

**AN EVALUATION
OF THE
CULLMAN & HURT COMMUNITY WILDLIFE PROJECT
TANZANIA
BY
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1 JULY 2001**

SUMMARY

An evaluation was carried out of the Cullman and Hurt Community Wildlife Project in Tanzania (the Project) during May to June 2001. The Project, which began in 1990, is based in Arusha and is operational in and around seven widely dispersed hunting blocks allocated to Robin Hurt Safaris (RHS)—a tourism hunting outfitter. It has a permanent Project Director and three Project Field Officers plus up to about 20 other employees, some of whom are taken on as required on casual terms of employment. It shows every sign of being managed efficiently by a motivated staff.

The aims of the Project are to ensure that local rural communities derive tangible benefits from tourism hunting on land that they regard as theirs, and to encourage them to participate in conservation and sustained utilisation of game and its habitats. There are 23 participating villages.

The Project focuses upon two activities. First, it implements a programme whereby a 20 per cent surcharge on RHS clients' game fees is used to finance community development in ways that villagers themselves decide. Second, it organises and manages anti-poaching operations using men recruited from participating villages led by Project Field Officers. Anti-poaching and Project management costs are financed by donations from private sources.

The Project has been successful in financing support to participating villages in ways that address villages concerns, especially schooling, health and access to water. It has provided timely support during droughts and famines by bringing in maize and water.

Anti-poaching is well organised and greatly appreciated by the Wildlife Division (WD) in the Ministry of Natural Resources and Tourism. However, there is insufficient evidence upon which to judge clearly the effects anti-poaching is having on illegal activity and on game stocks except, perhaps, in the Maswa-Makao area where snaring appears to have declined markedly. Much evidence, especially on game stocks, is anecdotal.

Government policy is presently heading towards the creation of wildlife management areas, in which game will be managed according to the wishes of local residents, and eventually by them. This will call for genuine feelings of ownership and a sense of stewardship. The extent to which the Project has fostered these in local communities is difficult to judge from a brief evaluation although district officials and WD spokesmen reported that it does better than any similar ventures currently being undertaken in Tanzania.

Monitoring the success of anti-poaching requires systematic recording of where the teams go, signs of illegal activity encountered and animals seen—all related to patrol effort. Additional relevant data could be gathered if RHS would arrange for their hunters to record hunting effort and success rates for all or selected species.

Financial sustainability of community develop work is possible so long as tourism hunting continues. But Project management and anti-poaching appear to have a fragile financial basis, being dependent upon continued support from a handful of donors.

In the immediate future, the Project should consider

- expanding its coverage in the western hunting blocks from one to two anti-poaching teams
- introducing a village extension service to foster increased environmental awareness
- broadening its fund-raising base, including making application to the large bilateral or multilateral aid agencies
- systematise its data collection on poaching and game stocks, and build up a compendium of information on the hunting blocks and people who live in or near them

ACKNOWLEDGEMENTS

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Our drivers were John Peter (in Makao and Burko) and Dickson Misonge (in Niensi-Luganzo). They drove safely and delivered us on time and in reasonable comfort.

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LIST OF ACRONYMS

ADMADE	Administrative Management Design for game management areas
AWF	African Wildlife Foundation
CAMPFIRE	Communal Areas Management Programme for Indigenous Resources
CBNRM	Community-based natural resource management
DGO	District Game Officer
FZS	Frankfurt Zoological Society
GIS	Geographical information system
GPS	Global positioning system
LIRD	Luangwa Integrated Resource Development Project
NCA	Ngorongoro Conservation Area
NGO	Non-government organisation
RHS	Robin Hurt Safaris
TANAPA	Tanzania National Parks
TSh	Tanzanian shilling
TWPF	Tanzania Wildlife Protection Fund
VAP	Village Anti-poacher
WD	Wildlife Division
ZAPC	Zonal Anti-poaching Commander

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1 INTRODUCTION

This report describes an evaluation of the Cullman and Hurt Community Wildlife Project (the Project) in Tanzania, made over the period 29 May to 20 June 2001. The Project is described below under section 3.

The purposes of the evaluation were as follows.

1. Identify goals and objectives of the Project.
2. Identify strategies that have been, and are being, used in pursuing objectives.
3. Visit sample areas where the Project is operational, view tangible signs of progress and interview relevant persons.
4. Evaluate progress made in achieving objectives.
5. Identify impediments to progress.
6. Make recommendations for future implementation.
7. Prepare and submit a report to the Project Director.

The Project operates across large tracts of land in northern and western Tanzania, encompassing seven hunting blocks grouped into three zones for administrative convenience. They extend south-westwards from Monduli District west of Arusha, to hunting blocks west of Iringa. In the time available, it was impracticable to visit all hunting blocks, so the Project Director made a selection that comprised four blocks in two of the zones. During the course of the three-week evaluation we travelled 2,347 km—1,507 by road, 430 by rail and 410 by air. The itinerary is described in Annex A.

Information was gathered from selected documents provided by the Project and Robin Hurt Safaris (RHS), through interviews with relevant persons (see Annex B) and by attending village meetings at nine of the Project's 23 participating villages. Village meetings typically involved the local Village Chairmen and Village Secretaries plus varying numbers of village men and women. Ward Counsellors attended two. During these meetings, villagers were invited to talk about their problems and the benefits they were receiving through the Project's interventions. Some meetings were held in village offices, others in primary school classrooms. Many hours were spent seated on hard, narrow wooden benches clearly designed for small posteriors. We met two of the Wildlife Division's (WD) Zonal Anti-poaching Commanders (ZAPCs); the District Council for Meatu at Mwanhuzi; and interviewed representatives of three other relevant organisations—Africare Tanzania, the African Wildlife Foundation (AWF) and the Dorobo Fund.

It was not possible to double-check all sources of information; most had to be accepted at face value. In some cases, information was obviously way off-track. For example, the estimated population of one participating village was given by one informant as 50,000, and another as 1,400. From a casual stroll around the streets we reckoned that the latter was nearer the mark. Another example was the District Executive Director for Meatu District, who told us that Maswa Game Reserve occupied 'three quarters' of his district but when we consulted a map held by the District Development Adviser it was clearly no more than about 40 per cent.

There was a dearth of information on the physical and demographic characteristics of the areas in which the Project and RHS are operational. Sizes of hunting blocks, climate and population data must be available somewhere but I was unable to locate them although some village committee members gave population estimates for their villages.

2 BACKGROUND

Three subjects form background to this evaluation: Tanzanian wildlife policy in relation to hunting, tourism hunting and the concept of community conservation or natural resource management.

2.1 WILDLIFE POLICY

Tanzanian wildlife policy supports hunting. It states that *'Tourist hunting is an economically viable and sustainable use of wildlife that is consistent with the policy of high quality, yet low density tourism that can contribute significantly to the national economy.'*¹

There are five categories of protected areas in Tanzania, in which wildlife is conserved to some degree or another:

- national park
- Ngorongoro Conservation Area (NCA)
- game reserve
- game controlled area
- open area

The Project is concerned with the last three, some of which overlap with forest reserves. The Wildlife Conservation Act permits no settlement in game reserves; hunting is limited to tourist hunting. Settlement is allowed in game controlled areas; most hunting blocks occur here, some of which are allocated to outfitters, and resident hunting is permitted in some. Parts of some open areas are also included in hunting blocks.

The WD in the Ministry of Natural Resources and Tourism (the Ministry) is responsible for managing Tanzania's wildlife resources outside national parks and the NCA. A spokesman reported that a section of his Division responsible for community-based conservation currently focuses on creating and fostering environmental awareness and explaining a new concept—wildlife management areas (WMAs). Under new legislation, yet to be drafted, most game controlled areas would become WMAs controlled by local institutions.

