economic opportunities for local communities, and conserve the ecosystem and its wildlife migrations for the benefit of the people of southern Sudan and the world.

WCS considers the following as its “partners” in working to improve management of the Boma-Jonglei Landscape:

- GOSS: MWCT (Ministry of Wildlife Conservation and Tourism), NRMG (Natural Resources Management Group): Comprised of seven GOSS Ministries concerned with NRM), Department of Environment, line ministries;
- State governments of Jonglei, Eastern Equatoria, Central Equatoria;
- Local governments;
- Communities, traditional leaders, civil society;
- International and local development partners;
- Private sector (oil, tourism, mining, etc.); and
- Major infrastructure developers (roads, dams, etc.)

#### **D. Linkage to USAID/Sudan Strategy and USG Foreign Assistance Framework**

The following “F” indicators are employed at the program level:

- Number of hectares in areas of biological significance under improved management as a result of USG assistance

- Number of people with increased economic benefits derived from sustainable natural resource management and conservation as a result of USG assistance.

The project also uses the following custom indicator:

- Number of km. patrolled (and associated catch per unit effort and encounter rate data) by wildlife forces and km coverage by aerial patrols

## **E. Project Strategic Summary**

Goal: Sustainably manage natural resources and conserve biological diversity across the Boma-Jonglei Landscape

The goal will be pursued through achievement of the following objectives (with activity areas indicated beneath as bullets):

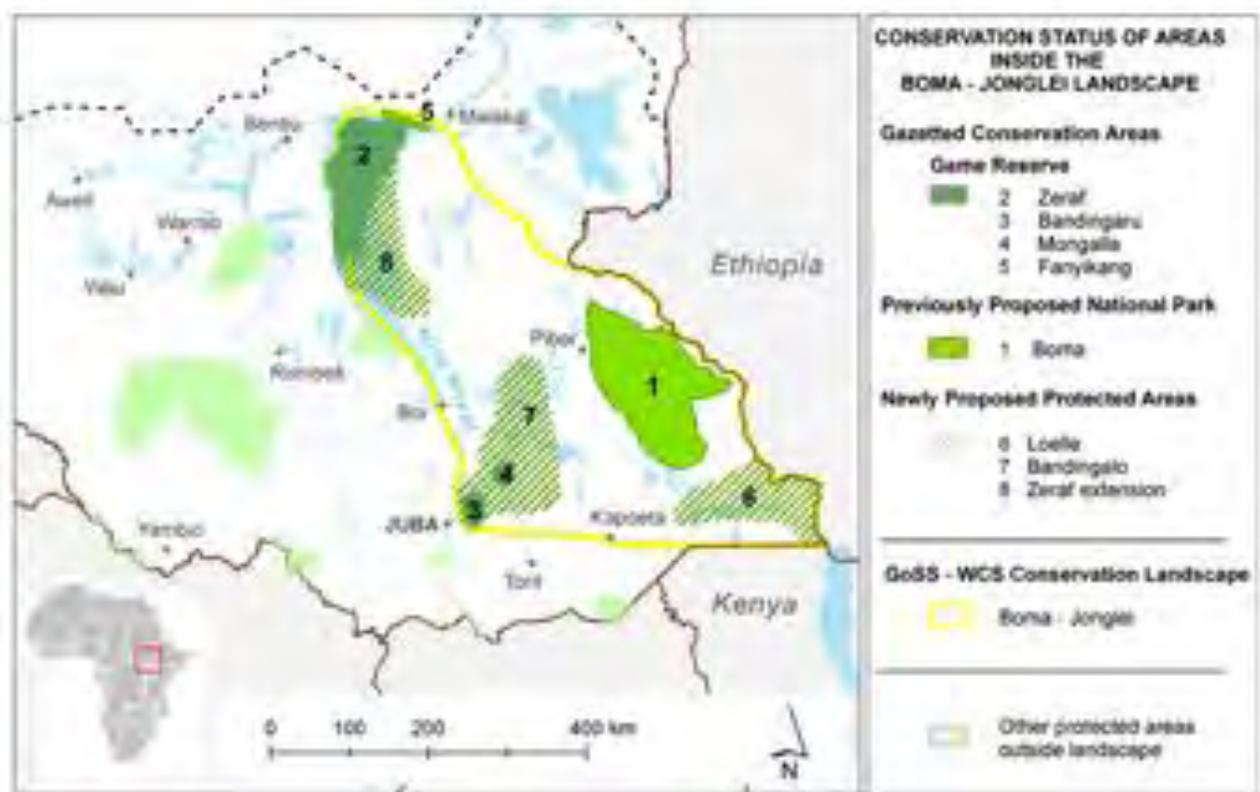
- 1. Strengthen institutional capacity for sustainable management of natural resources**
  - NRMG Strategic Plan 2009-11 and work plan development (including policy review, case studies on natural resource management [NRM], concession allocation guidelines, incorporate monitoring information and spatial data to inform strategies etc.)
  - Training and support to MWCT forces for protected area management
  - Training of community leaders in protected area management and NRM
  - Technical advice to GOSS officials
- 2. Develop participatory land-use planning, zoning, and resource management**
  - Applied Research and monitoring of wildlife, livestock, human activity to inform management strategic planning
  - Landcover mapping for landscape
  - Collaring and tracking of elephants, tiang and white-eared kob
  - Aerial surveys in wet season and dry season of wildlife, livestock, human activity
  - Community-based socio-economic mapping in and around Boma and Bandingalo areas
  - Develop database on extractive industry concessions, roads, conflict areas, development projects, etc... to inform landscape planning.
  - Design and initiate land-use, zoning, and management planning processes with stakeholders
- 3. Conserve biodiversity through protected area management, monitoring, ecotourism development, and other incentives for sustainable land use and resource management**
  - Raise conservation awareness at local and regional levels
  - Create and Manage Protected areas (estimated at 49,000 sq. km.)
    - Boma: HQ buildings, ranger posts, preliminary management strategy, field equipment, develop management plan, Technical support to Park management authority; maintain Nyat airstrip
    - Bandingalo: needs assessment, design basic infrastructure/operations plan, open Lafon airstrip initiate support to MWCT; design new limits.
    - Zeraf: wildlife protection strategy (elephants)
  - Facilitate discussion of cross-border protected area management
  - Design of wildlife migration corridors.
- 4. Improve community livelihoods and economic enhancement**
  - Alternative livelihoods assessment
  - Initiation of small grants program and pilot projects

- Environmental awareness strategy
- Community-Based Natural Resource Management (CBNRM) training with key community groups around Boma
- Design, promote, and monitor pilot ecotourism programs (Boma and Bandingalo), emphasizing benefits sharing with local communities
- Assess opportunities for using REDD, carbon sequestration, watershed PES, conservation easements, biodiversity offsets and other sustainable conservation financing mechanisms as incentives for sustainable NRM

## F. Geographic Orientation

The following map illustrates the geographic orientation for program activities.

