

**A Preliminary Examination of Public Private
Partnerships in National Park Management in
Zambia**

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1. Introduction and Summary Remarks

Zambia has an extensive mosaic of protected wildlife areas. Within this mosaic there is a considerable capacity to provide both refuge areas for long-term ecological processes and biodiversity conservation, and more immediate, but sustainable, recreational benefits. These areas also offer opportunities to recover much of the cost of maintaining the estate, as well as making major multiplier contributions to the economy and its diversification.

In practice a number of factors have prevented the establishment of this cushion of self-sustainability – factors that now represent a significant threat to the continued existence of the estate as a viable conservation entity. Concomitant they also threaten present and future economic opportunities.

Most notable among these factors is the continued ambiguity over ownership and user rights in the country's wildlife hunting areas – the game management areas (GMAs). These secondary protected areas make a disproportionate geographic (22%) and financial (approximately 70%) contribution to the protected area complex. On one hand GMAs fall under traditional customary authority. On another they are within district areas that are the responsibility of the local government wing of central government for general planning and administration purposes. But within the context of the Wildlife Act of 1998 the Zambia Wildlife Authority (ZAWA) also has responsibility for the administration of wildlife-related matters in GMAs.

The recent resurgent powers of traditional authorities, combined with the extensive and often unproductive nature of these GMAs represent difficulties for ZAWA. There are calls on its limited resources to police these areas, but conversely, its call on wildlife-related financial returns from these areas is increasingly contested by communities within them.

A second, influential, but often overlooked factor has been the significant decline in government contributions to the wildlife sector since the early 1970's. The very real outcome of this financial marginalisation has been the progressive removal of effective management from all but a few core national parks. These exceptions being areas where tourist demand has required management inputs to maintain revenue streams.

In an attempt to address both these issues a strategic decision was made in the early 2000's to change the management structure and approach for the wildlife estate from a departmental cost centre to (theoretically) an autonomous, parastatal profit centre. The assumption was that an ability to retain and manage 100% of all revenues would reverse financial and management constraints. So far the strategy has been less than a resounding success.

One of the reasons cited for ZAWA's underperformance has been an overall shortage of staff, combined with a paucity of staff with the necessary training in and work experience with modern management skills. Where applicable, this factor is the outcome of long-term under-investment in human resource development.

But a more important causative factor has been the failure by government to appreciate that it was, in effect, establishing a completely new business entity, albeit with major conservation responsibilities. The subsequent disjointed start-up process for the entity and a failure to fully capitalise the venture has had a predictable outcome.

Panaceas are not easy to identify at this stage, but possible reversals of this situation must be heavily conditional on a major shift in understanding of the nature of the wildlife sector in government. Essential issues are a) that it should be a productive sector, and b) ZAWA is essentially a public-sector, contracted, managing agency and needs to have clear objectives and a well structured, disciplined and transparent system for reporting its performance. Widely agreed, essential pre-requisites for a turn around are: much higher, levels of investment; and a governance structure overseeing ZAWA, with the experience and skills to demand and monitor appropriate performance against these investments.

But these must be matched by more innovative and outward oriented approaches to managing the wildlife estate – and ZAWA as an organisation. Public-private partnerships (PPPs) in wildlife management are one of a number of possible management solutions that could fit these pre-requisites (while also being capable of making major contributions to the performance of the sector).

If one assumes a broad definition of PPPs, these solutions already have been tried by ZAWA on an exploratory basis in a number of national parks. But each partnership agreement is so different and the time frame in many cases so short that meaningful conclusions are inappropriate at this stage.

One conclusion can be noted; that some management objectives and associated management functions exist in those national parks where PPPs have been applied, which is generally not the case in those where partnerships do not exist.

This paper concludes that public-private partnerships, if effectively structured, offer several advantages over traditional national park management methods:

- i) they reduce ZAWA's day-to-day administrative management responsibility in the wildlife estate, thus offering opportunities for the institution to progressively specialise its functions to providing a more effective regulatory and policy function - and such consulting and technical advisory services as it chooses to provide;
- ii) per se, they increase the diversity and competitiveness of management in the wildlife areas - by virtue of the involvement of several different management organisations;
- iii) they spread the financial resource base away from government grant aid and direct revenue to include research, bequest, tax offset, and wider investment opportunities than cannot easily be accessed by ZAWA.

But to realise these advantages there are several prior inputs:

- a) there is need for an improved PPP agreement format that would determine among other things:
 - the essential, core, management and monitoring functions of each partner;
 - options for management functions that will match the needs of specific wildlife areas;
 - flexible, but clearly structured financial arrangements;
 - clearly structured levels of authority and responsibility allocated to the partners;
 - unlimited authority for private partners to source funding and investment, provided it meets area management, financial and governance criteria;
- b) ZAWA will need to develop a more effective PPP monitoring capacity with the experience and training sufficient to:
 - establish targets for wildlife areas under PPP arrangements that correspond to its overall protected area plans;
 - negotiate effective PPP agreements;
 - participate in the subsequent partnership; and to
 - monitor partnership performance against ZAWA targets
- c) an essential first step is to develop an effective PPP database for existing operations from which preliminary, guiding conclusions can be drawn.

2. Historical Background

Zambia has developed a protected wildlife area system that covers approximately 200,000 square kilometres. It comprises 19 national parks and 3 bird sanctuaries covering approximately 8% of Zambia and a supporting system of 34 hunting areas (called game management areas [GMAs]), that extend over a further 22% of the country.

This protected wildlife area complex has traditionally been managed by government through a departmental administration system. That system has changed its structure and focus over the years, but has always retained its departmental identity. This direct link with government had the disadvantage that as national financial resources declined from the 1970's, there was a corresponding reduction in government funding to the Department. With it came a budgetary focus on paying essential emoluments and the effective elimination of resources for management work – a common experience in post-colonial African wildlife management institutions.

As a mechanism for reducing this marginalisation, the Department of National Parks and Wildlife Service (NPWS) initiated a revolving fund in the early 1980's by which it could retain a proportion of hunting revenues. But even this could not reverse the management collapse. So in the late 1990's, a decision was made to transfer management of the wildlife estate to a statutory body called the Zambia Wildlife Authority (ZAWA), that

ideally would have complete control over its financial resources. It was believed that with improved conditions of service there would be a greater motivation for staff performance, and personal and career development. Also the independent status would offer the flexibility needed to retain and allocate financial resources as they were needed.

The organisation faced two difficulties from the outset. Firstly government was unable to capitalise the new institution adequately, or to remove all the inherited debt of its predecessor (NPWS). Secondly, the management status of the wildlife estate had already collapsed to an alarming degree and restoring it was going to need: time; substantial resources; and protection from political pressures.

These two conundrums were examined during the development of ZAWA's first Five Year Strategic Plan in 2002¹. One avenue of opportunity emerged that could expand the extent of the wildlife estate under effective management, without incurring additional costs for ZAWA. Public-private partnerships (PPPs) offered the possibility of private sector businesses, conservation NGOs, or altruistic environmental foundations, taking over some, or all of the management functions in selected wildlife protected areas; securing and using their own financial resources.

This paper examines the nature of the relationships that emerged from that concept and suggests possible ways forward.

3. The Zambian Wildlife Estate

3.1 The Structure of the Wildlife Estate

Zambia's 19 National Parks and 34 GMAs are widely distributed and reasonably well matched against areas of ecological interest, as shown schematically in Map 1.

Under the NPWS structure these protected areas were arranged under 9 provincial units. One of ZAWA's key strategies for improved management success was to reduce the complexity of the organisation structure and administrative staffing needs - so that management was to be highly devolved to only 4 management regions, each overseeing a cluster of national parks and GMAs grouped into an Area Management Unit (AMU).

Thus under the new Zambia Wildlife Authority all national parks are currently grouped into AMUs, each reporting to Headquarters through 4 Management Regions, as shown in Table 1 (the national parks in each AMU are shaded).