The new WMA system is described in a paper² produced while this evaluation was underway, and presented at the annual meeting of tourist hunting operators and the Ministry. It may be subject to subsequent revision. The paper proposes local institutions *'entrusted by villagers to manage the wildlife resources on their behalf and for the*

¹ *The wildlife policy of Tanzania*. Ministry of Natural Resources and Tourism. March 1998

² Zacharia, M, S Kaihula & E Mgonja. 2001. The operationalisation of the concept of wildlife management area in the tourist hunting industry.

benefit of the entire community'. These institutions would be granted rights over game, and would enter into agreements with the WD on management and utilisation. They would be allowed to decide whether or not wildlife management was to be a form of land use and, if so, what form this would take. The WD would be directly responsible only for game reserves but would provide an advisory service for WMAs. There is no firm indication as to when these changes will be made; they are dependent upon enactment of new statutory law. Local institutions that will be given responsibility for wildlife management (which would presumably include setting hunting quotas and negotiating concessions with outfitters) do not yet exist, and several years may elapse before they have been formed *and have the capacity to manage*. And when they are, the WD may be reluctant to cede all its powers, and may intervene should a local institution decide to opt for alternative land uses such as cultivation, agroforestry or cattle ranching. Unfortunately I had no opportunity to discuss the subject with senior members of the WD; a planned visit to Dar es Salaam was cancelled shortly before the evaluation began due to changes in flight schedules.

Some uncertainty has been caused by boundary markers for future WMAs, which have already been, or are being, laid down. Boundaries are being demarcated in the Maswa-Makao area by the Frankfurt Zoological Society (FZS), whose representatives are reputed to have told villagers, especially Sungu (a village of waHadzabe or waTindiga hunter gatherers), that they may use land up to these boundaries. In consequence, people have flocked forward into land not previously occupied. During the course of the evaluation, we learned that FZS representatives and the DGO Meatu had discussed the matter informally with an RHS representative but the latter did not inform the Project Director—an unfortunate omission given that the Project is a major stakeholder.

Some wildlife species, far from being valuable, are perceived by villagers as pests that should be eliminated forthwith. They raid crop fields or threaten livestock. WD spokesmen informed us that the Division's policy is to deal directly with dangerous animals, such as elephant, buffalo and lion, on request. The more numerous smaller pests such as monkeys, baboons and bushpig are, in theory, controlled under a vermin control programme by the Ministry of Agriculture; in practice it seems that villagers are left to fend for themselves. There is no system for paying compensation for damage sustained from wildlife.

2.2 TOURISM HUNTING

The Project is closely tied to the sport hunting industry, and to one company in particular—RHS. This section gives a brief description of the industry—the context within which the Project functions.

The term used in Tanzania to describe the business of sport hunting by international clients (often known as safari hunting elsewhere) is 'tourism hunting'. Companies that do business in this industry are called 'outfitters'.

About 38 outfitters are currently operational in Tanzania; RHS is one of the largest. At the lower end of the range, several are little more than one-man bands. RHS employs about 10 professional hunters but may borrow from other outfitters on a temporary basis

when needed. In a poor year RHS will organise little more than 40 hunts, in a good year more than 60. The current hunting season (about to start at the time of this evaluation) is expected to service 50 to 60 clients. Most clients (85 to 90 per cent) come from the USA; others are from Mexico, Europe, Canada and Arabia.

Hunting quotas are set by the WD according to length of hunting safari: 21-day, 16-day, 14-day and 7-day. See Table 1.

Table 1. Hunting quotas for tourism hunting.

	<i>21-day safaris</i>	<i>16-day safaris</i>	<i>14-day safaris</i>	<i>7-day safaris</i>
No of species	49	32	31	9
No of animals	70	43	41	11

Source: WD circular no. GD/16/44/31 dated 1 July 1994. Some minor changes have been made since that date.

The differences between numbers of species and animals in Table 1 is due to more than one being allowed for selected species; for example, three buffalo are allowed on 21- and 16-day safaris. Some constraints are placed on big cat quotas for safaris that include more than one hunting client; although a 21-day safari allows one lion and one leopard, if two clients hunt together only one may hunt a lion and the other a leopard. Hunting quotas are determined each year by the WD. Input may come from outfitters and the Division's district offices.

Hunting quotas are also prescribed for each hunting block, limiting the numbers of each species that may be hunted within them. Some adept juggling is required of outfitters to ensure that hunting block quotas can satisfy the demands of safari licence quotas.

Although tourism hunting in Tanzania seems assured for several years to come, the long-term future must be in doubt. The greatest pressure on wildlife resources comes from human population growth (currently 2.3 per cent per annum)³ and the resultant demands for land. We were told, during a meeting with members of the Meatu District Council, that the Government recognises this to be a pressing problem that must be addressed. Where there are competing land uses, it is insufficient merely to demonstrate that wildlife conservation can bring benefits to people; it must be those that are more beneficial than alternatives, or at least part of an optimal mix of land uses. Other possible but less predictable factors that may or may not play a part in the future are economic recessions; world oil prices (affecting air transport and tourism in general); perceptions of national insecurity or unrest; whimsical, *ad hoc* political decision-making⁴; and international anti-hunting lobbies.

2.3 COMMUNITY-BASED NATURAL RESOURCE MANAGEMENT

Programmes that attempt to forge links between rural communities and wildlife (or other natural resources) beneficial to both are referred to as community-based natural resource management or CBNRM. One of the best-known initiatives of this sort is the

³ According to the incoming District Commissioner, Meatu.

⁴ That such decisions can occur without warning is exemplified by Zambia's recent ban on hunting, which dismayed the outfitters and threw community-based management programmes into disarray.

CAMPFIRE⁵ programme in Zimbabwe; others are Zambia's ADMADE⁶ and LIRD⁷. All differ from the Project in the greater attention they give to devising ways in which rural folk can be empowered to take responsibility for managing wildlife, and imparting the necessary skills to do so. The Project, while paying some attention to conservation education, focuses largely upon anti-poaching and ensuring that benefits from tourism hunting reach the people.

The principle of CBNRM is not without serious critics. John MacKinnon, writing in the Asia-Pacific context, observed that, '*Rich and powerful individuals and organizations are far more capable of protecting their own resource bases than are rural communities. For example, there is little illegal cutting of timber or even poaching in Indonesian timber concessions compared to what happened in (government) nature reserves.*'⁸ The same may be said of the large, privately owned conservancies of Zimbabwe, whose owners (some very rich) protect and manage their wildlife efficiently and profitably. The moral seems to be that people can best be relied upon to safeguard resources if they feel that they own them and are sufficiently powerful to enforce their proprietary rights.

In a 1995 paper on the subject of CAMPFIRE, Simon Metcalfe⁹ wrote that '*the... programme cannot claim to have achieved its objectives*', although he went on to add that it was, '*establishing the framework for developing local community institutional capacity for managing wildlife resources*'. The writer was speaking from an inside position having worked for the Zimbabwe Trust—a non-government organisation (NGO) heavily committed to supporting CAMPFIRE.

Another criticism, directed at Zambia's ADMADE in particular¹⁰ and others in general, is that it was designed by biologists and wildlife protagonists, not socio-economists, and based on an assumption that wildlife management gives better returns than cultivation or pastoralism. This will not be true for all areas. Too many schemes that involve community involvement have been based upon special pleading on behalf of wildlife.

CBNRM programmes that depend upon game animals, imply an assumption that rural people hunt only for meat or by-products that may be bartered or sold and that, if something useful is given in exchange, people will have no motive to hunt. Yet in many parts of the world, including Africa, hunting fulfils a recreational or cultural role. The annual *chila* in pre-independent Northern Rhodesia (now Zambia), where massed hunting with dogs brought down Kafue lechwe in their hundreds, may have produced meat but those who witnessed it also saw the evident enjoyment of its participants.