Figure 1. Existing and Proposed Protected areas and the Boma-Jonglei Landscape in Southern Sudan



## 4. Available Information to Support the Evaluation

The following information will be provided to the evaluation team in advance of its arrival in Juba.

1. Agreement (including Project Description), with modifications;
2. March 2007 Cooperation Agreements signed between the Presidency and MWCT of the GOSS and WCS
3. PMP and Performance monitoring data as of the most recent available date
4. Quarterly reports from project inception through March 2010
5. Boma-Jonglei Landscape Concept Paper

6. Boma-Jonglei Overview
7. Socio-economic and aerial survey reports, training reports, other reports produced by the project
8. USAID strategic framework
9. USAID Fragile States Framework
10. MSI Evaluation and Special Study Guide

## **5. Evaluation Focus and Questions**

The main focus of the evaluation is to help WCS and USAID assess the progress of the program, take note of successes, identify any areas where implementation can be improved and verify if any adjustments in design are called for to help achieve greater impact. The team will examine implementation progress towards each of the four project objectives, review partnerships and collaboration with the GOSS, consider the quality and application of data to inform management strategies, examine the design and progress of planning processes, and attempt to project the potential impact of the various program interventions towards the conservation of biodiversity and sustainable resource management in the landscape. In so doing, the Team will consider the potential viability and importance – given the nascent stage of efforts to date – to the future of southern Sudan, of the efforts in protected area (and “buffer zone”) management, biodiversity conservation, development of ecotourism, potential climate change interventions (REDD and sustainable landscapes), and development of other livelihood improvement efforts.

The following questions should be addressed by the evaluation team, in light of the purpose described in *Section 2*, above:

### Project design

1. Are there any issues with respect to project design and assumptions that should be reconsidered based on experience to date? For example:
  - a. Does the project have the potential to help the GOSS manage natural resources in the landscape in a way that would support peaceful and sustainable development and nation-building in southern Sudan?
  - b. In what timeframe can ecotourism become a feasible economic and political mechanism to support conservation and development?
  - c. How is the program contributing to climate change applications, such as REDD and sustainable landscapes? What potential is there for expansion of this program component (considering, also, the possible independence of southern Sudan)?
  - d. Are there ways in which the project could enhance the management of threats and opportunities presented by the extractive sector?
2. Have WCS and GOSS efforts to promote the importance of the Landscape been successful? If so, is there potential for expansion?
3. How strong is government understanding of the need for Landscape conservation and sustainable natural resource management – and the political will to support it – at the various levels?
4. In what ways is the CB-JL Program integrating gender concerns in its planning/information dissemination processes, social analysis, understanding of NR production systems, work force, and NRM interventions? Are there areas for improvement or expansion?

### Project implementation

5. How is information produced by WCS being utilized by government and communities in protected area management, land-use and planning as well as zoning?
6. Are there ways in which the CB-JL Program is helping communities manage conflict and or improve security? Are there ways in which this aspect could be enhanced?

7. Taking into consideration the threats and opportunities facing conservation and protected area management in the landscape are there any critical human and institutional capacity gaps the CB-JL Program is not yet targeting?
8. Are there ways in which efficiency and effectiveness could be improved? Is the significant cost of acquiring data for management (for example, human and wildlife surveys) an appropriate investment?
9. What private sector concerns (oil, tourism, mining, etc...) is the project faced with? What progress has been made, and how might strategies be further supported to address them?
10. What has been the impact of project activities to create an effective policy environment?
11. Are funds being implemented consistently with the requirements of Congressional and biodiversity earmarks?

#### Project impact to date

12. Taking into consideration the relatively short period of implementation to date, has the project had any important impacts on conservation and management of the Boma-Jonglei landscape?

#### Sustainability

13. How sustainable are the processes, systems, and capacity improvement being put in place by CB-JL Program? What is a reasonable time frame to consider in planning for sustainability of NRM improvements, biodiversity conservation, peace dividends, and eventual biophysical impact?
14. How likely are capacity-building efforts with the MWCT and GOSS likely to result in lasting improvements in systems and approaches to NRM and conservation?

## **6. Evaluation Methods and Procedures**

The External Evaluators will be provided the information provided in *Section 3*, above, before arriving in Sudan. They will be expected to be familiar with this information prior to arriving in Juba.

A Team Planning Meeting (TPM) will be held upon arrival in Juba to agree on how team members will work together, how they will interact with the client and other stakeholders, and to develop a work plan and finalize a Travel Schedule. The team will need to visit project site(s) so some transportation will be arranged prior to the team's arrival. At a minimum the team will need to travel to Boma and within the Landscape.

During the TPM the team will finalize the methodology to be used and produce the evaluative instruments to be employed. The team will use the "Getting to Answers" approach detailed in Annex II of *the MSI Evaluation and Special Study Guide* to develop detailed methodological approaches to meeting the terms of this Scope of Work.

We expect that in addition to basing the evaluation's findings on interviews and review of project documents, the team may also want to consider using some of the following simple approaches to focus the analysis:

- Development of an interview guide to ensure that the correct evaluation questions are being addressed to the appropriate individuals and that they are being posed and recorded consistently.
- Meet with various program team leaders and review short technical presentations by WCS key staff to learn about latest progress and challenges of the program.
- Meet with MWCT Undersecretary, NRMG chairman, and other GOSS and State authorities concerned by the program
- Review the PMP tracking database, MOVs, and understand what information is available to track progress towards the various targets and objectives

- Visits to 2-3 communities to meet separately with community leaders, resource users, and women from communities targeted by the CB-JL Program;
- Review of biological and human survey reports;
- Review of promotional materials on the landscape;
- Examination of key biological resources of the Landscape;
- Examination of potential ecotourism resources;
- Network mapping (or verification if already produced by the CB-JL Program), to the extent possible, of stakeholder interests, resource flows, conservation incentives and actions by CB-JL Program to address them strategically
- Map major resource conflict threats against the potential of mechanisms promoted by CB-JL Program to address them
- To the extent possible, map economic alternatives for the landscape in light of potential benefits from options promoted by the CB-JL Program, with consideration of political implications of alternatives
- Visit to Boma project site and interviews with WCS site based team leaders, MWCT Park Wardens, and local government officials
- Visit two potential candidates of small grants recipients (CBOs, associations)
- Overflight of Bandingalo and Sudd areas.

Once the methodology has been finalized at the TPM it will be shared with USAID as part of the work plan approval process.

## 7. Team Composition and Participation

**Team Composition.** USAID/Sudan is conducting the Mid-Term Review in a collaborative manner to maximize USAID, GOSS and Implementing Partner learning opportunities. Accordingly, the team will be comprised as follows:

- Two External Evaluators (skill sets detailed below), provided by MSI
- One representative of USAID
- One representative of GOSS
- One representative of Implementing Partners

Additional inputs may come from other staff from these agencies, as needed, and as coordinated by the respective team member.