¹ Zambia Wildlife Authority, 2002: Five-Year Strategic Plan 2003 - 2007

Map 1 Eco-regions and National Parks

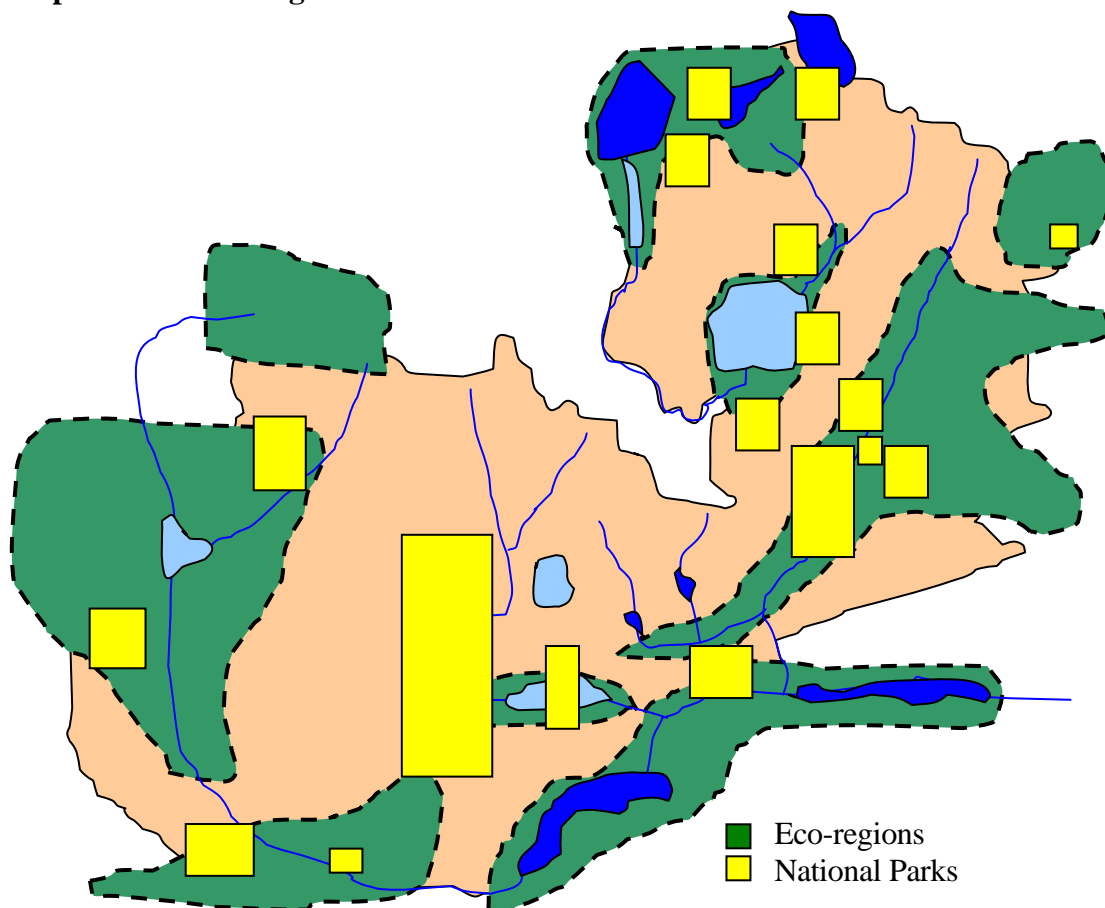


Table 1 Zambia’s Clustering of National Parks and Game Management Areas Within Management Regions and Area Management Units

1. Eastern Region	
<i>South Luangwa AMU</i>	<i>East Luangwa AMU</i>
South Luangwa NP	Lukusuzi NP
Lupande GMA	Luambe NP
Sandwe GMA	Nyika NP
West Petauke GMA	East Musulangu GMA
2. Central Region	
<i>Lower Zambezi AMU</i>	<i>Kafue Flats AMU</i>
Lower Zambezi NP	Lochinvar NP
Rufunsa GMA	Blue Lagoon NP
Chiawa GMA	Kafue Flats GMA
Luano GMA	
Machiya-Funguluwe GMA	

Table 1 Zambia’s Clustering of National Parks and Game Management Areas Within Management Regions and Area Management Units (Cont’d.)

<i>Mosi oa Tunya AMU</i>	
Mosi oa Tunya NP	
Sichifulo GMA	
Mulobezi GMA	
3. Western Region	
<i>Chunga AMU</i>	<i>West AMU</i>
Kafue NP (north)	Sioma Ngwezi NP
Kasonso-Busanga GMA	Liuwa Plain NP
Lunga-Luswishi GMA	West Zambezi GMA (upper and lower)
Mumbwa GMA	
Namwala GMA	
<i>Ngoma AMU</i>	<i>Lunga AMU</i>
Kafue NP (south)	West Lunga NP
Nakala GMA	Lukwakwa GMA
Bilili Springs GMA	Chibwika-Ntambu GMA
	Musele-Matebo GMA
	Chizera GMA
4. Northern Region	
<i>Bangweulu AMU</i>	<i>Mansa AMU</i>
North Luangwa NP	Lusenga Plain NP
Lavushi Manda NP	Kasanka NP
Isangano NP	Chisomo GMA
Munyamadzi GMA	Kafinda GMA
West Musalangu GMA	Bangweulu GMA (part)
Mukungule GMA	Kalasa Mukosa GMA
Bangweulu GMA (part, including Chikuni)	Chambeshi GMA
	Luwingu GMA
<i>Nsumbu AMU</i>	
Sumbu NP	
Mweru wa Ntipa NP	
Kaputa GMA	
Tondwa GMA	

3.2 Background to the National Park System

Zambia's national park system is based on recommendations coming from a Report on the Faunal Survey of Northern Rhodesia, by Col. C.R.S. Pitman, published in 1934.² The criteria used by Pitman and his team to justify the creation of NPs were:

- the presence of species needing special protection;
- areas unsuited to agriculture, either because the soils were unsuitable for cultivation, or because the presence of tsetse flies precluding keeping domestic animals; and
- the absence, or low density of human settlement.

In general, the first of these criteria was not given high priority. The only species considered for special protection at the time were elephant and rhino. But in fact wherever these two species occurred in numbers, tsetse infestation also existed, which anyway precluded most other land uses. The Lechwe antelope genus is one of the few endemic, or nearly endemic, mammal groups in Zambia, but this factor had little influence on protection measures outside the Kafue Flats.

When Zambia's national parks were being established South Africa's Kruger National Park served as the model – as for most of the rest of Africa. The model focussed on identifying extensive tracts of land to be designated primarily for the conservation of wildlife, comprising a large diversity of animal species in their natural habitat. In this context, the Luangwa Valley and the Kafue River basin were identified as eminently suitable for classification as large national parks. They had the added advantage that few people would be displaced in the process.

Pitman referred to smaller areas for the protection of particular species as "game reserves", such the Liuwa Plains and the Kasanka wetlands and forest. However, in changes to the legislation in the 1970's the use of "game reserves" was removed and all national parks then had equal management status, regardless of the original individual *raison d'être*s. A similar and simultaneous "blurring" of conservation roles occurred in the forestry sector where national and local forests replaced protected forest areas and botanical reserves. Regrettably, the new 1970's natural resource legislation saw no benefit in trying to link forest and wildlife protected areas in any way. This has constrained subsequent options for creating realistic wildlife corridors and other recent innovations in protected area design.

3.3 Game Management Areas

Game management areas were created, in the main, to serve as buffer zones between national parks and farming areas. Not only were they to provide opportunities for hunting, but also to act to contain the mammalian hosts of the tsetse fly within designated areas, thus preventing the spread of the domestic livestock disease trypanosomiasis ("Tryps") into farming areas.

² Pitman, Col. C.R. S., Report on the Faunal Survey of Northern Rhodesia, 1934

The rationale for the GMAs was the prioritisation of wildlife-based land use practices as a viable alternative to commercial agriculture in areas of low agricultural potential. However, from the early 1980's it was progressively recognised that they can only achieve this potential if the resident communities can balance the disadvantages of supporting wildlife populations against benefit streams derived from their contributions to conservation. Such benefit should, theoretically, be of sufficient magnitude to discourage destructive subsistence foraging and cultivation, and other land uses and unplanned developments that are in conflict with conservation efforts.

Therefore, from 1982 efforts were made by the then Department of National Parks and Wildlife Service to create a wildlife utilisation cycle that incorporated the feedback of financial benefits to communities in GMAs. There has been substantial government and donor support over the subsequent 20 years to Zambia's Administrative Management Design for Game Management Areas (ADMADe)-approach and other similar methodologies for community-based natural resources management (CBNRM) in the GMAs. But there is still a long way to go to develop this concept into a viable working system. One conceptual issue that has negated many otherwise useful initiatives is that the fundamental concept of "community" has proved to be an increasingly elusive commodity, as the market forces and the associated dynamics of development progressively take hold in rural areas.

4. Management Options in the Wildlife Estate

The specific problems with GMA management emphasises the need for management options in the wildlife estate increasingly to take cognisance of the economic landscape as a whole. Wildlife solutions no longer can be viewed in isolation. Land is an increasingly precious commodity, land resources on, or under this land, themselves are increasingly inter-competitive through smaller and smaller variances in gross margins offered to potential investors. Wildlife and wildlife areas have at the very least to compete in the return of land rentals, in economic terms, if not in direct financial returns. Thus the need for new approaches to conservation are being constantly emphasised and time to create elegant solutions is limited.

4.1 Zambia's Wildlife Estate in an Ecosystems Context

The concepts of eco-regions and conservation complexes are gradually transforming management approaches to wildlife protected areas worldwide. Eco-regions are land areas within one, or a cluster of linked ecosystems. Conservation complexes are groupings of different protected areas that have the same ecosystems management approach.

Biodiversity research has identified 10 eco-regions in Zambia.³ Three are exclusive to Zambia; four have their major part in Zambia; and in three more the Zambian section is marginal.

³ WWF, 2002: Miombo Ecoregions Report, Harare

Zambia's protected wildlife areas originally were structured so that one or more NPs formed a core conservation area, surrounded by one or more GMAs. This configuration was based on the concept of a national park protecting a core range and breeding area for game animals, while the adjoining GMAs were buffer zones separating wildlife areas from commercial farming areas and were areas where the wildlife resource could be harvested.

At the time of inception this concept appeared sensible. However, once a wider, more dynamic eco-system perspective is considered (where there is no convenient separation between what an animal does or needs in a national park, and what it may find essential for its survival in the GMA), the simplistic GMA buffer zone concept loses some of its appeal. Then a more complex protected area system plan is needed to create biological and management coherence over a mosaic of individual protected areas.

ZAWA introduced the concept of “conservation clusters” to overcome structural constraints in the national park-GMA approach. The conservation cluster approach offers an ecological basis for conservation management by specifically identifying and linking different forms of protected area under a single management approach. This also helps to focus Zambia’s approaches to its responsibilities under international conservation conventions.