⁵ Communal Areas Management Programme For Indigenous Resources.

⁶ Administrative Design for Management and Development of Game Management Areas.

⁷ Luangwa Integrated Resource Development Project.

⁸ MacKinnon, J. 1994. Analytical status report of biodiversity conservation in the Asia Pacific Region. In: *Proceedings of a Regional Conference on Biodiversity Conservation, Asian Development Bank, Manila*. IUCN, Gland, Switzerland.

⁹ Metcalfe, S C. 1995. Communities, parks and regional planning: a co-management strategy based on the Zimbabwean experience. In: *Expanding partnerships in conservation*. Ed: McNeely. 270-279. Island Press, Washington DC.

¹⁰ Astle, W A. 1999. *A history of wildlife conservation and management in the mid-Luangwa Valley, Zambia*. British Empire & Commonwealth Museum.

Might the same apply to hunter-gathers such as the waHadzabe of Sungu Village in the Maswa-Makao area?

Even a sense of ownership cannot entirely ensure protection for wildlife or any other shared resource. It will always pay the law-breaker to flout the law provided he can get away with it. Even though he may be a member of the sharer community, his personal gain is greater than his share of the communal loss.

3 THE PROJECT

3.1 FOUNDING AND RATIONALE

The Project was founded in 1990 by Robin Hurt, of Safari World of Robin Hurt, Joseph F Cullman 3rd, a US businessman and conservationist and Costa Mlay, the Tanzanian Director of Wildlife at the time. Several donors in the US have supported the Project's subsequent development, and it has been given moral support by the WD. The Project is incorporated under the Trustees' Incorporation Ordinance of 1956, and its aim is to assist rural Tanzanian communities that live in proximity to wildlife to realise benefits from wildlife and their environment.

The rationale behind the Project is that the future conservation of African wildlife depends upon two preconditions being met.

1. Communities living adjacent to wildlife areas receive tangible benefits from conservation of wildlife and other natural resources within their home areas.
2. Communities living in or adjacent to wildlife areas are willing and able to take part in conserving wildlife and other natural resources.

These two conditions alone are insufficient. At least two others are required: management programmes planned and run by motivated, well-qualified professionals (biologists and socio-economists), and a curb on human population increase or at least on the spread of cultivation and pastoralism into wildlife areas. The latter may not be a matter of controlling population growth *per se*; many of the areas visited during the evaluation have inherently low human carrying capacity because of low rainfall. We saw numerous cases of crops (maize and millet) that had done poorly during the 2000/2001 growing season. Even though the population may be on the increase, people moving to larger rural settlements or urban areas may ease the impacts that human land uses have on wildlife, a trend that seems more likely to occur with increased education and raised expectations.

In pursuance of the two preconditions, the strategic aims of the Project¹¹ are:

1. To ensure that communities benefit from wildlife in terms of money, employment, food and community projects.
2. To promote and encourage village anti-poaching programmes.
3. To co-operate and help the WD in all its conservation ideals.
4. To discourage illegal, unselective and wasteful use of wildlife, such as commercial meat poaching by such means as cable long line snaring.

¹¹ Taken from a 2001 Project description but the order rearranged.

5. To involve local communities in the promotion of wildlife and habitat conservation through sustainable utilisation of renewable resources.
6. To help local communities understand and manage wildlife in a sustainable manner and to take on responsibility for its long term stewardship.

The Project sets about achieving these strategic aims in two ways. First, by providing villagers with development projects financed by hunting fees. This was the Project's earliest role, and one that it continues to play. The second is by organizing and supervising anti-poaching operations that employ local villagers, and include WD participation. Anti-poaching operations aim to safeguard the stocks of game animals upon which a continued flow of hunting revenue is dependent, and produces employment opportunities for local men. Together these joint benefits are expected to encourage and foster a sense of stewardship over game animals and their habitat.

Being managed in close association with RHS, the Project's operational areas coincide with those allocated to the outfitter for tourism hunting.

3.2 ORGANISATION

Overall operations are subject to a Board of Trustees that comprises

Chairman:	Joseph F Cullman 3 rd
Vice Chairman:	Robin Hurt
2 nd Vice Chairman:	Terry Matthews
3 rd Vice Chairman:	Kay Delaney-Bring
Five Trustees:	Adam Hill, Robert Wood Johnson IV, Hargy E Kimei, Costa Mlay, John Jackson III

The Board members are widely dispersed geographically, and there has never been a Board meeting. It conducts its business by letter, telephone and e-mail.

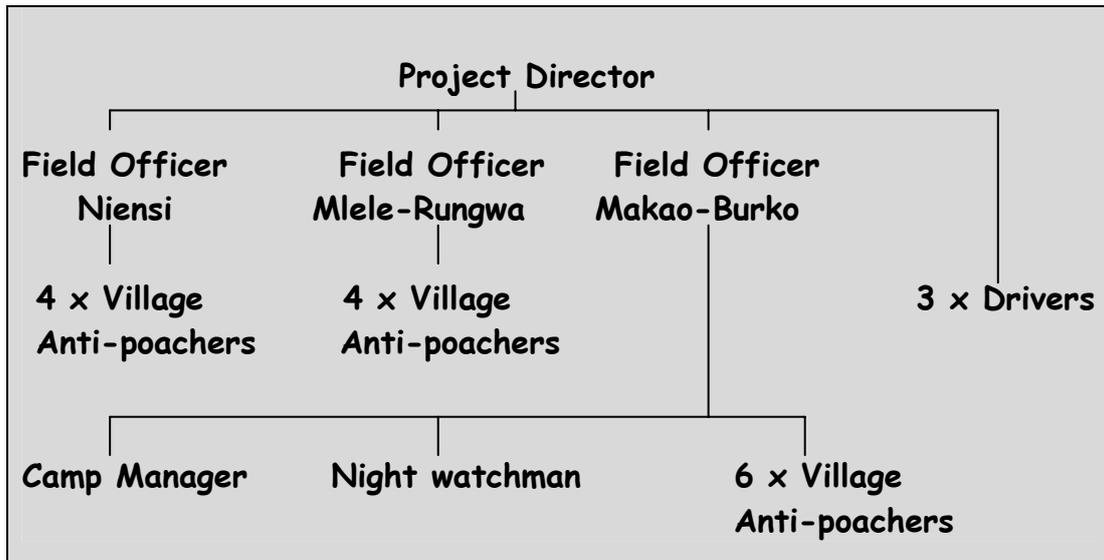
Senior executive personnel comprises

Project Director:	Sally Capper
Three Field Officers:	John Ngalasoni, Elly Mamuya, and John Magembe

Project headquarters is at Arusha, and its field operations are carried out in three zones, each under the supervision of a Field Officer. Its manpower, usually about 23-strong, are deployed as shown in Figure 1. The Village Anti-poachers (VAPs) are employed on a casual basis although often over extended periods. RHS provides office support with its own clerical and accounts personnel.

There have been five Project Directors (two in partnership) since the Project began in 1990. They were: 1990-93, Nick Swan; 1993-96, Brian and Mike Connors; 1996-2000, David Wallas; and 2001 onwards, Sally Capper. In addition to those listed in Figure 1, the Field Officer Makao-Burko also employs, from time to time, an extra four temporary VAPs for the Burko hunting block.

The Project Director is in 12-hour radio contact with the three Field Officers and the Camp Manager at Makao Camp in the Maswa-Makao hunting block.

Figure 1. Project personnel and their deployment.

3.3 FINANCE

This section is concerned with Project management costs, including anti-poaching. Financing community development is entirely separate, and addressed below in section 5.