USAID's representative may be a person from the Economic Growth Team. GOSS and the Implementing Partners (IP) may choose their representatives as they see fit, but persons selected should have experience with similar programs in Sudan. Given the significant contributions to the team expected from each team member, all are expected to be available to participate throughout the evaluation period, to the extent possible.

**Team Member Roles and Responsibilities.** USAID, GOSS and IP team members will provide historical, contextual and programmatic background information that will inform the assessment. They will be expected to participate in the Team Planning Meeting (TPM), field visits, interviews, brainstorming on Findings, Conclusions and Recommendations, and in the frequent reflections on evaluation learning, often occurring after a long day of interviews and traveling. These individuals participate as representatives of their respective organizations and are expected to share their learning with their home organizations so that all three key organizations are kept abreast of progress. It may well happen that the External Evaluators will ask USAID, GOSS or IP representatives to be excluded from certain portions of interviews in order to ensure candid responses.

The External Evaluators will take the lead in conducting the evaluation, leading interviews, framing the analysis, facilitating group discussion and consensus, preparing for the debriefing and drafting the evaluation report. One of the External Evaluators will serve as the overall Evaluation Team Leader. The Evaluation Team Leader will take full responsibility for managing the team, organizing its work, and ensuring quality control and delivery of a final report acceptable to USAID. Precise division of labor among the two External Evaluators will be determined at the TPM. Between the two External Evaluators, the following capacities must be brought to the team:

1. Strong skills in assessment and analysis of USAID projects, especially with wildlife conservation and development programs;
2. Extensive experience working in East Africa, Sudan, and/or similar post conflict environments;
3. Facilitation experience, experience leading participatory evaluations, or at least evaluations where evaluation teams include critical stakeholders as active participants; and
4. Experience arranging meetings, setting up travel schedules for field visits, reporting on meeting outcomes, and generally managing the logistics of the evaluation (although significant logistical assistance will be provided by the SUPPORT team in Juba).
5. Experience in implementing or evaluating the following:
  - a. Rural development, NRM, or conservation programs
  - b. Protected area management and wildlife law enforcement
  - c. Community-Based Natural Resource Management (CBNRM)
  - d. Wildlife management
  - e. Regional planning and policy implementation
  - f. Institutional strengthening
  - g. Management of remotely-based field projects in post conflict regions
  - h. Ecotourism and other approaches to linking economic development and conservation
  - i. Developing and managing monitoring and evaluation systems for conservation programs
  - j. Conducting, analyzing, and using survey data

The Team Leader will be the formal representative of the team and will arrange for updates regarding progress against the evaluation work plan to the AOTR (or his/her delegate) and MSI's Chief of Party (COP) or Assessment, Monitoring and Evaluation Specialist (AME), as determined at the TPM.

## **8. Activities, Logistics, and Timing**

Prior to arriving in Juba, the External Evaluators will have familiarized themselves with the background material provided to them, as referenced in *Section 3*, above.

All team members should be present for the TPM and for initial briefings and discussions with USAID's Economic Growth Office and other Mission officers, as well as IP and GOSS officials. A Work Plan and travel program for the in-country visit as well as the subsequent report-writing period will be submitted to USAID for approval during the first few days of work in Juba. The Work Plan will also include a schedule for periodic MSI and USAID progress reports and possible submissions of specific work products, as determined by the parties.

Approximately four days prior to departure the Evaluation Team will present to USAID, Implementing Partners and the GOSS, an out-briefing, with succinct supporting documents. The Draft Evaluation Report will be submitted prior to the External Evaluators' departure from Juba.

The Mission and the IP will each submit its comments on the draft report within ten work days of receipt the draft report. The Draft Final Report will be submitted to USAID ten work days after the Team Leader’s receipt of USAID’s and the IP’s final written comments on the draft.

It is envisioned that all External Evaluators will be in Sudan the entire duration of the evaluation’s in-country component (six-day work weeks are authorized), including the TPM, a debriefing, and submission of a draft report to MSI’s COP or AME prior to departure from Sudan. In addition to travel days, additional days are provided for the External Evaluators to complete reading and processing all background information prior to departure for Sudan. Additional days are provided to finalize the report. (See graphic presentation in *Section 9*, below).

MSI’s field office in Juba will be responsible for travel arrangements (travel, housing in the field, etc.) for the USAID and GOSS team members. MSI will fund travel-related costs for GOSS team member(s), but not for IP or USAID team member(s).<sup>16</sup> MSI and the Implementing Partners will jointly arrange all meetings for the team, in coordination with GOSS. The team will be provided office and meeting space, as needed, at SUPPORT’s Juba Office Compound.

### 9. Projected Level of Effort (LOE) and Timeline

Tasks (Both External Evaluators, unless otherwise noted)	Work Days (6-day weeks in Sudan; 5 in outside Sudan)	Estimated Dates
<b>Initial Preparation</b> Review advance background documents and SUPPORT Project’s Evaluation and Special Study Guide, preliminary mapping, make travel preparations, and travel days to Juba.	5	
<b>In-Country Evaluation</b> Initial briefings, meetings, field visits, draft report preparation and debriefings.	20	Tuesday June 15 <sup>th</sup> – Wednesday, July 7 <sup>th</sup>
<b>Return travel</b>	2	
<b>Final Report Preparation in home country</b> Incorporate collective Sudan feedback, complete final report, and submit to MSI.	1 each, plus 3 additional for Team Leader	
<b>Total for each Evaluation Team member</b>	28	
<b>Total for Evaluation Team Leader (3 additional days)</b>	31	

### 10. Report Production and Format

The team will present for approval by USAID a draft outline of the report during its first week in country. The report must:

- Distinguish clearly between findings, conclusions (based strictly on findings) and recommendations (based clearly on the reports findings and conclusions);
- Comply with all instructions of the SUPPORT Project’s “Evaluation/Special Study Quality Management Guide” and meet the specific requirements of the “Evaluation Report Review – Score Sheet”, contained therein;

<sup>16</sup> If the USAID representative is an Institutionally-Contracted Staff member provided by MSI, his/her travel costs will be provided by MSI separately.

- Include a Table of Contents; a list of acronyms, an Executive Summary of no more than three pages; a section describing the project to be evaluated and purpose of the evaluation; a section on the methodology employed, including relevant skill sets of the evaluators;
- Include any annexes the team considers useful to the reader; and
- A copy of this SOW as an Annex.

A formal debriefing will be provided to USAID, the IP and the GOSS, as scheduled during the TPM and recorded in the evaluation work plan. The team will present key Findings, Conclusions and Recommendations for comment from the stakeholders. The team will record all relevant feedback from the meeting and will respond to all comments in completing its draft reports. The External Evaluators need not include all suggestions in the report, but must consider such suggestions in finalizing the Draft Report.