4.2 Protected Area Design and Wildlife Conservation

Geographically, Zambia's wildlife estate falls into ten clusters, although two small national parks (NPs); Nyika in the north-east, and Mosi oa Tunya in the south-west; are rather removed from neighbouring protected wildlife areas. Table 2 reveals a good match between the Zambian protected area clusters and the country’s eco-regions. The most serious mismatches are in North-Western Province where the West Lunga NP and its associated GMAs are remote from both the biodiversity-rich Zambezi source area and the upper Zambezi floodplain, and do not really share their biodiversity. Furthermore, the Kafue National Park does not fall within any regional biodiversity complex.

But a more detailed scrutiny further reveals that some of the other national parks are not fully representative of eco-regions. The three NPs in the Chambeshi-Bangweulu conservation complex are all marginal to its core eco-systems, and do not have the two most important species, the Black Lechwe and the Shoebill Stork.

In GMAs there are other representation problems. While these areas are important in a commercial context, their function in biodiversity conservation is limited because their main purpose is the controlled hunting of game animals. Moreover, GMAs which are not directly linked with a national park (as the core range area and protected breeding area for game animals), are vulnerable in a sustainability context, and a more satisfactory arrangement needs consideration.

Table 2 Eco-Regions in Relation to Zambia's Protected Areas

Eco-Regions Neighbouring countries Status of Zambian portion	Conservation Clusters – National Parks; GMAs
Zambezi headwaters; Angola, DRC Zambia: high priority	None
Upper Zambezi floodplain; Angola Zambia: high priority	West Lunga NP; Liuwa Plains NP; 4 GMAs
Kalahari "4-Corners"; Zimbabwe, Botswana, Namibia Zambia: marginal	Sioma Ngwezi NP; Mosi-oa-Tunya; Part of West Zambezi GMA
None Zambia only	Kafue NP; 8 GMAs
Kafue floodplain Zambia: exclusive	Blue Lagoon NP, Lochinvar NP; 1 GMA
Mid-Zambezi Valley; Zimbabwe, Mozambique Zambia: marginal	Lower Zambezi NP; 2 GMAs
Luangwa-Luano rift complex Zambia: exclusive	N Luangwa NP, S Luangwa NP, Luambe NP, Lukusuzi NP; 9 GMAs
Chambeshi-Bangweulu basin Zambia: exclusive	Isangano NP, Kasanka NP, Lavushi Manda NP; 7 GMAs
Luapula-Mweru Wantipa; DRC Zambia: high priority	Mweru Wa Ntipa NP, Sumbu NP, Lusenga Plain NP; 2 GMA
Lake Tanganyika; DRC, Tanzania Zambia: high priority	Sumbu NP; 1 GMA
Nyika massif; Malawi Zambia: marginal	Nyika NP; No GMA

One possibility in specific, remote and poorly settled areas is to raise the protected area status of selected parts of GMAs to national park, or an intermediary status that might be classified as a wildlife reserve. This is under consideration by a United Nations Development Programme - Global Environmental Fund project examining possible reclassification of protected areas. Three possible candidate areas for classification upgrade that have been identified in previous work are: 1) the Bangweulu Swamp area (to protect the prime breeding area of the Black Lechwe, Tsessebe and Shoebill Stork); 2) the three GMAs in the southern Luangwa-Lukusashi-Luano rift complex (Chisomo, West Petauke and Luano GMAs), as a remote, low human population density, refuge area for large mammal species; and 3) an area generally agreed to require additional representative wildlife protected areas is Zambia's high rainfall/high biodiversity north-western boundary with the Democratic Republic of the Congo, including the Zambezi River source.

4.3 Wildlife Management Strategies

Preparatory work done in the lead-up to the establishment of ZAWA included the production of a Draft Master Plan⁴ for the management of the wildlife estate. This document followed the logic described in Section 4.1 above, and worked from the premise that restoring effective management in all 19 national parks was not possible in the short term. Consequently national parks were prioritised for management purposes under a four category classification, based on three classifying parameters: a) conservation and heritage values; b) economic and recreational values; and c) the feasibility of management implementation.

On the basis of this classification the 19 national parks were classified as shown in Table 3 - in declining order in which resource application could be justified - in circumstances where resources are very limited..

Table 3 Management Classification of Zambia’s National Parks

Priority 1 (Revenue Parks)	South Luangwa
	Mosi oa Tunya
	Lower Zambezi
	Kafue
Priority 2 (Conservation Parks)	
	North Luangwa
	Kasanka
	Lochinvar
	Blue Lagoon
Priority 3 (Special/Contract) Parks	
	Chikuni (still to be classified)
	Liuwa Plain
	Sioma Ngwezi
	Lavushi Manda
	Nyika
	Lukusuzi
Priority 4 (Review) Parks	
	Luambe
	Mweru wa Ntipa
	Lusenga Plain
	Isangano

Resource Parks were considered capable of recovering their management costs. Conservation Parks were seen as important wildlife species areas justifying some continuing investment. Special/Contract Parks were identified for possible contracting out to private developers to remove necessary investment needs from ZAWA’s own budget. And category four (Review Parks) were considered to be significantly degraded and were recommended for studies to identify alternative land uses.

⁴ EDF/National Parks and Wildlife Service Project, 1998: Draft Master Plan, Transtec

Since the Draft Master Plan work there has been little formal follow-up, but the ZAWA Strategic Plan of November 2002 concluded that until every effort had been made to secure the whole wildlife estate, no national parks should be removed from the system. It was in this context that the concept of PPPs was introduced for non-core national parks. Scenario 3 of the Strategic Plan implementation anticipated 30% of the estate by area outsourced or transferred to PPP, or community responsibility by the end of the plan period (2007). The actual outcome has been somewhat different and is examined next.

5. Preliminary Analysis of Public-Private Partnerships in Zambian National Parks Management

5.1 Existing Public-Private Partnership Arrangements

Public-private partnerships have evolved in the wildlife estate over the last twenty years from an early beginning with the Kasanka National Park in 1986. Currently eight national parks (42% of all the national parks and 70% of the total national park area) are under some form of partnership management. These are shown in Table 4 with the oldest relationship at the top of the table. Ironically, only 2 of the 10 NPs identified for outsourcing are among the PPP list, but all 4 of the Revenue NPs are.

The management arrangement has been arbitrarily classified into two groups – those where the partner has management responsibility and those where the partner only provides resources. The latter group is not a PPP in the conventional sense, and could be better termed a Public-Donor Partnership (PDP), but the PPP terminology has been used in the context of evaluating the different partnerships in wildlife management.

5.1.1 Group 1 Parks

The Group 1 PPPs operate under memoranda of understanding with ZAWA that determine the respective responsibilities of the parties. In all Group 1 cases responsibility for day-to-day management has been transferred to the private partner.

The Kasanka and North Luangwa National Parks are the oldest working models, but while these two, and indeed each of the four Group 1 PPP national parks, have a general objective of sound park management, they each operated with a different focus – as highlighted in Table 4.

Two sub-groups under Group 1 may also be inferred: a) those where management is by private company – where commercial objectives can be expected to have higher priority (Liuwa Plains – African Parks); and b) others managed by NGOs – where research, conservation and/or community conservation objectives can be expected to be focal areas (North Luangwa – Frankfurt Zoological Society; Luambe – Cologne Zoo).

5.1.2 Group 2 Parks

The Group 2 PPPs do not involve delegated management. Instead a partner organisation has accepted responsibility for securing financial and/or logistical resources for the some or all of the national park's capital, or management costs, but with ZAWA still retaining full management control. Again subtle differences may be

identified between parks funded directly from bilateral or multilateral donor sources (South Luangwa – Royal Norwegian Embassy; Kafue and Mosi oa Tunya – World Bank), and those where a donor may be funding, but this is combined with fund raising efforts from an NGO (Lower Zambezi – Conservation Lower Zambezi).

Table 4 Public-Private Arrangements in National Park Management

National Park	Partners	Period	Management Focus
Group 1 – Formal Memoranda of Understanding Determine Management			
Kasanka	Kasanka Trust	1988 - 2006	Research Community outreach Animal reintroductions Law enforcement Infrastructure Tourism
North Luangwa	Owens Foundation, then Frankfurt Zoological Society	1992 - 1997 1997 - 2006	Law enforcement Community outreach Rhino reintroduction Tourism supervision
Liuwa Plains	African Parks	2004 - 2006	Tourism development Law enforcement Species reintroductions Community outreach
Luambe	Cologne Zoo	2004 - 2006	Research Law enforcement Some tourism
Group 2 – Financial Support Arrangements			
South Luangwa	LIRD, then SLAMU/Royal Norwegian Embassy *1	1988 – 1993 1993 – 2006	Financial support to: Law enforcement Infrastructure development Tourism management Community outreach
Lower Zambezi	Conservation Lower Zambezi/Royal Danish Embassy/Royal Norwegian Embassy	2001 - 2006	Financial and logistical support to: Law enforcement Research support Community outreach
Kafue	World Bank/Royal Norwegian Embassy	2005 – 2006	Financial support to: Technical assistance Law enforcement Infrastructure development Tourism development
Mosi oa Tunya	World Bank	2005 - 2006	Financial support to: Technical assistance Law enforcement Infrastructure development Tourism development

5.2 Evaluating the Performance of PPP National Parks

Unfortunately there is no available dataset that can assess the performance of existing PPPs, or compare them against ZAWA's overall performance. This lack of baseline information is a primary constraint in wildlife management in Zambia, but is a common problem in developing countries.⁵

In order to establish an approximate position on PPP performances an attempt has been made by this study to set out possible monitoring parameters and then to populate elementary databases from immediately available information. This is not without its problems, but the approach is useful in an additional way in that missing bits and patterns of information rapidly become apparent. These missing bits can then be collected directly, but the knowledge can then also be used in subsequent work to build capacities where necessary.