Management costs are covered by donations and the proceeds of occasional events such as art auctions, assisted with local support such as free office accommodation and labour for vehicle maintenance provided by RHS. Donors include hunting clients. The Project Director identified four regular donors and several others who contribute less regularly. The next auction is scheduled for February 2002. Up until 2001, donations were channelled through the Game Conservancy USA but this arrangement has been replaced by an alliance with Conservation Force—an organisation based in Metairie, Louisiana—which charges a five per cent handling fee. Donations are deposited in a US\$ account and transferred as required to another US\$ account held in Nairobi by Safari World of Robin Hurt. The Project Director is kept informed of balances in both accounts, and can request transfers to the Project's US\$ account in Arusha as needed. Monthly expenditure is currently running at between \$11,000 to \$12,000, and is fairly uniform throughout the year. The Project Director's original budget for 2001, prepared in August 2000 and including provision for seven anti-poaching teams, came to \$215,446. This was later trimmed to \$141,074 and three anti-poaching teams.

The salaries of the Project Director and Field Officers are paid in US\$; the other staff in Tanzanian shillings (TSh)¹². Until recently, VAPs were paid TSh800 a day while in camp, and TSh1,000 when on patrol. These rates were increased to TSh1,000 and TSh1,200 respectively for VAPs in Makao-Burko; the Project Director says they are likely to be extended to those working in the other zones.

¹² At the time of the evaluation, a US\$ was worth about TSh880.

VAP rates of pay are lower than those paid to WD staff, whose Game Assistants receive monthly salaries of TSh40,000 plus a field allowance while on patrol. Up until 1999, the latter allowance was TSh5,000 a night, towards which the Project contributed TSh3,500 for each Game Assistant taking part in its anti-poaching patrols, leaving the WD to find the balance of TSh1,500¹³. In 1999, the allowance was increased to TSh10,000 although the increase was not reflected in the WD's recurrent budget. The Project continued to pay TSh3,500, so that WD was apparently left to find TSh6,500. However, in Makao, the WD Scout, who is permanently with the Project's anti-poaching team, continues to be paid TSh1,000 a day although it is unclear why.

In conjunction with RHS (and with contributions from a regular donor, Mr Fred Mannix), the Project is about to help finance a study of leopard populations in the Rungwa Game Reserve ecosystem. The purpose is to gather data upon which recommendations can be made for future hunting quotas. Estimated cost of the study is \$75,000, to which RHS is expected to contribute \$53,000. The same donor is financing a mobile ambulance for Endulen Hospital (near the Maswa-Makao hunting area) and a church in Makao Village, currently under construction.

3.4 PHYSICAL ASSETS

The Project's physical assets include buildings, plant and vehicles and a variety of other equipment (see Annex C) with a net book value on 30 June 2000 of \$66,674.

3.6 OPERATIONAL AREAS

The Project is active in three zones (spread across seven administrative districts) that contain seven hunting blocks allocated to RHS. A Field Officer is assigned to each zone.

Table 2. Field Officer zones, hunting blocks where the Project is operational, number of villages in each hunting area and the administrative districts in which they lie.

<i>Field Officer zones</i>	<i>Hunting blocks and their protected area status</i>	<i>Number of participating villages</i>	<i>Administrative districts</i>
Niensi	Ugalla Niensi OA/FR	4	Urambo and Kigoma
	Luganzo GCA/FR		
Mlele-Rungwa	Mlele(S)-Rukwa GR/Piti OA	2	Mpanda
	Rungwa Inyonga GR	3	Chunya and Manyoni
	Rungwa OA(S)/FR		
Makao-Burko	Maswa Makao GR/Makao OA	4	Meatu
	Burko OA/FR	10	Monduli

GR=game reserve FR=forest reserve GCA=game controlled area OA=open area

¹³ The Project is not obliged to pay Game Assistants' field allowance; it is a WD responsibility.

The Project recognises 23 villages as being within the scope of its operations, and these villages accept their co-operative association with the Project. All villages lie in, or are adjacent to, hunting blocks listed in Table 2.

Thumbnail descriptions of the three zones follow although they are based upon limited data.

Niensi

The two hunting blocks cover an area of flat to hilly country dominated by dry *miombo* woodland with extensive *mbugas* and tracts of wetland. The Ugalla River runs along the southern border of Luganzo and swings northwards between the blocks. The area is sparsely populated. One participating village lies to the north, three to the southeast. Total population is unknown although estimates given by the Chairmen of the three latter villages along the railway to Mpanda came to just over 2,000. Main activities are cultivation (maize, groundnuts, sweet potato, beans, some tobacco and sunflower), fishing, bee-keeping and small scale trade in clothing and minor consumer goods. Produce from cultivation, fishing and bee-keeping is used for subsistence and trade. Tourism hunters' main target species are lion, leopard, buffalo, sable, roan, sitatunga, topi, zebra, hippo and crocodile. The area is tsetse infested.

Mlele-Rungwa (not visited during the evaluation)

a) Mlele/Rukwa/Piti

Hilly, well-watered terrain with some steep escarpments. The vegetation cover is largely dry *miombo* woodland. Tourism hunters' main target species are lion, leopard, buffalo, sable, roan, topi and zebra. The area is tsetse infested.

b) Rungwa/Inyonga

Hilly terrain with some extensive plains. Well watered with numerous springs. The plant cover is largely dry *miombo* woodland. Main tourism hunters' target species are as for Mlele. The area is tsetse infested.

Makao-Burko

a) Maswa Makao GR/Makao OA

Rolling country with some hills and rocky outcrops. Vegetation cover is predominantly *Acacia-Commiphora* woodland. There are some brackish springs. The area is sparsely populated by four participating villages along the southern border, whose total estimated population is 6,700. Cultivated plants include maize, millet, cassava, sweet potatoes, groundnuts and cotton. Livestock includes cattle, goats and donkeys. Pastoralists move seasonally in and out of neighbouring districts in response to available water and grazing. Annual rainfall is about 400-900 mm. Tourism hunters' main target species include lion, leopard, buffalo, greater kudu, hartebeest, impala and zebra. To the north and east the land is tsetse infested.

b) Burko OA/FR

Rolling to hilly *Acacia* savanna country. Sparsely populated with 10 scattered, participating villages but demographic data were not available. Cultivated plants include maize and millet. Livestock includes cattle, goats, sheep and donkeys. Annual rainfall is about 400-800 mm. Tourism hunters main target species are plains game (oryx, lesser kudu, gerenuk, Thompson's gazelle, etc) and buffalo.

3.6 REPORTING

There are no regularly produced technical reports apart from those required for expenditure control. A one-off report produced in July 2000, covered several years' operations in the Maswa-Makao area, and was prepared to support the WD in developing a management plan for Maswa Game Reserve.

The Project Director produces a quarterly newsletter that is issued to selected readers: see subsection 5.7.

4 ANTI-POACHING OPERATIONS

Anti-poaching is a major activity, which the Project conducts in co-operation with the WD. The latter has insufficient resources with which to enforce wildlife laws effectively across the vast tracts of game reserve and game controlled areas that it is expected to cover, as well as play a co-ordinating role with Tanzania National Parks (TANAPA). For example, the ZAPC at Tabora has only 50 Game Assistants to cover the three regions of Tabora, Kigoma and Rukwa. At the same time, he has to co-ordinate law enforcement activities with 12 District Game Officers (DGOs), Project Managers of six game reserves and Chief Wardens of three national parks. The ZAPC Arusha has only 19 Scouts and three motor vehicles to cover a vast area that stretches from Serengeti National Park to the coast, and from the frontier with Kenya to the southern edge of the Masai Steppe. In practice, his limited resources force him to focus attention upon areas in the vicinity of Arusha and Kilimanjaro. Not only are the numbers of enforcement staff inadequate; there is also need for improvements in communications, especially additional vehicles and radios. WD officers interviewed were highly appreciative of the support given by the Project and other non-government organisations.