An electronic (in MS Word) version of the Draft Report will be presented to the IP and USAID in Juba with four hard copies being provided to the USAID/Sudan Mission and one hard copy to the IP prior to the departure of the Team Leader. The document will not exceed 30 pages, excluding annexes and Executive Summary.

The Mission and the IP will each submit its respective comments on the draft report *electronically* to MSI's COP – using the “track changes” and “comments” functions in MS WORD as much as possible. Each organization will combine internal comments, resulting in a unified set of comments from USAID and a unified set of comments from the IP. The Mission will receive ten paper copies of the final report as well as an electronic version, once the Mission has accepted the product.

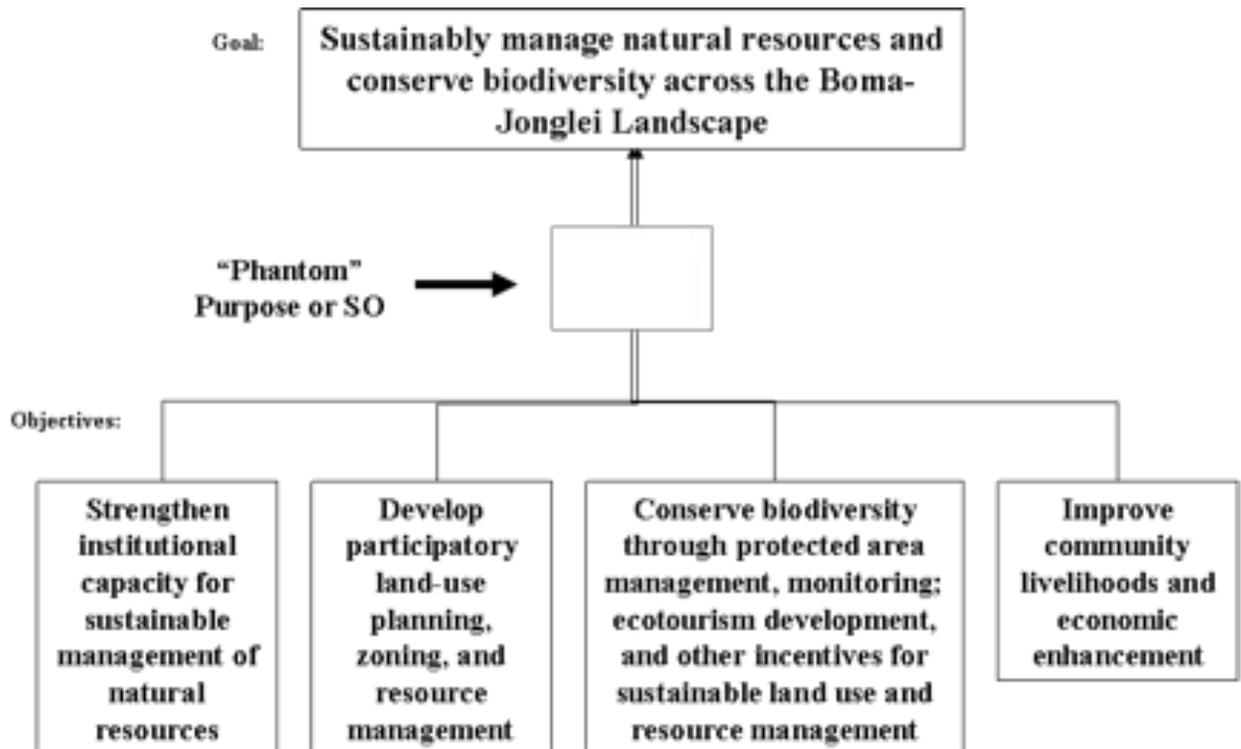
## **11. Deliverables**

- A draft work plan, ensuring that all aspects of Getting to Answers (from the TPM) are addressed
- A schedule of travel and key activities
- Interim progress briefings to MSI and the Mission, as determined during the TPM
- Preliminary report outline
- Draft Findings, Conclusions and Recommendations to MSI prior to completion of the first Draft Report
- Out-briefing, with supporting documents
- Draft report
- Final report

## **12. Compliance to USAID Regulations**

The Evaluation Team will ensure that the evaluation is fully compliant with the terms for Project Evaluations contained in the USAID Automated Directives System (ADS) Series 203 and other relevant regulatory requirements, as may be determined by USAID. Additionally, the Team will utilize MSI's SUPPORT Project's “Evaluation/Special Study Quality Management Guide.” The Guide will be presented to the Team members prior to their initial TPM.

## ANNEX B: BJL'S IMPLIED RESULTS FRAMEWORK



## ANNEX C: LIST OF PERSONS CONSULTED

### By Telephone:

Brian Hayum	U.S. Fish and Wildlife Service, International Division, Climate Change Coordinator
John Robinson	Wildlife Conservation Society
Ray Victorine	Conservation Financing Specialist, WCS

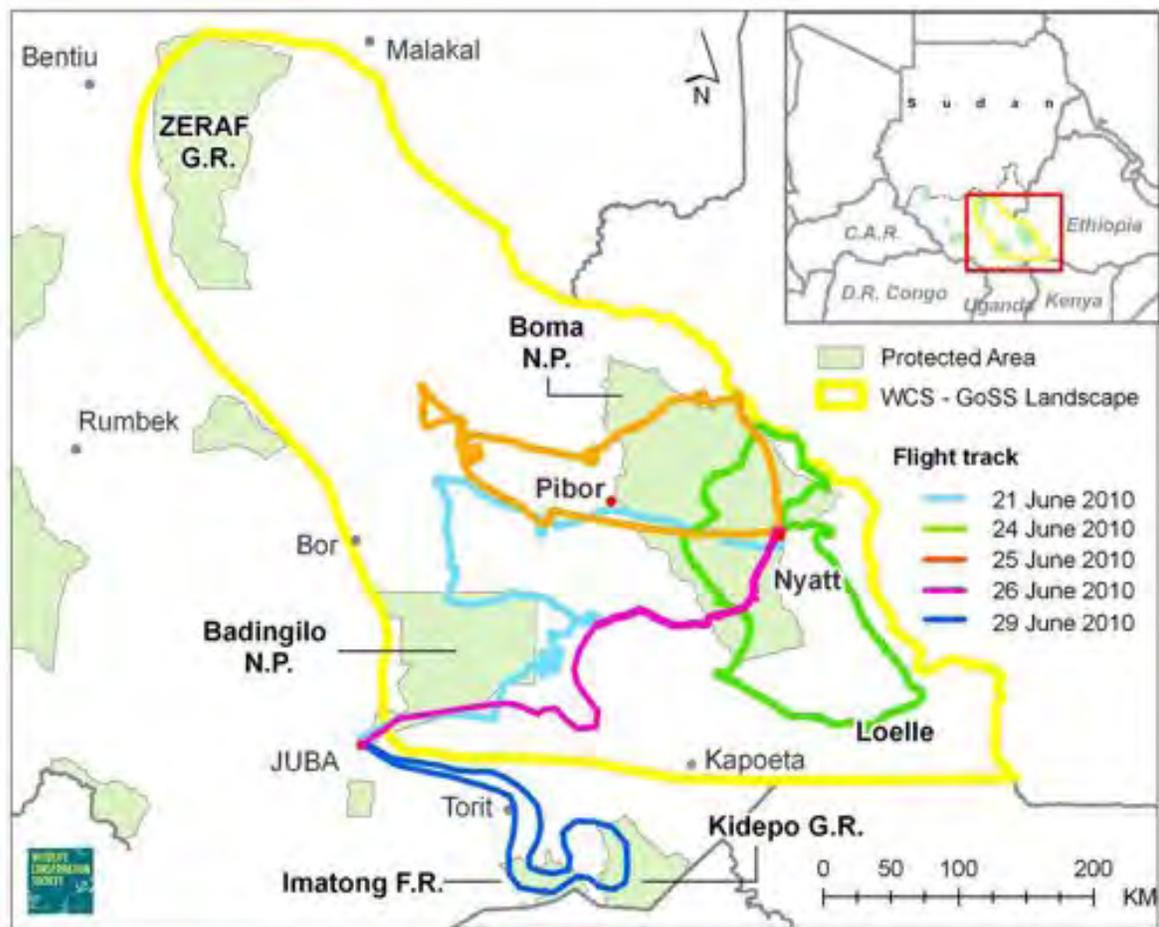
### In Uganda:

Kelly MacTavish-Mungar	Pearl of Africa Tours and Travel Ltd.
Kaddu Sebunya	Chief of Party, Sustainable Tourism in Albertine Rift Project
Jane Goldring	Wild Frontiers
Michael Rourke	The Uganda Safari Company
Jillian Miller	The Gorilla Organization
Jonathan Wright	The Uganda Safari Company

### In Southern Sudan:

Carmelita Maness	USAID Sudan
David Gosney	USAID Sudan
Fraser Tong Kuotwel	Ministry of Wildlife, Conservation and Tourism
Martin Ring Malek	Ministry of Wildlife, Conservation and Tourism
Minasona Lero Peter	Ministry of Wildlife, Conservation and Tourism
Aldo Gwake Lazarus	Ministry of Wildlife, Conservation and Tourism
George Lumori Wani	Ministry of Wildlife, Conservation and Tourism
Omot Akuer Odoulla	Ministry of Wildlife, Conservation and Tourism, Boma
William Lil Ngoroch	Ministry of Wildlife, Conservation and Tourism Boma
Paul Ocilo Odur	Ministry of Wildlife, Conservation and Tourism, Boma
Martin	Ministry of Wildlife, Conservation and Tourism, Boma
Joseph Oroto Graciano	Department of Tourism, MWCT
Kur Mawan	Department of Tourism, MWCT
Kual Mayen	Jonglei Director of Wildlife Services
Jaden Tongun Emilio	Ministry of Agriculture and Forestry
Issac Seme	New Sudan Wildlife Society and MWCT Boma Training Center
Paul Elkan	Wildlife Conservation Society
Sara Elkan	Wildlife Conservation Society
Robert Craig	Wildlife Conservation Society
Lita Jackson Joseph	Wildlife Conservation Society
Falk Grossmann	Wildlife Conservation Society
John Moi Venus	Wildlife Conservation Society
Paul Peter Awol	Wildlife Conservation Society
Charles Tiba	Wildlife Conservation Society
James Guido	Wildlife Conservation Society
Maria Carbo-Penche	Wildlife Conservation Society
Albert Schenk	Wildlife Conservation Society
Michelle Wieland	Wildlife Conservation Society
Michael Lopidia	Wildlife Conservation Society
Simon Gain	Wildlife Conservation Society
Leslie Carver	WCS Consultant on Livelihoods and Small Grant Program
Dr. Rashid Hassan	WCS consultant and advisor to NRMG, University of Pretoria
Simon Naanye	Payam Administrator, Kassangor Payam
Jeremiah Lotiboy Korak	Joint Aid Management (JAM)
Michael Laso	ACROSS International Organization
Steve Lawry	Sudan Property Rights Program, ARD
Mayombo Jambo	University of Juba
Agrey Abate	University of Juba

## ANNEX D: EVALUATION TEAM'S FLIGHT TRACK OVER THE BJJ



## ANNEX E: BJI WORK PLAN TRACKING SHEET

Work Plan Activity Area	FY 2009 Completion text	Date	FY 2010 Work plan Completion Text	Date	Comment
Policy gaps analysis	NRMG designs, adopts, and initiates implementation of strategy to address gaps.	Sep-09			
FY 2009 Annual Report Text: "The NRMG technical committee initiated a review of the various NRM policies and laws in order to identify gaps, conflicts, and problems to be addressed."					
			Policy review and identification of processes proposed to address policy gaps underway	Sep-10	One-year delay and reduced accomplishment. No mention in annual report or new work plan of failure to meet work plan or explanation for deviation
Tourism Policy	Revised [tourism] policy completed by MWCT and submitted to Parliament for adoption	Jun-09			
FY 2009 Annual Report of tourism accomplishment: "WCS provided technical input to the MWCT's tourism policy development." (p. 2). Quarterly reports do not mention failure to achieve activity accomplishment.					
			Tourism policy not mentioned (it is still held up); But, Fourth Quarter states "Design process for writing Tourism Bill"	Sep-10	USAID never formally informed of failure of policy to reach Parliament. Unclear when this will happen from documentation.

Please note that Page 9 of the CA:

(c) Quarterly Program Performance Reports

The Recipient shall submit one copy of the quarterly program performance report to each of the following:

- i) The Cognizant Technical Officer...

These Reports shall include the information described in 22 CFR 225.51(d), to wit:

- (i) A comparison of actual accomplishments with the goals and objectives established for the period, the finding of the investigator, or both...
- (ii) Reasons why established goals were not met, if appropriate....