Fourteen criteria have been established, each with sub-headings (see Annex 1):

- 1) Institutional issues
- 2) Staffing
- 3) Corporate finances
- 4) Expenditure
- 5) Income
- 6) National Park entry fees
- 7) Tourism
- 8) Law enforcement
- 9) Works
- 10) Research
- 11) Planning
- 12) Ecological characteristics (wildlife population and habitat data)
- 13) Community involvement
- 14) Overall objectives

Attempts were made to contact all organisations involved in PPP national park management, but in the time available responses were only received from two. The tables in Annex 2 sets out the findings for ZAWA (taking its overall corporate performance as a yardstick against which to measure the performance of PPPs and PDPs); compared with the two responses received from PPPs/PDPs (one Group 1 [Kasanka] and one Group 2 [South Luangwa]).

5.2.1 ZAWA Base Case

The base case for the summarised performance of ZAWA as a corporate entity offers two key conclusions:

- i) Unless there is information that was not revealed, the ZAWA management database itself is inadequate for effective management and monitoring purposes for the organisation itself. Discussions with ZAWA Directors

⁵ International Institute for Environment and Development, Poverty and Conservation Learning Group Bulletin, Issue 4, June 2006

suggest that key elements such as human resources have no databases that can be accessed immediately (outside the payroll list). Income and expenditure data is not in an integrated format (i.e. all sources of revenue and all expenditures in one database). Further, there is no summary of infrastructural information at Headquarters; and wildlife population monitoring data are in separate files and not designed to allow time series monitoring;

- ii) although a close examination of the financial records of ZAWA was not possible, information on the financial status of the organisation from Annual Reports for the four years that were monitored (2002 to 2005), shows the disturbing magnitude of the difficulties being faced by the organisation. Credibly, turnover and assets both show growth (although assets value declined slightly in 2005), but the rate of growth is declining in both categories. Data from 2005 shows an increase in debtors (indicating that debts are not being collected effectively - by an organisation with severe cash flow problems) after a significant improvement in 2004.

Other financial statistics are also of concern:

- creditors represent 107% of ZAWA's total turnover and nearly doubled over the five-year period to US\$ 6.4 million;
- total income is approximately US\$ 14 million of which only 42% is internally generated (US\$ 5.9 million) and 67% of that is still contributed from hunting-related activities;
- turnover is stated as US\$ 5.9 million in 2005 (i.e. 112% of revenue income and 62% of all income), but the budgeted and actual expenditure is US\$ 9.5 million (i.e. published turnover is only 62% of all expenditure);
- budget allocation and budget utilisation figures for HQ, Regional offices and Area Management Units (AMUs) are identical, probably indicating that operating cost demands exceed budgeted resources to the extent that 100% of every budget line is consumed. But it would also suggest that there is smoothing of budget reconciliations so that each budget allocation can be reconciled to the last Kwacha;
- more disturbing is the budget allocation trend. Over the three years 2003 to 2005 the HQ budget increased by 46%, while the global Regional office and AMU budgets (where the real work is done) decreased by 4% and 19%, respectively;
- a final observation is that ZAWA was only able to increase its total budget by 11% over the period in Kwacha terms (approximately 2.5% per annum) against a national inflation rate of between 15% and 25%. In real terms the budget declined by 0.3% over the period.

Wildlife population trends are difficult to comment on because of the absence of available time series datasets.⁶ But judged against all the other selected performance indicators, ZAWA as an entity is under-performing on almost every criterion. This is scarcely surprising given the shortcomings and difficulties faced by the organisation. Nevertheless, this situation represents the current reality and any PPP option must be judged against this baseline.

5.2.2 Group 1 PPP - Kasanka Case

Only one set of results was received from a Group 1 PPP, from the Kasanka Trust that operate the Kasanka National Park. Data provided from Kasanka indicate that record keeping is not a strength in the private sector either. In many cases data in replication format could only be provided readily for the last one or two years. The national park covers 420 km², but the Trust also provides inputs to the surrounding areas, including the Kafinda GMA (3,860 km²).

Principal conclusions from an analysis of the Kasanka information are:

- although the Kasanka Trust considers the PPP arrangement generally satisfactory, they consider their working relationship with ZAWA to be less than satisfactory;
- staffing levels have grown steadily over the period 1990 to 2005 to a total of 60 (excluding lodge staff) [representing 0.14 management staff/km²];
- donor contribution has declined by 74% since 1995 to US\$ 74,000, but income from tourism activities has increased substantially to US\$ 272,000 in 2005 [US\$ 648/km²] (it should be noted that ZAWA does have any internally-generated commercial tourism income but total non-consumptive income from tourism operators is equivalent to some US\$ 33/ km²);
- tourist numbers were not available for previous years but only 1,100 tourists visited in 2005 [0.26 tourists/km²/year];
- total income is in the region of US\$ 325,000, but total expenditure US\$ 234,000 [approximately US\$ 190/km² – assuming a 20% inputs to non-national park areas. A generally accepted value range for field management costs is US\$ 50 - 150/km². ZAWA's total field expenditure is equivalent to US\$ 101/km²];
- law enforcement data were only available for 2000 and 2005, but patrols declined from 8 to 6 per month between those years, numbers of arrests declined by 46% to 43 in 2005, but somewhat anomalously firearm recoveries increased by 175% over the period to 14 and snare recoveries increased by 168% to 1,437 in 2005. (Clearly patrols are

⁶ Developing such usable data sets in national wildlife management is an expensive and potentially error-prone exercise. To produce reasonable data all wildlife population surveys have to be completed using the same: methodology; seasonal time slot(s); and ideally the same observers. In an extensive wildlife estate several survey teams are needed to ensure that all surveys are conducted over approximately the same seasonal time frame, or ideally, periodically throughout the year – so that different data can be compared. If aerial survey methods are used this can raise the costs significantly.

better at collecting contraband (possibly because patrol days have increased), but poachers are either carrying more contraband each, or they have developed better techniques for evading capture);

- infrastructure investments in roads have increased by 50 km with a total maintained distance of 250 km [1.68 km/km²];
- wildlife research projects and surveys have been continued but at a limited level (one or two projects);
- Kasanka works with an increasing number of village groups and projects (10 village action groups, 5 womens' groups and 30 natural resource projects in 2005);
- Wildlife numbers recorded from roadside counts show highly variable results that have some correlation with annual rainfall. The averaged position for 9 species (Elephant, Puku, Warthog, Bush Pig, Common Duiker, Bushbuck, Waterbuck, Reedback, and Hartebeest) indicates a 2% increase in numbers over the period 1999 to 2005 (which is low in comparison the common rates of natural increase for wild, large mammal populations). Hartebeest numbers have declined in recent years.

While the dataset is insufficient to draw firm conclusions there are more positive indicators than negative ones, suggesting that the PPP arrangement is working and is sufficiently attractive to encourage further investment by the Kasanka Trust. At the very least some data are available and there are some positive management trends – outcomes that most of Zambia's small national parks cannot match without the benefit of similar resource inputs.

5.2.3 Group 2 PPP – South Luangwa

Only one set of results was received from a Group 2 PPP, from South Luangwa National Park. Limited data was immediately available indicating that database problems at SLAMU reflect difficulties already identified at ZAWA HQ. The South Luangwa Area Management Unit (SLAMU) manages the South Luangwa National Park (9,050 km²) and adjacent Lupande GMA (and has received budget support for many years from the Royal Norwegian Embassy).

Conclusions reached from the SLAMU PPP data are:

- financial control is better than the headquarters condition, with creditors reasonably controlled and income exceeding expenditure. Budgeted expenditure has increased in Kwacha terms by around 9% per annum and income by approximately 10% per annum between 2000 and 2005. Income exceeded expenditure by 26% in 2005. Donor support represents only 3% of all income. Internally generated income covers the whole budget. Substantial amounts have been spent on infrastructure in recent years, mainly impacting on research and monitoring and on community programmes – which may have downstream effects (see next bullet but one);
- in Kwacha terms revenue from park entry fees and lease charges increased by 286% and 260%, respectively over the 5 years from 2000 to 2005. This is less than the cumulative Kwacha inflationary effects

but at least strongly positive – but it should also be noted a) that most SLAMU charges and income are in US\$, and b) it is not known to what extent the increases represent new business;

- other data were less available but law enforcement information suggests that the last five years have witnessed a huge increase in wildlife law infringements. Patrolling has increased from 223 patrol days per month in 2000 to 1,781 in 2005 (to 5.08 patrol days/month/km²; nearly an 800% increase overall). But during the period the recorded number of arrests doubled to 188, firearm recoveries increased from 34 to 135, snares from 660 to 2,833 and carcass recoveries from 58 to 225. Clearly resource application cannot fully meet the rise in poaching – in part possibly also a reflection on the need for more effective CBNRM approaches in the area;
- infrastructure data are not immediately available from SLAMU, nor is information on research activities, or community involvement;
- wildlife data are available from 1993 to 2002. They suggest that apart from giraffe, kudu, reedbuck, roan and wildebeest, all species showed some decline in numbers between 1985 and 2002. Buffalo and Eland populations recorded increases between 1996 and 1998, but also declined thereafter⁷

As was the case with Kasanka, the dataset is insufficient to draw firm conclusions from, but the overall impression is that the support arrangement for SLAMU has had a positive impact on the management of the South Luangwa National Park at a time when pressures on the wildlife resource are clearly very high. Ideally this conclusion should be tested against other national parks not supported by PPPs.