4.1 TYPES OF POACHING

The following account is based upon information provided by Project Field Officers, Professional Hunters, ZAPCs and Game Assistants.

In the Niensi and Mlele-Rungwa zones, poaching has increased due to the presence of Hutu refugees (mostly from Burundi)—about 500,000 of them living in 20 encampments east of Mpanda and south of the Niensi-Luganzo hunting blocks. Their primary targets are large meat producing animals (especially hippo) plus elephant for ivory. Successful hunters use the meat and ivory to barter for food supplies.

Muzzle loaders are used by Hutu refugees and by fishermen along the Ugalla River. A few rifles are owned by outsiders and refugees. Snaring is not common, although an Africare spokesman reported that snares were once set for subsistence purposes by villagers west of Ugalla Game Reserve.

The ZAPC at Tabora reported that villagers along the southeast side of Luganzo hunting block are generally co-operative. But Nguruka, to the north (which we did not visit), the largest participating village within the block, attracts a transient population from outside, some of whom come to poach. Nguruka Village is relatively far from the

project's fly camp south of Lake Sagara, and less easy to keep under surveillance. Circumstances are exacerbated by the fact that these villagers once had rights to cultivate in the hunting block, and have responded unfavourably to being excluded. On the other hand, since August 2000, when a call for muzzle-loaders was instituted, 14 were surrendered from this village in exchange for the standard payment of TSh30,000 per weapon (see Table 3).

In the Maswa-Makao hunting block, most poaching is by locals or people living close by. Bows and arrows are the most frequently used weapons—the arrows tipped with poisonous substances—employed by the hunter-gatherer waHadzabe of Sungu Village. The most commonly hunted animals are zebra, impala, lesser kudu, buffalo and eland. Illegal hunting by rifle is rare although some muzzle-loaders may be used nearer urban areas. Firearm owners kill any animals that they encounter, the larger the better.

The use of snares, once common, has declined in recent years, and the last case of mass hunting with dogs was in 1999. Larger animals are hunted chiefly for their meat, which is dried and sold or bartered; smaller animals are for local consumption. Lion and leopard skins are sold to local witchdoctors who make traditional medicines.

Both Project and WD personnel report sharp declines in poaching in Maswa-Makao area over the past 10 years due, which they believe is due to:

- intensified anti-poaching operations by the Project
- good public relations on the part of RHS
- the appearance of tangible benefits accruing to local communities from tourism hunting, including employment

In Burko hunting block, poaching is less intense, done chiefly by hunters from outside the area who are armed with rifles and arrive in motor vehicles. Their primary targets are large meat-producing game and zebra, whose skins they sell in Arusha.

4.2 ANTI-POACHING METHODS

The Project employs broadly similar methods of anti-poaching in all three zones. Patrolling teams usually consist of a Field Officer, four VAPs and a Driver, plus a WD Game Assistant (sometimes two) seconded by the local DGO or ZAPC. The presence of a Game Assistant means that there is at least one person in each patrol who has powers of arrest. These powers are restricted to officers of the WD plus a few other civil servants nominated by the Director of the Division.

VAPs are chosen from participating villages, typically one from each village, selected by its Chairmen but not necessarily the same one each time. In the Maswa-Makao hunting block, the same team of VAPs have served the Project for several years and, although still employed on casual terms, are virtually permanent.

A team assembled, its Driver carries them into the field, transports them between locations and returns them to base. Each member has rations and camping gear provided by the Project. A communal tent is carried although small one- or two-man lightweights would give greater flexibility of movement. Field Officers carry GPS units and are

sometimes armed with shotguns. The Game Assistant usually has a semi-automatic. In the Makao-Burko zone, patrols typically last six to seven days, moving on foot or by vehicle according to needs. In the Niensi and Mlele-Rungwa zones they may remain in the field for three to five months based at fly camps. The Field Officer in Niensi normally leaves the Driver and two VAPs to guard the fly camp while he and the others are on patrol.

Patrols keep a watch especially for gathering vultures, smoke and recent paths leading to and from water holes. If they receive information from an informer they follow it up. If they arrest a suspected lawbreaker, he is secured and taken to the nearest ZAPC's office or police post—preferably the former—where a court hearing is arranged. ZAPCs are public prosecutors and better qualified to present poaching cases before a court. Police officers are reputed to be unhelpful in dealing with suspects, and often release them without charge. Bribery and corruption may be involved; some police have been caught poaching, as have some WD staff.

Anti-poaching is more intense in the Maswa-Makao hunting block, where VAPs, although on casual employment terms, work on an almost permanent basis. It is least intense in the Burko block, where a year or more may pass before all 10 villages have been called upon to supply VAPs. (A Village Chairmen in Burko expressed concern that not enough of his men were being employed, or not being employed often enough. However, financial resources are finite, and the Project tries to be fair in selecting representatives from all villages.) In Burko, anti-poaching is done largely by motor vehicle, searching for signs of illegal activity and acting on information received.

The Project pays rewards for confiscations and information leading to convictions under the Wildlife Conservation Act: see Table 3. Rewards are shared by the successful team. If an individual is involved, he or she receives the reward. Rewards are not paid for recovered carcasses or trophies, which could encourage illegal hunting by would-be claimants. Rewards for informants are paid after conviction, to be shared between the informant and the team that follows up the information and makes the arrest. Accumulated rewards are paid by the Field Officers at convenient intervals. The amount paid in 2000 was almost \$6,700.

Table 3. Rewards paid by the Project for successful anti-poaching work

<i>Amount paid (TShs)</i>	<i>Confiscations and convictions</i>
5,000	Per poacher's camp destroyed
250-500	Per wire/cable snare (rewards depends on size)
60,000	Per rifle or shotgun handed to WD
30,000	Per muzzle-loader handed to WD
20,000	Per poacher convicted
250,000	Per elephant or rhino poacher convicted

Source: Extracted from Project description

Rewards for confiscations are set at less than the value of the article confiscated. Snares are brought back to the anti-poaching camps and cut up into unusable pieces. We were shown a large collection at Makao camp.

At the end of each patrol, Field Officers complete an anti-poaching report form and submit it to the Project Director: see Annex E for a replica.

5 COMMUNITY PROJECTS

The second major Project activity is aimed at bringing the benefits derived from tourism hunting to participating villages as directly as possible.

5.1 METHODS OF FINANCING

Funds to finance community benefits come from a 20 per cent surcharge levied on game fees by RHS (see below), and a few donations whose donors may specify how they are to be spent.

Payments made by RHS's hunting clients are of four types.

1. The company's daily safari rate—a transaction solely between client and outfitter for services provided.
2. Government permits or licences, comprising several fees required under statutory law: e.g.; conservation fees, firearms' licence, hunting permits, trophy handling fees and ammunition import licences. These revenues are paid in total to the Government.
3. Game fees, which are charged for animals hunted according to a schedule that sets tariffs for each species. Revenue raised is divided between the Tanzania Wildlife Protection Fund (TWPF)¹⁴ and the Government in a ratio of approximately 5:3 for most species. See Table 4 for examples. If, at the end of a safari, the game fees for a hunting block fail to reach 40 per cent of the potential total, the outfitter must pay the difference.
4. A surcharge of 20 per cent on game fees, levied by RHS, and used subsequently to finance community projects. The area in which each animal was hunted is used as the basis for determining which communities benefit.

Table 4. Examples of game fees (in US\$) payable for tourism hunting.