## ANNEX F: BJI BUDGET AND EXPENDITURES

Actions	Date	Amount
CA signed	2 Dec 08	\$12,642,000
Incremental Funding	2 Dec 08	\$4,342,000
Incremental Funding	28 Feb 10	\$5,000,000
Yet to Obligate		\$3,300,000
WCS Match		\$2,553,307
Match to Date		\$1,798,82
Match still needed		\$754,525

\*WCS possible in-kind match of \$683,469 from purchase of aircraft, generator, and vehicles not included in this analysis

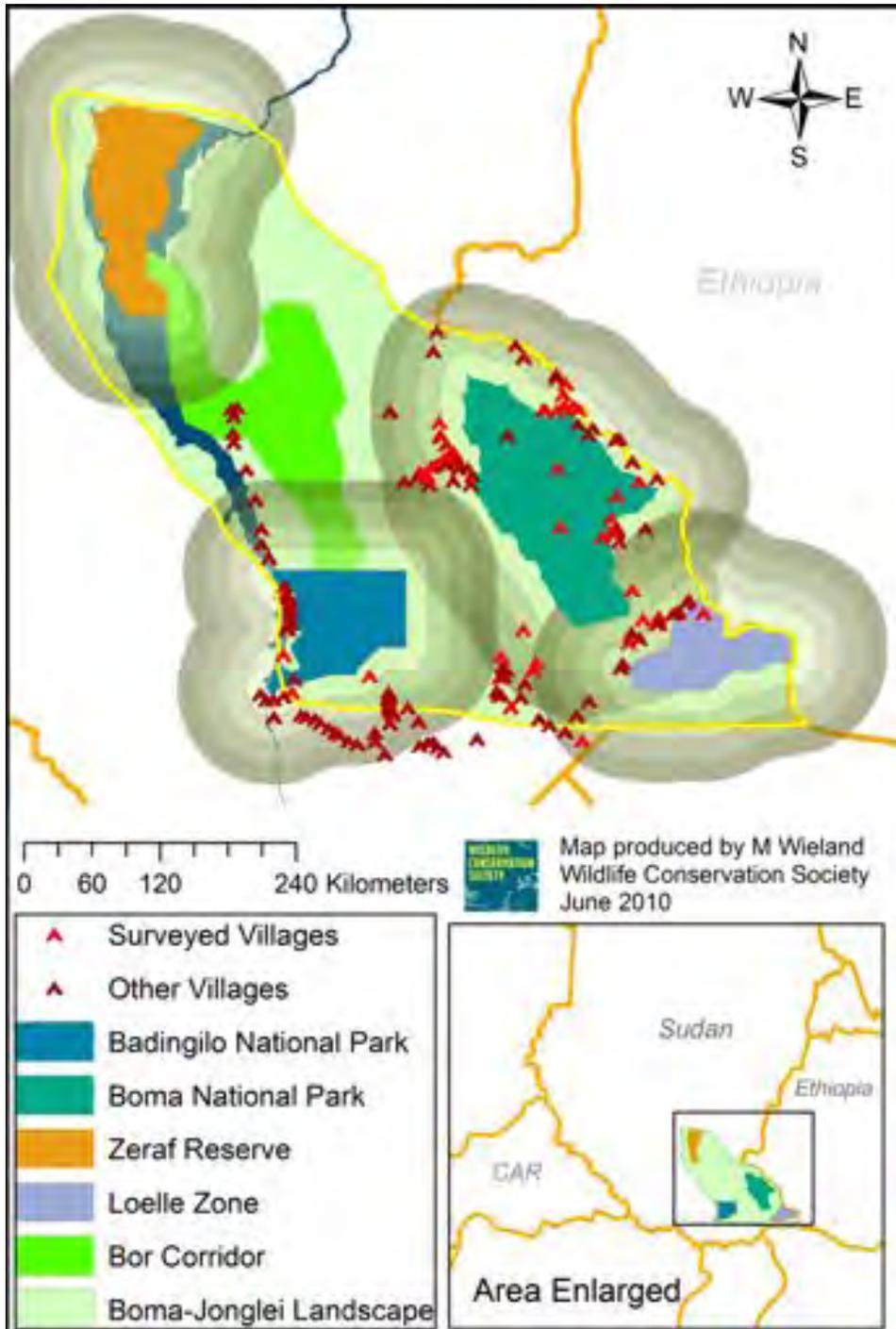
	USAID Budget	Obligations to present	Expenditures (through May, 2010)	Variance
<b>Personnel</b>	3,011,252	2,027,328	858,426	1,168,901
<b>Fringe Benefits</b>	825,861	553,152	367,898	185,254
<b>Travel</b>	2,323,683	1,671,770	449,575	1,222,195
<b>Equipment</b>	403,700	403,700	326,381	77,319
<b>Supplies</b>	630,218	544,585	612,765	-68,180
<b>Contractual</b>	300,000	233,954	0	233,180
<b>Construction</b>	1,038,420	1,038,420	61,379	977,023
<b>Others</b>	2,390,990	1,601,526	1,045,231	556,294
<b>Total Direct Charges</b>	10,924,124	8,074,433	3,721,672	4,352,762
<b>Indirect Charges</b>	1,717,921	1,267,805	601,794	666,011
<b>Total</b>	12,642,045	9,342,240	4,323,466	5,018,773