5.3 Summarised Strengths and Weaknesses of the PPP Approach

The principal objective of PPP relationships in national park management is establishing sustainability. Judged from this perspective and the limited amount of information available, Table 5 attempts to summarise some of the strengths and weaknesses of the PPP approach. An analysis of donor-supported PPPs (PDPs) offers similar conclusions.

Table 5 Summarised Possible Strengths and Weaknesses of the PPP Approach to National Park Management in Zambia

5A - PPPs

Strengths	Weaknesses
Full PPP	
General Management	
Autonomy offers better response capability	A danger of maverick operations unless modus operandi are clearly established
Competition with other PPPs enhances performance	Extreme competition could lead to negative impacts on staff continuity and conservation work

⁷ Wildlife Resource Monitoring Unit, 1998: Aerial Sample Survey of the Central Luangwa Valley, Environmental Council of Zambia

Table 5 Summarised Possible Strengths and Weaknesses of the PPP Approach to National Park Management in Zambia (Cont'd.)

5A - PPPs

Diversity of PPP operators offer useful insights and experiences that can be applied to wildlife management	In poorly regulated situations PPP organisations may attempt to undermine more successful partnerships
Human Resources	
Conditions of service offered by PPPs will attract good quality staff	Essential staff may be poached from ZAWA
Financial	
Independently sourced financial resources reduce ZAWA's operating and management costs	With a small number of PPPs, ZAWA's more restricted access to finance could reduce its competitiveness and PR image vis-à-vis the PPPs
PPPs establish improved commercial systems, generating more tourists	Tourism growth could become uncoordinated and unsupported by necessary infrastructure unless well planned at a national level
Management and Research	
Restricted areas of responsibility allow PPPs to focus more effectively on core management issues	Disjointed approaches to research and wildlife monitoring at a national level may result unless well coordinated by ZAWA
Individual PPPs can pursue their own management and research styles to suite local conditions	ZAWA's conservation complex approach to management through clustering protected areas with similar ecological characteristics may be undermined unless included in PPP charters
Community Linkages	
PPPs may wish to establish stronger links with community groups	Community linkages are highly sensitive and benefit streams into different communities will require coordination to ensure that individual initiatives do not compromise the general approach

5B - PDPs

Strengths	Weaknesses
Public-Donor Partnership (PPP/PDP)	
General Management	
Increased autonomy offered through donor support gives better response capability	A danger of maverick operations unless modus operandi are clearly established
Competition with other PDPs enhances performance	Extreme competition could lead to negative impacts on staff continuity and conservation work
Diversity of PDP operators offer useful insights and experiences that can be applied to wildlife management	A danger of operations becoming donor driven unless careful checks and balances exist

Table 5 Summarised Possible Strengths and Weaknesses of the PPP Approach to National Park Management in Zambia (Cont'd.)

5B - PDPs

Human Resources	
Supplementary conditions of service offered by PDPs will attract good quality staff	Staff may be engineer their transfer within the ZAWA system, undermining career development plans
As above	Differences in conditions of service between ZAWA staff and PDP staff create discords
Financial	
Supporting financial resources reduce ZAWA operating and management costs	With few PDPs/PPPs ZAWA's more restricted access to finance could reduce its competitiveness and PR image vis-à-vis PDPs
PDPs establish improved commercial systems, generating more tourists	Tourism growth could become uncoordinated and unsupported by necessary infrastructure unless well planned at a national level
Management and Research	
Restricted areas of responsibility allow PDPs to focus more effectively on core management issues	Levels of management support provided through PDPs may not be sustainable should the donor support be removed
Individual PDPs can pursue their own management and research styles to suite local conditions	National-level research and management programmes may become more difficult to manage and deliver
Community Linkages	
PDPs may wish to establish stronger links with community groups	Community linkages are highly sensitive and benefit streams into different communities will require coordination to ensure that individual initiatives do not compromise the general approach

6 Possible Monitoring Systems

6.1 Workable Monitoring Systems

Annex 1 provides a list of management criteria that would be useful for ZAWA and its private sector partners to monitor under any PPP national park management agreement.

In reality many of the data may be difficult to obtain continually, and cost effectively. The monitoring table in Annex 1 separates data of possible secondary importance indicated by italics. Alternative, indirect indicators may be appropriate in some cases. For example question 7.6 tests tourist perceptions of the status of the park. This could be elaborated as shown at the end of that table to deliver an external opinion on: the quality of infrastructure; wildlife populations; habitat; staff capacity; and general tourist experience – leaving the PPP team to submit financial and planning data. But

considering this information would only be submitted annual, it is not considered too onerous.

7 Conclusions and Possible Ways Forward

Public-private partnerships offer one possible solution to ZAWA's conundrum represented by an extensive wildlife estate needing effective management, and insufficient financial, human and material resources to accomplish the task.

7.1 No Simple Panacea

As with most situations PPPs are unlikely to offer an ideal, single panacea to all ZAWA's ills. Equally, it is unlikely that the potential advantages they offer will be realised without a clear understanding in ZAWA of PPP strengths and weaknesses, and importantly, of ZAWA's ability to manage and monitor them.

7.2 Vision

From this perspective a crucial starting point is ZAWA's vision of its role in the wildlife sector and how it believes it should steer its activities as the environment changes around it over time. The long term view in many natural resource sectors is that natural resource business is best done by the private sector, while policy development and regulatory controls are an institutional strength of the public sector. If this approach was to be adopted in the wildlife sector ZAWA would, over a realistic period, be progressively transforming itself into a regulatory body, simultaneously outsourcing field management responsibilities to PPPs.

This may not be the route ZAWA wishes to travel, or for a variety of reasons, it may be unable to move in that direction in the short and medium terms. In that case a different strategy is needed. This may still utilise the public-private approach, but in a more experimental, opportunistic, or restricted contexts.

Regardless of ZAWA's choice of direction, its vision and strategy for sourcing additional financial and management resource support must be elaborated more clearly. This not only establishes a policy position from a ZAWA perspective, but also gives potential partners a clear idea of ZAWA's needs and management directions. And allows potential partners much greater clarity from which to make a choice on whether or not to enter a partnership, and if so, what form of participation they can best apply.

7.3 Performance of PPPs So Far

Evidence collected thus far is inadequate for firm conclusions to drawn, but what it does suggest is that PPPs, if effectively structured, resourced and monitored, can perform and fill gaps in the management of ZAWA's portfolio of national parks. The different PPPs would appear to be offering support to growth, innovation and diversification in the wildlife sector that would be difficult, or impossible, for ZAWA to replicate with its resource limitations.

On the supply side, it would appear that the continuation of existing PPPs suggests that they too are meeting their internal objectives, and present PPP agreements offer at least a generally acceptable format for these partnerships.

7.4 PPP Management Coverage

Only 14% (by number) of the national park system is under PPP management (with delegated management responsibility). A further 56% though (including Zambia's three flagship national parks), has some element of PDP (without full delegated management responsibility). Together they represent 70% by area of the national parks system. If the successes that appear to have been achieved under PPPs and PDPs in the Kasanka, North Luangwa, South Luangwa and Lower Zambezi National Parks could be replicated in the Kafue and Mosi oa Tunya National Parks, then indications are that the standard of these parks will be improved significantly.

Having said that, PDPs in particular are all subject to possible donor withdrawal or budget reduction and ZAWA would doubtless feel more comfortable if the larger national parks were also under PPPs. Because of the size of the Kafue and South Luangwa National Parks, a consortium PPP may be necessary to provide the necessary resources to meet minimum management standards. This option is definitely worth consideration, possibly in parallel with existing PDPs.

7.5 Sustainability

Several other issues need further consideration. One is sustainability. In the case of the South Luangwa National Park donor grant support was progressively reduced from ZMK 1.56 billion in 2000 to ZMK 157 million in 2005, as the AMU developed its own revenue stream. This case should offer a useful model for other national parks under PDP support – thus avoiding end game problems with unresolved exit strategies.

7.6 Smaller National Parks

A second issue is that Zambia has a number of small national parks scattered around the country. These may not have the market appeal of larger and better known areas and will represent a challenge to ZAWA in the identification and enticement of suitable partners. However, if the Kasanka, Luambe and Liuwa Plain National Parks, currently under PPP agreements can attract interest, then it would appear realistic to expect a similar response in other areas – provided they are packaged and marketed effectively.

7.7 Clear Objectives and Unified Approaches

Another observation is that all parties would benefit from clearer objectives, both within their PPP arrangements and in the larger context of managing Zambia's national park system. To this extent the availability of a unified approach would be beneficial – such as the protected area system plan identified as a priority in ZAWA's first Strategic Plan. Downstream from that guideline, a management master plan is also required that will elaborate the collective management objectives and methods needed in each of the ten conservation clusters.

The importance of these two documents cannot be underestimated. Particularly if they are developed from a field management perspective, just these two documents would offer all players the priorities, key issues, objectives, targets and essential policy guidance that could make a significant impact. Not just creating a unified approach to protected area management in Zambia, but also a unifying set of cluster-based conservation objectives and targets against which overall performance and weaknesses and threats could be more easily evaluated.