<i>Species</i>	<i>Total fee</i>	<i>TWPF share</i>	<i>Government share</i> ¹⁵
Bushbuck	340	215	125
Elephant	4,000	2,500	1,500
Lion	2,000	1,250	750
Puku	220	140	80
Warthog	320	200	120
Guinea fowl	15	10	5

Source: Wildlife Division circular no. GD/16/44/31 dated 1 July 1994

¹⁴ TWPF was established by Act of Parliament in 1978, under the Wildlife Conservation Act. It supports law enforcement, protected area development, training and research. It supports the Malihai (Wildlife) Clubs of Tanzania, and produces the quarterly Tanzania Wildlife magazine—Kakakuona.

¹⁵ A proportion of the government share is paid to district councils to support conservation but we were unable to discover how this is subsequently used.

Game fees are collected through advance deposits paid by clients to the outfitter, who later pays the Government according to animals hunted. The 20 per cent surcharge is deposited with Safari World of Robin Hurt in Nairobi. Up to and including 2000, the total amount was divided into five equal shares, one for each cluster of villages (see Table 2), and each one-fifth share divided equally between villages within the cluster. Starting in 2001, the total amount is divided unequally according to animals hunted (and thus revenue collected) in the area 'belonging' to each cluster. For each cluster, its share is then divided equally between its villages. RHS's accountant in Arusha keeps records of revenue by village.

The amount that will be available to participating villages in the following year is normally known by the end of each hunting season in November. Annex D shows the financial breakdown by villages for 2001. The total of \$62,000 for the year is somewhat less than those of the previous two years, due to a smaller number of clients caused by delayed allocation of hunting blocks.

At the start of the following year, the Project Director writes to Village Chairmen and Secretaries, Regional and District Commissioners, advising them of the funds available for the year. Village committees organise public meetings, often attended by the Project Director, to discuss and decide how the funds allocated for that year are to be spent. Some villages have natural resource committees that give special attention to the Project.

5.2 VILLAGE CONCERNS

Most attempts to share wildlife revenue with rural communities in Africa have been implemented through projects that serve a broad spectrum of people. Direct disbursement of cash is rare although it has been done (to popular acclaim) in at least one CAMPFIRE area of Zimbabwe, and cash dividends have been paid to villagers under Zambia's LIRD. If cash is to be a practical option, the amount of revenue relative to the number of beneficiaries must be such that each share is a significant contribution to the recipients' pockets. During an evaluation of the Development Through Conservation project in southwest Uganda¹⁶, it was noted that the annual share of revenue (20 per cent) for community benefits from gorilla-watching in one national park amounted to \$100,000. A sizeable sum but, had it been shared out between the 80,000 inhabitants of the parishes identified as beneficiaries, each person's share would have been a derisory \$1.25.

If allocations for 2001 (see Annex D) were to be given in cash to villages under the Cullman and Hurt Project, individual shares would not be much better. For example, Makao's allocation is \$3,377, its population 1,400, therefore shares per person would be \$2.41. The most favourable ratio would be at Ukumbi Kakoko: allocation \$3,376, population 276 and cash per person \$12.23. Under these circumstances, community projects that address villagers' chief concerns and problems seem a better proposition than cash shares for the foreseeable future. But if revised legislation and introduction of the WMA system (see above under subsection 2.2) were to allow community

¹⁶ The writer was a member of the evaluation team.

institutions to take *all* income from tourism hunting, then cash dividends paid to households might become a realistic option. An undoubted advantage of cash in hand is its potent demonstration to recipients that 'their' wildlife really has tangible values.

Issues of concern to villagers in the nine out of the Project's 23 participating villages that we visited are tabulated in Annex E and briefly described below.

School facilities

One of the three most frequently expressed concerns. Parents are anxious that their children secure at least a primary school education; a Makao villager was concerned that, because there was no nursery school, children went unprepared into primary school at seven years of age. In a few cases, lack of access to secondary schools was an issue. Lumbe B gave its new school the highest praise and reckoned it the best benefit that the Project had brought them.

Inadequate classroom space, insufficient latrines and shortages of teachers' accommodation were commonplace problems. The largest school we visited was at Lumbe B, where 530 pupils were accommodated in six classrooms and taught by four teachers. Insufficient classroom space was a problem in almost all villages except Usinga where a school of 103 had three classrooms, and Ukumbi Kakoko—28 pupils in two classrooms. At most schools, boys outnumbered girls but there were exceptions: for example, Iramba Ndogo's 162 boys to 182 girls.

Access to water

The second of the three most frequently expressed concerns; access to decent water supplies (dams, pumps and rainwater tanks). At a meeting in Makao, we took a vote on the most popular Project intervention. The overwhelming winner was the hand-operated water pump, followed by the dispensary.

Health facilities

The third most commonly expressed concerns, especially among women. Even where a clinic or dispensary exists, it may be inadequate to serve the needs of a relatively large village and its satellites. It may be manned by only a Rural Medical Assistant who has an extensive area to cover with no transport other than a bicycle. The incumbent at Makao told us that his most distant village is 72 km away. Most rural dispensaries have no nurse so that women must often be referred to a hospital, which may be far away. Even though a clinic is present, access to a doctor may be a rare event. A look through the visitor book at Makao dispensary revealed that the last visit by a doctor from the Endulen hospital (40 km away) had been 21 months before, in September 1999.

Unconfirmed cases of sleeping sickness were reported to us at Lumbe B—13 dead and seven currently sick—although not at the other two villages along the Mpanda railway where tsetse are prevalent.

Livestock health

Only an issue at Mwangudo, where villagers reported the risk of trypanosomiasis when livestock are driven east to Endulen. (Tsetse infestations prevent any livestock being kept at the Niensi-Luganzo villages.)

Grinding mills

Several villagers have to travel long distances to the nearest mill, sometimes taking a whole day over the round journey. The same applies to oil presses. Some women still grind grain between rocks.

Tractors

No tractors available for ploughing or repair needed to an existing one.

Village offices

Not apparently a high priority but a village office is under construction at Lepurko.

Communications

The inhabitants of Makao and Lumbe B were concerned about the lack of decent all-weather roads in and out of their villages. Villagers at Usinga and Ukumbi Kakoko lacked sidings off the railway that runs past their villages, preventing them from loading or unloading heavy goods, in contrast to Lumbe B where there is a siding.

Employment opportunities

Three villages expressed concern over the paucity of employment opportunities with the Project and RHS. Employment is a source of cash—usually a much sought after commodity in subsistence communities. Even in a community that grows sufficient crops to feed itself, cash is needed to buy clothing, pay school fees and cover the associated costs of schooling and to buy various minor consumer goods.

Trading opportunities

Villagers at Ukumbi Kakoko reported that their isolated position 120 km along the railway to Mpanda reduces their capacity to market honey, dried fish and agricultural produce. Trade is another source of cash.

Security

Villagers at Lumbe B and Usinga were unhappy with the proximity of Hutu refugee encampments to the south. The village of Ukumbi Kakoko is even closer to those encampments. The Project has supported construction of a large police station at Lumbe B, which we saw was well advanced.

Land tenure

Villagers in Lumbe B expressed fears over the absence of title to land, believing that what they regard as village land might be converted into a game reserve, resulting in their resettlement. Land tenure is a complex and, to those involved, confusing issue. All village land is owned by the Government unless a lease has been secured (normally for 99 years), which requires the claimant to pay survey fees, which are normally beyond the means of villagers. Nevertheless, villagers believe that certain tracts of land ‘belong’ traditionally to their village or to them as individuals although, in fact, they have no legal claim. The Project has limited capacity to address this problem although it helped map village boundaries for Losimingori Village (not visited during the evaluation) in Monduli District.

Conservation education

A Usinga villager complained that there was a lack of conservation education—the only person to raise the subject during our village visits.