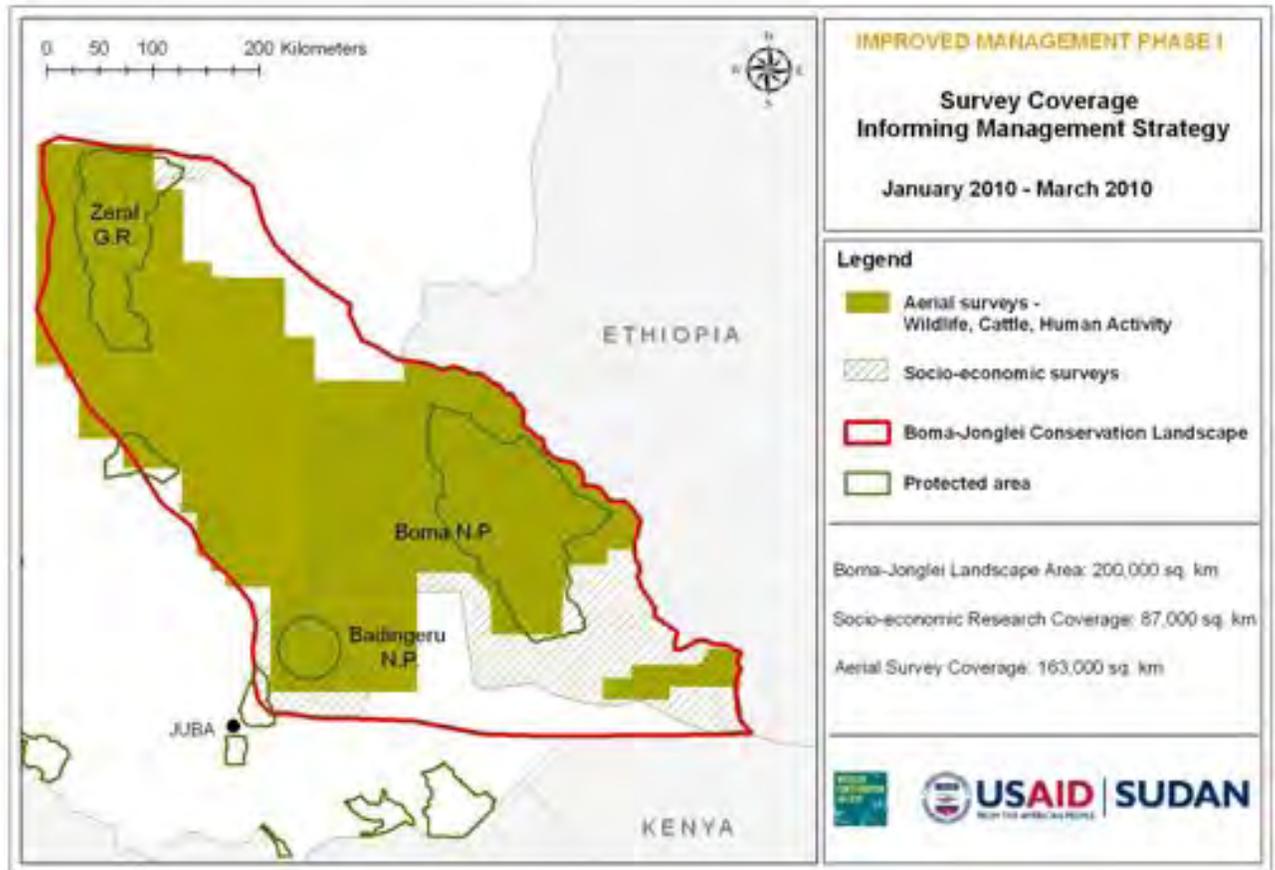
## ANNEX G: LIST OF B JL MEDIA COVERAGE

### List of Selected Media Coverage Related to the Boma-Jonglei Landscape

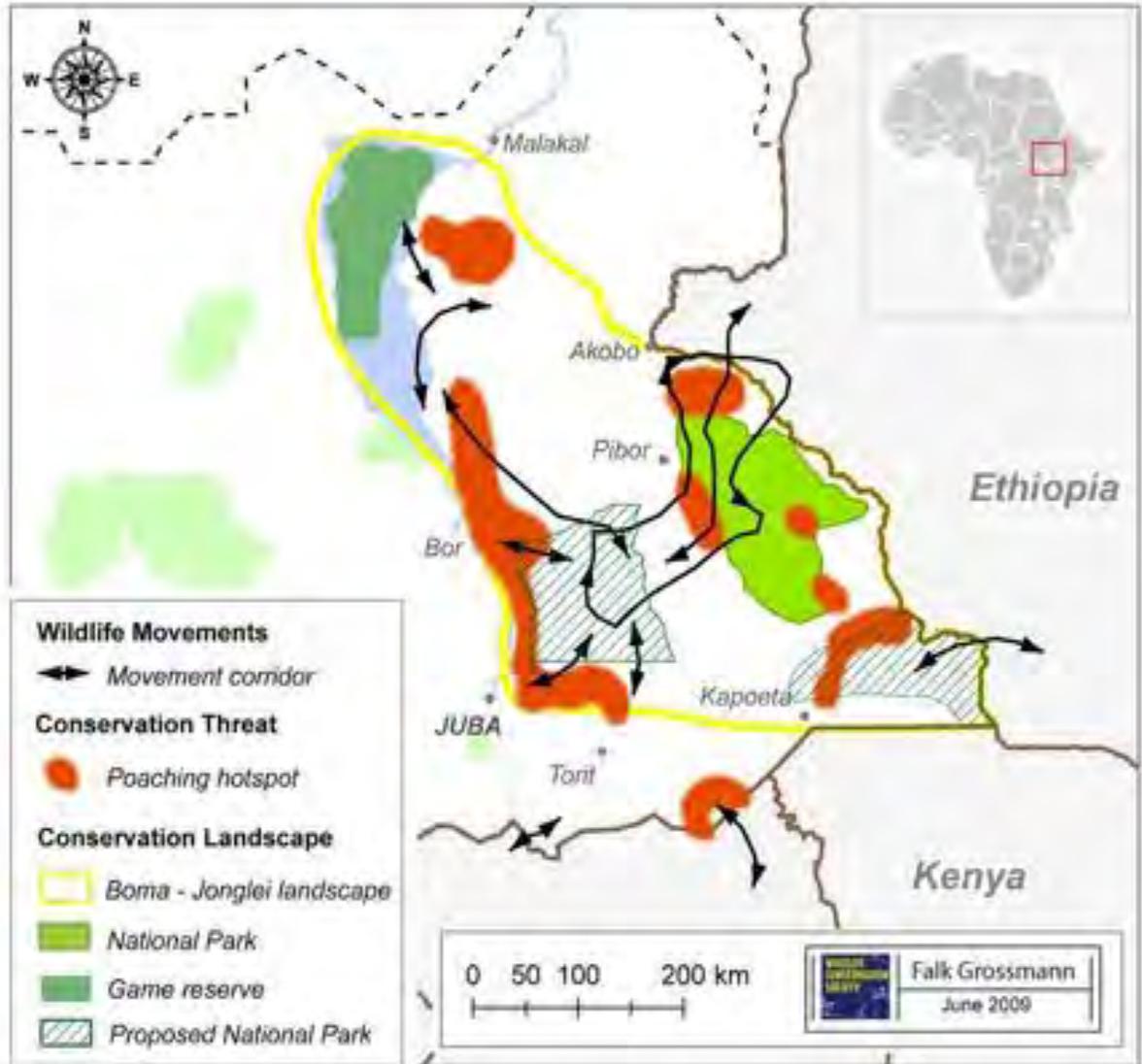
Date	Title	Publisher	Type	Author(s)
April 2007	Wildlife Conservation Plan Moves Forward in Southern Sudan	Mongabay	Online	Rhett Butler
June 2007	In Sudan, an Animal Migration to Rival Serengeti	New York Times	Newspaper (cover story)	Carl Zimmer
June 2007	A Different Sudan	New York Times Editorial	Newspaper	NYT Editorial
June 2007	Massive Animal Herd Survives in Southern Sudan	Reuters	Online	Tim McLaughlin
June 2007	Wildlife Thunders Along Despite War in Sudan	International Herald Tribune	Newspaper/Online	Carl Zimmer
June 2007	The Greatest Migration	TIME Magazine	Magazine/Online	Kristina Dell
June 2007	Sudan: The New Serengeti	Newsweek International, MSNBC	Magazine/Online	Alexandra Poller
June 2007	Surprising Herds Discovered in Southern Sudan	National Geographic	Online	
June 2007	Mass Wildlife Migration	BBC	Online	
June 2007	Sudan's Breathtaking Migration	The Guardian	Online	Ed Pilkington
June 2007	Mass Migration of Wildlife in Sudan	The Telegraph	Online	Paul Eccleston
June 2007	Massive Herds of Animals Found to Still Exist in Southern Sudan	Science Daily	Online	
June 2007	Great Wildlife Migrations of Southern Sudan	PBS Jim Lehrer News Hour	International TV	
June 2007	Wildlife Migrations Discovered in Southern Sudan	ABC, MSNBC, BBC, Fox News; Multiple Networks	International TV	
June 2007	Sudan's Migrating Wildlife	The Today Show	TV/Online	
July 2007	Looking for a New Identity	Economist	Magazine/Online	
November 2007	Wildlife Returns En Masse to South Sudan	Sudan Tribune	Online	
March 2008	Phenomenal Animal Migration in Sudan	ABC Nightly News	International TV/Online	Bob Woodruff, Christine Romo
May 2008	Wildlife Officer Training in Boma Park	Southern Sudan TV	TV	
July 2008	Land of the Giants	CNN Traveler	Online	Yves Stranger
November 2008	End of War Brings Elephants Back to Southern Sudan	Associated Press	Online	Alfred Montague
2008-2009	Boma-Jonglei Landscape	Bradt Travel Guide to Sudan	Book	
March 2009	Jonglei Arrests Poachers	Sudan Tribune	Online	
July 2009	An Odd Deal Over Land: Are Gulf Arabs Taking a Chunk of South Sudan for Themselves?	The Economist	Magazine/Online	Peter Lokarto Marsu
August 2009	South Sudan Collars to Demystify Migrations	Reuters	Online	Skye Wheeler
August 2009	South Sudan Collars Wild Animals to Develop Eco-tourism	Sudan Tribune	Online	
August 2009	Satellite Wildlife Tracking, First Time in Southern Sudan	Juba Post	Newspaper	
August 2009	South Sudan Wildlife Conservation Makes Progress	eTN Africa	Online	Wolfgang H. Thome
September 2009	Back to the Bush: Relaunching Wildlife Conservation in Southern Sudan	SWARA Magazine: East African Wildlife Society	Magazine	Skye Wheeler
October 2009	As War Becomes a Memory, a Land Calls Back its Wildlife	Washington Post Foreign Service	Newspaper/Online	Stephanie McCrummen
October 2009	After Sudan's Civil War, Where the Wild Things Are	National Public Radio	Online/Radio	Gwen Thompkins
December 2009	War Zone Could Be New Serengeti	CNN	International TV/Online	David McKenzie, Ingrid Formanek
January 2010	Southern Sudan: Oil Exploitation vs. Wildlife Protection	National Public Radio	Online	Miguel Juarez
January 2010	South Sudan calls for immediate stoppage of wildlife killing	Sudan Tribune	Online	Ngor Arol Garang
March 2010	Studying the Wildlife Migrations of Southern Sudan	Southern Sudan TV	TV	
April 2010	Draining Africa's Eden	Geographical	Magazine	Charlie Furniss
May 2010	Enforcing the Wildlife Law in Southern Sudan	Southern Sudan TV	TV	
May 2010	Southern Sudan, Biodiversity Remains Hotspot	The Citizen	Newspaper	Ater Garang Ariath
May 2010	Wildlife Stakeholders Forge Ahead on Conservation	The Citizen	Newspaper	Ater Garang Ariath