7.8 Shared Experiences

Something that all stakeholders in wildlife management would benefit from is the opportunity and mechanism to share experiences. Progress can be achieved in isolation. But for that progress to have real impact, it needs to form part of a common knowledge base and agenda. No vehicle exists yet for this interchange, but the planning frameworks identified in the previous section would. The interchange of information between AMUs and Regions was anticipated to be a large element in ZAWA's first Strategic Plan – generating constructive rivalry, as well as a mechanism for honing protected area management strategies and techniques.

7.9 Game Management Areas

It is stressed that this paper represents a preliminary look at the PPP option in Zambian wildlife management. It has focused on national parks – so equivalent opportunities in GMAs have not been considered at all. The scope for partnerships in GMAs is potentially more diverse, given the wide variety of possible public/community/private interactions. But real opportunities in this arena must await policy advances on the respective roles and responsibilities of the numerous public sector and community players in GMAs.

Currently the most pressing requirement for all partnership parties is better and easier access to basic wildlife management information – as well as standardised monitoring systems that will enable partnership performances to be tracked against targets. Given the magnitude of work needed to achieve these needs, and the desire to establish all national parks under effective and sustainable management, developing PPPs in GMAs are unlikely to be an immediate priority.

Nevertheless, progress depends on innovation and given the enormous extent of the GMA structure, it is suggested that any appropriate PPP proposed for a GMA area be encouraged in every way.

7.10 Future Opportunities

It is worth highlighting that PPPs are already playing a significant role in Zambian wildlife management – something that few are fully aware of. The absence of readily available real-time management information is constraining ZAWA's ability to manage, and the ability of PPPs to interact in a constructive manner. Nonetheless, initial PPP results look promising (a good indicator is that ZAWA has been prepared to take the considerable public relations risks of reintroduce rhinos into one PPP, the North Luangwa National Park, and then to demonstrate that the process can be repeated). It would appear that the PPP model is definitely worthy of a place in the

Zambian wildlife management approach and warrants further investment in new ideas and the professional packaging and marketing of future PPP investments.

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ANNEXES

**Annex 1 Possible Public-Private Partnership Management Data
Monitoring Form**

	Activities and/or Data per Year/Year	XXXX	XXXX	XXXX	XXXX	XXXX
1	Institutional					
1.1	No. management meetings with ZAWA/year					
1.2	Quality of relationship with ZAWA*1					
1.3	Perceived success of park management under partnership*1					
*1	Grade - good (4), poor (0)					
2	Staffing					
2.1	No. permanent staff employed					
2.2	% seconded ZAWA staff					
2.3	<i>Management/general staff ratio</i>					
2.4	<i>No. training courses held</i>					
2.5	<i>No. tourist-support-trained staff</i>					
2.6	<i>Graduates as a proportion of all staff</i>					
3	Corporate Financial Details					
3.1	Turnover					
3.2	<i>Total creditors</i>					
3.3	<i>Total corporate tax paid</i>					
4	Expenditure Issues					
	Proportion of expenditure allocated to:					
4.1	Management					
4.2	Infrastructure maintenance					
4.3	Law enforcement					
4.4	Research and planning					
4.5	Community activities					
4.6	Total annual expenditure					
5	Income Details					
5.1	Grant funds from government or ZAWA					
5.2	Amount of donor grant received					
5.3	Income from operator leases					
5.4	Income from own accommodation, food and beverage					
5.5	Park entry fees foreign					
5.6	Park entry fees local					
5.7	Other non-consumptive income					
5.8	Total income					

6	Fee levels (2000 US\$ base)					
6.1	<i>Park entry fee - foreign</i>					
6.2	<i>Park entry fee - local</i>					
6.3	<i>Average NP operator lease fees</i>					
7	Tourism					
7.1	Total no. of tourist visitors					
7.2	No.international tourist visitors					
7.3	No. local tourist visitors					
7.4	No. tourist operators licensed to operate in the park					
7.5	No. tourist beds available in the national park					
7.6	Tourist perception of park management*1					
*1	Grade - good (4), poor (0)					
8	Law Enforcement					
8.1	No. man patrols days/month					
8.2	No. arrests					
8.3	No. convictions					
8.4	No. firearms recovered					
8.5	No. snares recovered					
8.6	No. carcasses recovered					
9	Works					
9.1	<i>Km road constructed in national park</i>					
9.2	<i>Km road maintained in national park</i>					
9.3	<i>No. airfields maintained in national park</i>					
9.4	<i>No. houses or offices constructed in national park</i>					
10	Research					
10.1	No. active research projects					
10.2	No. wildlife surveys/annum					
11	Planning					
11.1	Approve general management plan exists *2					
11.2	No. GMP targets achieved					
	*2 Yes/No					

12	Ecological Characteristics (relevant species only)					
12.1	Estimates of key wildlife populations *3					
12.1.1	List relevant species					
12.1.2	<i>Possibly monitor four indicator species (large, medium and small, plus one indicator carnivore)</i>					
12.1.3						
12.1.4						
12.1.5						
12.1.6						
12.1.7						
12.1.8						
12.1.9						
12.1.10						
12.1.11						
12.1.12						
12.1.13						
12.1.14						
12.1.15						
12.1.16						
12.2	Percentage change in key habitat types - <i>every 5 years only</i>					
12.2.1	Woodland					
12.2.2	Grassland					
12.2.3	Wetland					
	*3 Entries only where surveys completed (meaned annual survey results)					
13	Community Involvement					
13.1	No. VAGs worked with					
13.2	No. women's groups worked with					
13.3	No. community NRM projects					
13.4	<i>Commercial income from community projects</i>					

14	Objectives					
14.1	Corporate objectives for PP national park agreement					
14.1.1						
14.1.2						
14.1.3						
14.1.4						
14.1.5						
14.2	ZAWA objectives for PP national park agreement					
14.2.1						
14.2.2						
14.2.3						
14.2.4						
14.2.5						
	Possible external assessments by tourists					
1	Quality of the park infrastructure					
2	Status of wildlife populations					
3	Status of the park habitats					
4	Quality of staff					
5	Quality of tourism experience					
	Note: Items in italics are of possible secondary importance					

Annex 2 Comparative Public-Private Partnership Management Data

ZAWA Corporate							
Management Area - 10 national parks and 34 GMAs covering 63,218 km² and 160,304 km², respectively							
1	Institutional Capacity	2002	2003	2004	2005		Comments
1.1	Number of staffed national parks	nd	nd	nd	nd		No data available at HQ
1.2	Number of staffed GMAs	nd	nd	nd	nd		No data available at HQ
1.3	MIS fully functionality						
1.3.1	To HQ level	N	N	Y	Y		But only LAN, no functional MIS
1.3.2	To regional level	N	N	N	N		None
1.3.3	To AMU level	N	N	N	N		None
1.4	Number of directors' meetings	nd	nd	nd	nd		No data in Annual Reports
1.5	Number of board meetings	nd	nd	nd	nd		No data in Annual Reports
2	Corporate Financial Details (US\$)						
2.1	Turnover	1,790,889	3,913,256	5,529,333	5,917,083		Declining growth in Kwacha terms
2.2	Total fixed assets	2,127,333	2,396,744	2,783,556	2,695,417		Declining growth in Kwacha terms
2.3	Total creditors	3,463,778	4,812,558	6,008,222	6,358,542		Declining growth in Kwacha terms
2.4	Total debtors	1,112,000	1,153,953	724,667	871,250		Increasing in Kwacha terms
2.5	Total corporate tax paid	0	0	0	0		
	Exchange rates	4,500	4,300	4,500	4,800		
3	Budget and Fee Issues (US\$)						
3.1	Proportion of budget received by:						
3.1.1	HQ	nd	2,585,116	2,591,556	3,777,083		Increasing in Kwacha terms
3.1.2	Regional offices	nd	429,302	562,000	412,500		Stable in Kwacha terms
3.1.3	AMUs	nd	6,484,651	5,149,778	5,278,333		Declining in Kwacha terms
3.1.4	Total	nd	9,499,070	8,303,333	9,467,917		
3.2	Proportion of budget utilised by:						
3.2.1	HQ	nd	2,585,116	2,591,556	3,777,083		Budget doesn't meet demands
3.2.2	Regional offices	nd	429,302	562,000	412,500		
3.2.3	AMUs	nd	6,484,651	5,149,778	5,278,333		
3.2.4	Total	nd	9,499,070	8,303,333	9,467,917		

4	Regulatory fee levels (2000 US\$ base)						
4.1	Park entry fee - foreign			25	25		Varies between N Parks
4.2	Park entry fee - local			5	5		
4.3	Average NP operator lease fee	nd	nd	nd	5,900		
4.4	Average GMA concession fee	nd	nd	nd	nd		
4.5	License fee (Lion)	nd	nd	nd	nd		
5	Income Details (US\$)						
5.1	Proportion of Government grant accounted for	nd	nd	nd	3,745,259		Data not readily available
5.2	Proportion of donor grant accounted for	nd	nd	nd	4,321,686		Data not readily available
5.3	Non-consumptive income:						
5.3.1	Operator leases	nd	nd	nd	905,231		Data not readily available
5.3.2	Park entry fees foreign	nd	nd	nd	655,930		Data not readily available
5.3.3	Park entry fees local	nd	nd	nd	270,729		Data not readily available
5.3.4	Other non-consumptive	nd	nd	nd	117,873		Data not readily available
5.3.5	<i>Sub-total non-consumptive</i>	0	0	0	1,949,763		
5.4	Consumptive:						
5.4.1	GMA concession fees	nd	nd	nd	928,445		Data not readily available
5.4.2	GMA gross hunting license fees	nd	nd	nd	2,060,752		Data not readily available
5.4.3	GMA CRB contributions	nd	nd	nd	939,796		Data not readily available
5.4.4	Game ranch license fees	nd	nd	nd	nd		Data not readily available
5.4.5	Other consumptive	nd	nd	nd	nd		Data not readily available
5.4.6	<i>Sub-total consumptive</i>	0	0	0	3,928,994		
5.4.7	<i>Total Revenue Income</i>				5,878,757		
5.5	Total Income				13,945,703		