Periodic famine or drought

Recorded from time to time in the villages of Burko and Maswa-Makao areas.

Problem animals

Expressed by all three villages visited in the Niensi-Luganzo area—chiefly garden raiding by elephant, bushpig and baboon. It is probably a more widespread problem. See subsection 7.2 for further comment.

Bush meat shortage

Villagers at Mwangudo and Usinga complained that they had no legal access to wild animals as a source of protein.

5.3 BENEFIT SELECTION

The methods by which villagers decide how the year's Project benefits are to be spent conform to a similar pattern. Initial discussions are held at village meetings attended by all men and women who wish to participate. The Project Director attends, and contributes to, many of these meetings. Their decisions may be further debated by a village committee¹⁷ or village natural resource committee, from where they are passed to the District Council, which is a Government institution. All village committee members are elected by popular vote; there are no traditional, hereditary leaders such as the chiefs or headmen found in many other African countries.

A Project description produced by the Project Director states that '*villages are now being encouraged to think more of using the funds for some form of building that will be a permanent asset*'. She also expressed hopes that villages might put some of their future allocations into active conservation, such as anti-poaching, rather than rely upon donations. See subsection 7.2 for further comment.

5.4 IMPLEMENTING BENEFITS

Funds are spent in two ways, direct purchase and through contract. Direct purchases, for example of maize in times of famine or water during periods of drought, are made by the Project and delivered by Project or RHS vehicle or by vehicles hired by the village; the same for building materials. Contracts for construction work are arranged with a suitable local contractor although the village may undertake some voluntary work; for example, to dig the foundations for a teacher's house that is to be built with Project funds. Sometimes Project funding only partly finances a building programme; for example, one or two classrooms of a school that is otherwise being financed and built by the Ministry of Education. The Project then pays the implementing agency the village's share of the total cost.

¹⁷ In Lumbe B, the village has a Village Government comprising 18 men and 7 women.

Total expenditure on village benefits for the period 1991 to 2000 was \$587,183, an average of \$58,718 a year. The allocation for 2001 is \$61,395 (see Annex D). Categories of benefits and number of times each was provided are tabulated in Table 5.

Table 5. Types and numbers of benefits provided to 23 villages by the Cullman and Hurt Community Wildlife Project 1991-2000

<i>Category of benefit</i>	<i>Number of times provided</i>
School facilities	47
Providing access to water	28
Health facilities	16
Delivery of water during drought	8
Delivery of maize during drought	7
Grinding mills/repairs	4
Tractor and trailer/repairs	3
Recreation facilities	2
Police/security facilities	2
Road improvement	1
Boundary mapping	1

Benefits have been concentrated in the three main areas of village concern—schooling, water and public health. The desire for primary education has been widely addressed by the Project through building and renovating classrooms, school latrines and teacher's housing, and purchasing desks and other educational equipment. Access to water supplies has been addressed by building or repairing dams, laying piping, installing rainwater collection systems and installing water pumps. Village health facilities have been improved by the construction of clinics and dispensaries, medical staff housing, hospital fencing and purchase of equipment. Once buildings such as clinics, dispensaries, schools and associated housing have been built, villagers reported no difficulty in finding health workers and teachers to staff them.

Other capital benefits such as grinding mills, police offices and housing and purchase of a tractor and trailer have been less frequent. Furthermore, the Project is reluctant to provide plant and vehicles because of the subsequent liability upon the village to maintain. Buildings, although they require maintenance, are longer-term investments.

The Project has paid for two recreational facilities—renovating a stadium and building a basketball court although no villagers mentioned leisure activities as a need.

Non-capital benefits due to drought have been applied fairly frequently in the form of maize and water.

Our inspection of capital projects at nine villages revealed variable standards of workmanship. Some works have not been well done. The classroom block at Arkaria had cracks in the wall and floor but they were in use, and workmanship on the Makao School was poorly finished although incomplete. The village had opted to forego internal plaster and a cement floor. In contrast, the church in Makao—financed by an

individual donor—was of a higher standard although not yet complete; and the school at Lumbe B was the best finished of all.

Some villagers are lax in helping themselves. In Sungu we saw that villagers had voluntarily dug the foundation trenches for a teacher's house; but in Iramba Ndogo, the village seemed to be making heavy weather of bringing sand needed to complete the school latrines.

The Project provides limited opportunities for employment in anti-poaching, which injects some cash into local economies. RHS also employs a few local people during the six-month hunting season but never enough to satisfy demands for work.

5.5 AD HOC DONATIONS

Several four-wheel-drive vehicles have been donated to support anti-poaching by the WD and Tanzania National Parks.

- two to the Director of TANAPA
- one to the DGO, Monduli
- one to the DGO, Meatu
- two to Ugalla Game Reserve
- one to the Rukwa Game Reserve

Further vehicles were donated for Project operations.

- one Landrover 110 pick-up
- two Toyota Double Cabin pickups
- one Valmet 1280 Tractor to cut anti-poaching tracks and demarcate boundaries
- one Toyota Landcruiser for the Rungwa Leopard Survey and anti-poaching patrols

A donation from a US benefactor is currently being applied to building a church in Makao Village, purchasing a mobile ambulance for Endulen Hospital and covering part of the cost of a leopard survey.

5.6 REACTIONS OF BENEFICIARIES

Wherever we went, villagers and their representatives sang the praises of the Project—literally so in two villages. Without any prompting on my part, two independent sources (a ZAPC and a District Commissioner) said that they had better co-operation with the Cullman and Hurt Project than with other similar ventures.

Most villagers seemed to understand that their benefits come through the Project from clients who hunt with RHS, and that they stem ultimately from the existence of game animals around or nearby their villages. Where villagers seemed unclear as to the precise mechanism, the Project Director would give an explanation using the licence fee charged for hunting a lion as illustration.

Dissent was expressed in Makao about the way in which shares are apportioned. One villager thought that two other villages in the cluster, Iramba Ndogo and Sungu, should be classed as one (the latter generally regarded as a sub-village of the former) and not

receive separate shares; see Annex D. The Project Director argued that the Project is more interested in communities than villages *per se*, and that the residents of the two are quite distinct¹⁸.

Some village committees have behaved counterproductively. One village chairman is reported to have handed out plots of land within Maswa-Makao hunting block to outsiders. This will put greater adverse pressure on wildlife habitat. In any case, it is illegal and the Project ought to consider using its influence to have these folk restrained although this could be a politically unpopular act.

5.7 PUBLICITY

Programmes of the sort run by the Project and similar organisations need to ensure that their achievements are kept in the public eye, especially those of the beneficiaries. I once encountered wives of peasant farmers in Zambia, who were quite unaware that a local school and water pump had been financed through tourism hunting; to them it had simply been another Government handout.

The Project Director has regular contact with village committees and with district councils although, being relatively new to the job, she has yet to visit the Mlele-Rungwa zone. Those that I attended were well attended and handled skilfully. Our visit to Mwangudo in the Makao hunting block coincided with that of the Counsellor for Kimali Ward, and at Usinga in Luganzo the Counsellor for Ukumbi Siganga Ward chaired the village meeting. The Project Director had not previously made contact at this intermediate level of government, midway between village and district, and arranged to attend future ward meetings at Kimali. Regular attendance at such meetings will maintain the Project's high profile at village, ward and district levels.

Notice boards in or nearby villages proclaim that the Project has been responsible for building or providing this or that facility, and that the primary source was the continued existence of wild animals sought by sport hunters. In Iramba Ndogo School, every desk displayed prominently the name of the Project.

A four-page newsletter is produced four times a year—150 copies each time—and distributed to hunting clients, donors, RHS professional hunters, the WD, TANAPA and the NCA. Articles on anti-poaching activity and community news are mixed with features on recent events: for example, the May 2001 issue included an account of a visit to Tarangire National Park by pupils of Arkaria School, and an impending survey of leopard distribution and abundance.