## ANNEX H: MAP OF COMMUNITIES SURVEYED AND MAP OF SURVEY COVERAGE

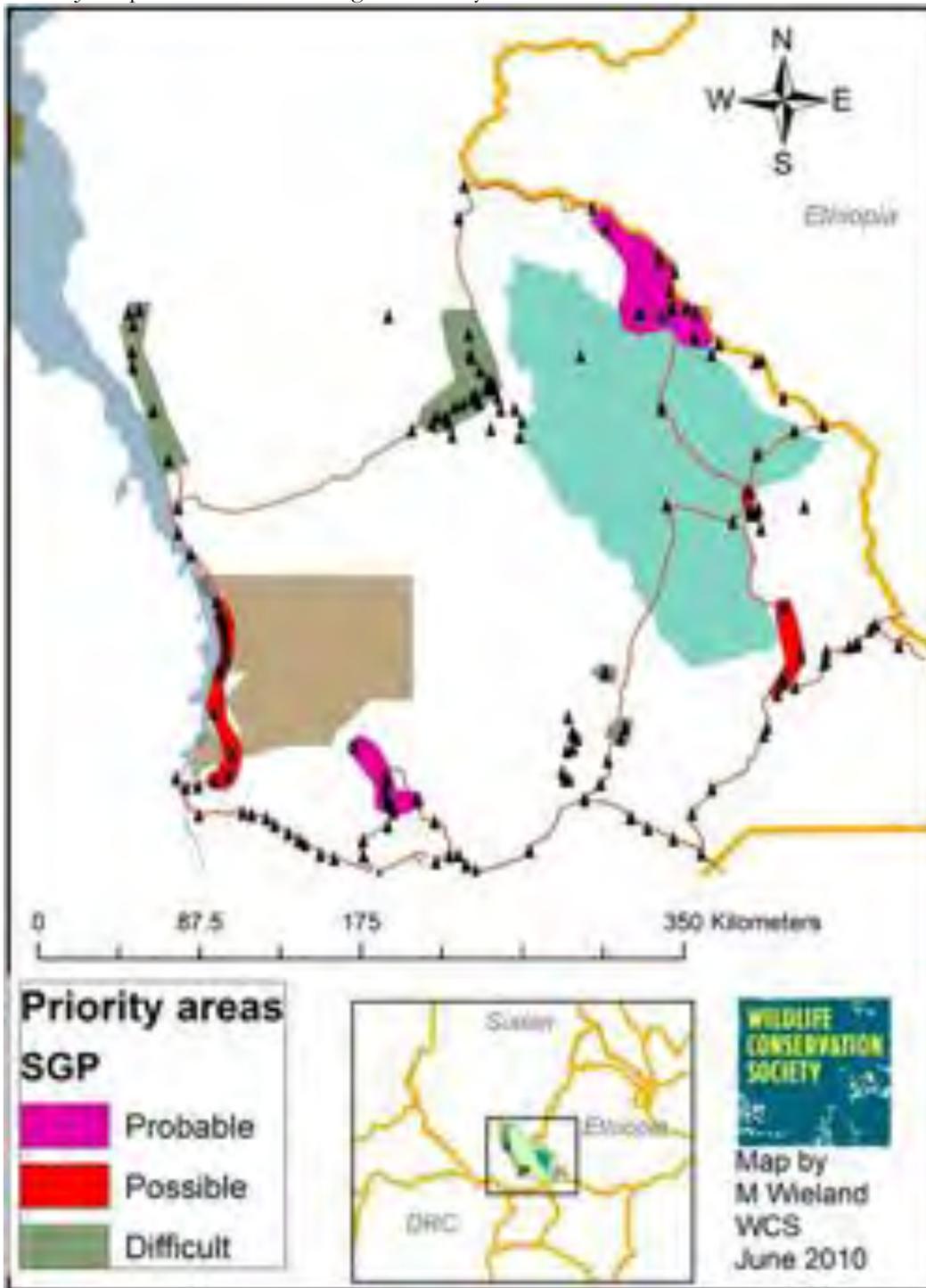




## ANNEX I: MAP OF MIGRATION AND POACHING HOTSPOTS



Annex J: Map of Small Grants Program Priority Areas



## ANNEX K: MAP OF PROPOSED EXPANSION OF NATIONAL PARK COVERAGE IN BJJ