6	Staffing						
6.1	Percentage senior positions filled	nd	nd	nd	nd		No data available at HQ
6.2	Percentage junior positions filled	nd	nd	nd	nd		No data available at HQ
6.3	Percentage all positions filled	nd	nd	88.3%	nd		No data available at HQ
6.4	Management/general staff ratio	nd	nd	nd	nd		No data available at HQ
6.5	Male/female staff ration	nd	nd	nd	nd		No data available at HQ
6.6	Training courses held	nd	nd	nd	nd		No data available at HQ
6.7	Number of tourist-support-trained staff	nd	nd	nd	nd		No data available at HQ
6.8	Graduates as a proportion of all staff	nd	nd	nd	nd		No data available at HQ
7	Infrastructure Investment						
7.1	<i>Length of roads graded</i>	0	0	0	0		No data available at HQ
7.1.1	South Luangwa	nd	nd	nd	nd		No data available at HQ
7.1.2	North Luangwa	nd	nd	nd	nd		No data available at HQ
7.1.3	Lower Zambezi	nd	nd	nd	nd		No data available at HQ
7.1.4	Kafue	nd	nd	nd	nd		No data available at HQ
7.1.5	Livingstone	nd	nd	nd	nd		No data available at HQ
7.2	<i>Total staff housing</i>	0	0	0	0		No data available at HQ
7.2.1	South Luangwa	nd	nd	nd	nd		No data available at HQ
7.2.2	North Luangwa	nd	nd	nd	nd		No data available at HQ
7.2.3	Lower Zambezi	nd	nd	nd	nd		No data available at HQ
7.2.4	Kafue	nd	nd	nd	nd		No data available at HQ
7.2.5	Livingstone	nd	nd	nd	nd		No data available at HQ
7.3	<i>Total operational vehicles</i>	0	0	0	0		No data available at HQ
7.3.1	South Luangwa	nd	nd	nd	nd		No data available at HQ
7.3.2	North Luangwa	nd	nd	nd	nd		No data available at HQ
7.3.3	Lower Zambezi	nd	nd	nd	nd		No data available at HQ
7.3.4	Kafue	nd	nd	nd	nd		No data available at HQ
7.3.5	Livingstone	nd	nd	nd	nd		No data available at HQ
7.4	<i>Total operational VHF radios</i>	0	0	0	0		No data available at HQ
7.4.1	South Luangwa	nd	nd	nd	nd		No data available at HQ
7.4.2	North Luangwa	nd	nd	nd	nd		No data available at HQ
7.4.3	Lower Zambezi	nd	nd	nd	nd		No data available at HQ
7.4.4	Kafue	nd	nd	nd	nd		No data available at HQ
7.4.5	Livingstone	nd	nd	nd	nd		No data available at HQ

8	Ecological Characteristics	2002	2004	2003	1998	2002	2004	
	Ecosystem	Kafue	Kafue	Nsumbu	S Luang	S Luang	S Luang	
8.1	Estimates of key wildlife populations	*1	*3	*1	*2	*2	*4	Few comparative data available
8.1.1	Elephant	2,197	7,475	65	7,370	5,434	3,013	
8.1.2	Hippo	nd	5,122	65	nd	nd	25,259	
8.1.3	Rhino	0	0	0	0	0	0	
8.1.4	Thornicroft's Giraffe	N/A	N/A	N/A	398	236	41	
8.1.5	Black Lechwe	N/A	N/A	N/A	N/A	N/A	N/A	
8.1.6	Kafue Lechwe	nd	nd	nd	nd	nd	nd	
8.1.7	Red Lechwe	1,623	8,880	N/A	N/A	N/A	N/A	
8.1.8	Eland	0	2,032	0	1,095	202	726	
8.1.9	Buffalo	30,840	15,256	259	19,794	9,306	15,774	
8.1.10	Roan	2,392	1,888	11	700	632	850	
8.1.11	Sable	9,245	13,859	474	nd	0	8	
8.1.12	Blue Wildebeest	1,426	4,954	0	N/A	N/A	N/A	
8.1.13	Cookson's Wildebeest	N/A	N/A	N/A	1,209	nd	1,347	
8.1.14	Hartebeest	3,552	12,819	0	598	nd	260	
8.1.15	Waterbuck	1,749	763	16	728	575	906	
8.1.16	Zebra	nd	nd	nd	4,931	nd	nd	
8.1.17	Cheetah	nd	nd	nd	nd	nd	nd	
8.1.18	Leopard	nd	nd	nd	nd	nd	nd	
8.1.19	Lion	nd	nd	nd	nd	nd	nd	
8.2	Number of epidemic disease outbreaks	nd	nd	nd	nd	nd	nd	No data available at HQ
8.3	Number of ecological research projects	nd	nd	nd	nd	nd	nd	Data not readily available
9	Status of Protected Areas *5							
9.1	Number of AMUs with active work plans	nd	nd	nd	nd			Data not readily available
9.2	Number of active NP management plans	4	4	6	7			Including drafts awaiting approval
9.3	Number of active GMA lans use plans	None	None	None	2			Including drafts awaiting approval
9.4	Functional protected area system plan	None	None	None	None			Not yet designed

9.5	Visitor numbers						
9.6	South Luangwa	19,253	19,728	23,929	nd		Strong increase
9.7	Lochinvar	?	390	431	nd		Slowed growth
9.8	Lower Zambezi	3,446	4,413	6,059	nd		Strong increase
9.9	Kafue	2,494	3,812	3,783	nd		Decline
9.10	Mosi-oa-Tunya	18,792	23,497	17,762	nd		Decline
9.11	Other national parks	?	700	2,024	nd		Increase (but data set questioned)
9.12	Total arrivals	43,985	52,540	53,988	nd		
Notes:							
*1	National park area only						
*2	South Luangwa NP and Lupande GMA						
*3	Kafue NP surrounding GMAs						
*4	Two GMAs north of S Luangwa NP						
*5	19 NPs, 34 GMAs, 3 bird sanctuaries						

Kasanka Trust

Management area - Kasanka National Park (420 km²) and Kafinda GMA (3,860 km²)								
	Activities/Data per Year	1985	1990	1995	2000	2005	Value/k	% Change
1	Institutional							
1.1	No. management meetings with ZAWA/year	N/A	1	4	2	1		
1.2	Quality of relationship with ZAWA*1	N/A	2	2	3	2		
1.3	Perceived success of park management under partnership*1	N/A	5	3	4	4		
*1	Grade - good (4), poor (0)							
2	Staffing							
2.1	No. permanent staff employed	N/A	20	30	50	60	0.14	200.0%
2.2	% seconded ZAWA staff	N/A	0	0	0	0		
2.3	No. of management staff	N/A	1	2	3	5		250.0%
2.4	No. training courses held	N/A	0	1	1	1		100.0%
2.5	No. tourist-support-trained staff	N/A	0	0	2	5		250.0%
2.6	no of graduates	N/A	0	1	3	5		500.0%
3	Corporate Financial Details							
3.1	Turnover	N/A	nd	nd	nd	nd		
3.2	Total creditors	N/A	nd	nd	nd	nd		
3.3	Total corporate tax paid	N/A	0	0	0	0		
4	Expenditure							
	Proportion of expenditure allocated to:							
4.1	Management	N/A	nd	nd	26%	13%		-50.00%
4.2	Infrastructure maintenance	N/A	nd	nd	32%	15%		-53.13%
4.3	Law enforcement	N/A	nd	nd	32%	15%		-53.13%
4.4	Research and planning	N/A	nd	nd	0%	22%		
4.5	Community activities	N/A	nd	nd	10%	35%		250.00%
4.6	Total annual expenditure	N/A	nd	nd	\$93,000	\$234,000	\$55	151.61%

5	Income Details							
5.1	Grant funds from government or ZAWA	N/A	0	0	0	0		
5.2	Amount of donor grant received	N/A		\$100,000	\$40,000	\$74,000		74.0%
5.3	Income from operator leases	N/A	0	\$3,000	0	0		
5.4	Income from own accommodation, food and beverage	N/A	0	0	\$50,000	\$250,000	\$595	500.0%
5.5	No. of visitors	N/A	nd	nd	nd	1,097		
5.6	Park entry fees foreign inc in tourism income	N/A	0	0	0	\$21,600		
5.7	Park entry fees local inc in tourism income	N/A						
5.8	Other non-consumptive income	N/A	0	0	0	0		
5.9	Total income	N/A	nd	\$103,000	\$90,000	\$324,000	\$771	314.6%
6	Fee levels (2000 US\$ base)							
6.1	Park entry fee - foreign	N/A	\$5.00	\$5.00	\$5.00	\$10.00		100.00%
6.2	Park entry fee - local	N/A	nd	nd	\$0.30	\$4.00		1233.33%
6.3	Average NP operator lease fees	N/A	0	\$3,000	0	0		
7	Law Enforcement							
7.1	No. patrols/month	N/A	nd	nd	8	6	0.01	75.0%
7.2	No. arrests	N/A	nd	nd	93	43		46.2%
7.3	No. convictions	N/A	nd	nd	nd	nd		
7.4	No. firearms recovered	N/A	nd	nd	8	14		175.0%
7.5	No. snares recovered	N/A	nd	nd	855	1,437		168.1%
7.6	No. carcasses recovered	N/A	nd	nd	nd	?		

8	Works							
8.1	Km road constructed	N/A	nd	0	20	20		
8.2	Km road maintained	N/A	nd	200	200	250	0.60	125.0%
8.3	No. houses/offices constructed	N/A	nd	nd	4	7		175.0%
9	Research							
9.1	No. active research projects	N/A	nd	1	1	2		
9.2	No. wildlife surveys	N/A	nd	0	1	1		
10	Planning							
10.1	Approve general management plan exists *2		N	N	N	N		
10.2	No. GMP targets achieved		NA	NA	NA	NA		
	*2 Yes/No							
11	Ecological Characteristics (relevant species only) *3	1999	2000	2001	2002	2003	2004	2005
11.1	Estimates of key wildlife populations							
11.2	Elephant	46	25	24	23	12	53	22
11.3	Hippo	nd	nd	nd	nd	nd	nd	nd
11.4	Rhino	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11.5	Thornicroft's Giraffe	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11.6	Buffalo	nd	nd	nd	nd	nd	nd	nd
11.7	Roan	40	173	13	0	639	0	0
11.8	Zebra	nd	nd	nd	nd	nd	nd	nd
11.9	Waterbuck	43	195	672	0	433	43	87
11.10	Sable	10	18	28	13	16	11	19
11.11	Hartebeest	356	968	2,430	998	1,679	830	563
11.12	Bushbuck	163	511	889	264	303	322	332
11.13	Reedbuck	131	206	262	241	455	391	511
11.14	Puku	3,660	3,882	5,629	4,028	2,632	4,330	5,030
11.15	Impala	nd	nd	nd	nd	nd	nd	nd
11.16	Warthog	1,953	2,158	7,168	3,289	4,162	5,781	5,807
11.17	Lion	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	*3 Entries only where surveys completed (meaned annual survey results)							
12	Community Involvement							
12.1	No. VAGs worked with	N/A	nd	0	7	10		142.9%
12.2	No. community NRM projects	N/A	nd	0	10	30		300.0%
12.3	No. women's groups worked with	N/A	nd	0	3	5		166.7%

13	Objectives								
13.1	Corporate objectives for PP national park agreement								
13.1.1	Restore and revive NP								
13.1.2	Achieve self sustainable management through tourism income								
13.1.3	Build capacity of ZAWA for management								
13.1.4	create good environment for ecological research								
13.1.5	create employment and share benefits of tourism and conservation with local community								
13.2	ZAWA objectives for PP national park agreement								
13.2.1	?								
13.2.2									
13.2.3									
13.2.4									
13.2.5									

South Luangwa Area Management Unit									
Management area - South Luangwa National Park (9,050 km ²) and Lupande GMA (4,840 km ²)									
1	Institutional	1985	1990	1995	2000	2005	Value/	% Change	
1.1	No. management meetings with ZAWA/year	N/A	N/A	N/A	N/A	N/A			
1.2	Quality of relationship with ZAWA*1	N/A	N/A	N/A	N/A	N/A			
1.3	Perceived success of park management under partnership*1	nd	nd	nd	nd	nd			
*1	Grade - good (4), poor (0)								
2	Staffing								
2.1	No. permanent staff employed	nd	nd	nd	nd	nd			Data not readily available
2.2	% seconded ZAWA staff	nd	nd	nd	nd	nd			Data not readily available
2.3	Management/general staff ratio	nd	nd	nd	nd	nd			Data not readily available
2.4	No. training courses held	nd	nd	nd	nd	nd			Data not readily available
2.5	No. tourist-support-trained staff	nd	nd	nd	nd	nd			Data not readily available
2.6	Graduates as a proportion of all staff	nd	nd	nd	nd	nd			Data not readily available
3	Corporate Financial Details (ZMK million)								
3.1	Turnover	N/A	N/A	N/A	N/A	N/A			
3.2	Total creditors	N/A	N/A	45.088	237.455	190.647			
3.3	Total corporate tax paid	N/A	N/A	N/A	N/A	N/A			
4	Expenditure	1985	1990	1995	2000	2005			
	Proportion of expenditure allocated to:								
4.1	Management	nd	nd	16%	22%	21%	15.00	-3.28%	
4.2	Infrastructure maintenance	nd	nd	17%	12%	18%	12.57	47.47%	
4.3	Law enforcement	nd	nd	38%	56%	53%	38.26	-3.73%	
4.4	Research and planning	nd	nd	18%	3%	1%	0.85	-60.68%	
4.5	Community activities	nd	nd	10%	8%	7%	4.83	-13.28%	
4.6	Total annual expenditure	nd	nd	355,500	845,294	993,328	71.51	17.51%	

5	Income Details								
5.1	Grant funds from government or ZAWA	nd	nd	70,332	0	0	0.00		
5.2	Amount of donor grant received	nd	nd	331,579	410,956	33,421	2.41	-91.87%	
5.3	Income from operator leases	nd	nd	15,729	207,644	436,100	31.40	110.02%	
5.4	Income from own accommodation, food and beverage	nd	nd	0	0	14,239	1.03		
5.5	No. of visitors	nd	nd	nd	nd	nd			
5.6	Park entry fees foreign	nd	nd	27,332	275,724	601,715	43.32	118.23%	
5.7	Park entry fees local	nd	nd	4,212	27,702	77,032	5.55	178.07%	
5.8	Other non-consumptive income	nd	nd	2,632	43,927	88,481	6.37	101.43%	
5.9	Total income	nd	nd	451,816	965,953	1,250,987	90.06	29.51%	
6	Fee levels (2000 US\$ base)								
6.1	Park entry fee - foreign	nd	nd	nd	nd	nd			
6.2	Park entry fee - local	nd	nd	nd	nd	nd			
6.3	Average NP operator lease fees	nd	nd	nd	nd	nd			
7	Law Enforcement								
7.1	No. patrols/month	nd	196	175	223	1781	0.13	698.65%	
7.2	No. arrests	nd	341	61	90	188	0.01	108.89%	
7.3	No. convictions	nd	nd	nd	nd	nd			
7.4	No. firearms recovered	nd	358	45	34	135	0.01	297.06%	
7.5	No. snares recovered	nd	129	316	660	2833	0.20	329.24%	
7.6	No. carcasses recovered	nd	37	118	58	225	0.02	287.93%	

8	Works								
8.1	Km road constructed	nd	nd	nd	nd	nd			Data not readily available
8.2	Km road maintained	nd	nd	nd	nd	nd			Data not readily available
8.3	No. houses/offices constructed	nd	nd	nd	nd	nd			Data not readily available
9	Research								
9.1	No. active research projects	nd	nd	nd	nd	nd			Data not readily available
9.2	No. wildlife surveys	nd	nd	nd	nd	nd			Data not readily available
10	Planning								
10.1	Approve general management plan exists *2			Y	Y	Y			
10.2	No. GMP targets achieved			nd	nd	nd			Data not readily available
	*2 Yes/No								
11		1993	1994	1996	1998	1999	2002		
11.1	Estimates of key wildlife populations								
11.2	Elephant	5,263	7,197	7,942	6,450	5,808	4,458	-23.24%	
11.3	Hippo	nd	nd	nd	nd	nd	nd		
11.4	Rhino	0	0	0	0	0	0		
11.5	Thornicroft's Giraffe	253	275	350	398	202	236		
11.6	Buffalo	7,262	11,671	17,923	19,794	22,719	9,306	-59.04%	
11.7	Eland	316	138	489	1,095	1,118	204	-81.75%	
11.8	Roan	316	1,811	1,415	700	225	632	180.89%	
11.9	Kudu	nd	nd	nd	nd	236	505		
11.10	Hartebeest	1,558	866	1,295	598	730	225	-69.18%	
11.11	Zebra	5,162	5,103	6,559	4,931	5,673	3,250	-42.71%	
11.12	Cookson's Wildebeest	463	551	1,288	1,209	201	527	162.19%	
11.13	Waterbuck	1,894	945	1,350	728	852	575	-32.51%	
11.14	Reedback	nd	nd	nd	nd	71	225	216.90%	
11.15	Puku	nd	nd	nd	nd	5,377	5,660	5.26%	
11.16	Impala	nd	nd	nd	nd	37,286	11,815	-68.31%	
11.17	Warthog	nd	nd	nd	nd	2,088	1,129	-45.93%	
	*3 Entries only where surveys completed (meaned annual survey results for SLNP and LGMA)								
12	Community Involvement								
12.1	No. VAGs worked with	nd	nd	nd	nd	nd			Data not readily available
12.2	No. community NRM projects	nd	nd	nd	nd	nd			Data not readily available
12.3	No. women's groups worked with	nd	nd	nd	nd	nd			Data not readily available

13	Objectives								
13.1	Corporate objectives for PP national park agreement	nd							Data not readily available
13.1.1									
13.1.2									
13.1.3									
13.1.4									
13.1.5									
13.2	ZAWA objectives for PP national park agreement								
13.2.1									
13.2.2									
13.2.3									
13.2.4									
13.2.5									