Files are placed in each RHS hunting camp to inform clients about the Project. Pages are printed on card and mounted inside plastic covers. The contents include detailed information about the Project, how it was set up and what it does; copies of newsletters; colour photographs illustrating Project activities; advertisements for T-shirts and other fund-raising exercises; and generally urging further donations.

¹⁸ The inhabitants of Sungu are waHadza—a small tribe of hunter-gathers numbering less than 1,500, a proportion of which live in Sungu and which have become socially marginalised.

Reaching further afield, the Project has a web site at www.cullmanandhurt.org

5.8 SIMILAR PROGRAMMES

All safari companies are obliged to support rural communities in and around their hunting blocks. A programme somewhat similar to the Project is the Friedkin Conservation Fund, associated with Tanzania Game Trackers Safaris—another large hunting outfitter. The latter also collect a 20 per cent surcharge on game fees, with the majority of the proceeds going to finance anti-poaching, which is conducted by a centrally recruited team from Arusha.

Another example is the Dorobo Fund for Tanzania—an offshoot of Dorobo Safaris, which offers photographic safaris in and outside national parks. Its aims are to assist villagers promote sustainable community-based natural resource management, and stimulate educational and leadership development for young people motivated to lead positive change.

The Ugalla Community Conservation Project, funded by USAID and implemented by the NGO Africare Tanzania in association with the WD and the neighbouring districts of Sikonge, Urambo and Mpanda, has just entered its fourth year out of five. It has some overlap with the Project in so far as its sphere of interest includes three of the Niensi-Luganzo participating villages along the Mpanda railway although its overall bailiwick covers some 135,000 rural residents. Its focus is on the Ugalla Game Reserve. Its aims are to create conservation awareness; disseminate technologies in fishing, bee-keeping and cultivation of new crops; assist in land demarcation; help identify sustainable income generation activities; and strengthen institutions relevant to natural resource management.

The AWF runs a Community Conservation Service Centre in Arusha, the purpose of which is to play a co-ordinating role for all community based natural resource management programmes. At present, its chief links are with TANAPA and the WD—and concerned mainly with non-hunting tourism. The Centre's Manager told us that, at present, it has few links with hunting outfitters although he and the Project Director are in communication.

6 ACHIEVEMENTS

The goals and strategic aims of the Project have been described in section 3.1, together with the two main methods of achieving them: providing villagers with development projects financed by a surcharge on game fees, and organising anti-poaching patrols to safeguard stocks of game animals.

The Project sets no quantitative targets. With community projects, what can be done is dictated by annual earnings from the 20 per cent surcharge on game fees. The Project does, however, aim to influence village decision-making in the direction of sustainable programmes that have long-term benefits, such as school and clinics, and minimise expenditure on plant or vehicles, which incur further expenditure for use and

maintenance. For anti-poaching, a broadly stated aim is simply to minimise poaching in RHS hunting blocks, and to maintain game stocks at not less than levels believed to exist when the Project began in 1990. However, as there are no hard data as to what those levels were, comparisons between then and now depend upon anecdotal evidence.

6.1 PROJECT MANAGEMENT

Project management and organisation are of high standard; the Project has been well-served by its succession of Project Directors. The field camp at Makao was well maintained. The Field Officers appeared motivated and efficient. I was impressed with the manner in which the present Project Director deals with village committees and villagers. Although new to the job, she shows great skill and patience, and maintains a cheerful demeanour during long sessions spent sitting on hard wooden benches. She has developed new opportunities for fund raising and produces a quarterly newsletter on time.

There is, however, a lack of accurate maps to illustrate the hunting blocks used by RHS and therefore by the Project. The only ones available were sketch maps or crude photocopies. Without maps it is difficult for an outsider to understand the spatial interrelationships of Project villages, protected areas and hunting blocks, or to visualise problems or issues described orally. There is patchy information on the geography and demography of the zones, and virtually nothing on sizes of hunting blocks or distances between points within them.

6.2 DEVELOPMENT PROJECTS

The Project has supported considerable development in participating villages over its 10-year life, to the tune of well in excess of \$500,000. This support has addressed issues that were important to villagers—in particular schooling and health facilities and access to good water. The Project has achieved this with a minimum of intervention by intermediaries; it has ensured that the money went directly into financing benefits. Indications are that this will continue into 2002, which will draw upon revenue collected during 2001.

This programme of community development can be sustained provided that:

- game stocks survive at present population levels or above
- tourism hunting continues and is managed on a sustained yield basis
- clients are prepared to continue paying a 20 per cent surcharge on game fees

The first two provisos are the most sensitive to changing circumstances. More game could lead to higher hunting quotas, increased revenue, more community benefits and (hopefully) a heightened public awareness of wildlife values. If game stocks decline, quotas fall, revenue decreases, there is less support for community projects and the values of wildlife become less attractive compared with other forms of land use.

The second proviso is dependent upon adequate stocks of game but also on government policy, and governments can make remarkably unexpectedly abrupt decisions. Recent

circumstances in Zambia, where hunting was abruptly banned at the end of 2000, have thrown the ADMADE programme into chaos.

The Project has been urged to invite more villages to participate; the District Council at Meatu proposed this during our meeting in Mwanhuzi. At the outset, the Project invited all villages that lay within the RHS hunting blocks. All but one, which did not reply, accepted. If more villages are added, monetary benefits from hunting may reach more people but the amount allocated to each village will decline. The Project Director and Trustees should consider this carefully, cautiously and on a village-by-village basis. The farther villages are from game areas, the less will they be inclined to feel a sense of ownership; in any case the further away they are, the less likely are they to have adverse impacts on the game and there is less justification for trying to 'buy them off'.

6.3 ANTI-POACHING

Success of the Project's anti-poaching is highly dependent upon the three Field Officers. They mobilise their teams, organise patrols, lead them in the field and submit reports to the Project Director. Judging from the two who accompanied us in the field, they seem to be competent and effective. They are relatively highly paid (in US\$), which should motivate them and encourage honesty.

CBNRM programmes usually encounter problems in monitoring the impacts they have on resources they set out to conserve or manage. Monitoring the effectiveness of anti-poaching operations involves two stages:

- monitoring illegal activities
- monitoring populations of game animals

The first is relatively straightforward. The anti-poaching team covers its whole area of jurisdiction thoroughly and systematically, and records each case of illegality it discovers together with the date and location (using GPS); incidents of illegality are related to patrol effort. Over a period of, say, a month or year, a picture is constructed of the types, seasonality and localities of illegal activities. They can be plotted and illustrated on maps; if GIS is available, so much the better. These data provide feedback to guide future anti-poaching strategies. Over longer periods, they provide measures of whether illegal activities are or increasing, decreasing or remaining stable, which, it is assumed, are influenced by anti-poaching and community development.

The second is more difficult; discovering population trends over time for game animals, and determining whether anti-poaching is having its desired effect. There is much anecdotal and some documentary evidence (in Project records) that anti-poaching operations have been effective in the Maswa-Makao area, particularly in respect of curbing the use of wire snares. However, records are not related to patrol effort, and there are no maps to illustrate the geographical distribution of illegal activities. Two years' records were stolen. As for population trends of game animals, there are only anecdotal accounts. Those told by professional hunters speak mostly of declines, especially lion, which is the species most sought-after by hunting clients', and the one that raises the highest revenue.

The source of funding for anti-poaching and Project management costs is precarious. It depends upon the willingness of a small number of people to continue making substantial donations; and this is said to depend, in turn, upon the ability of one man to encourage them. The Project has been running on this basis for a decade but it is, none the less, a year-to-year business; there is no assurance that these circumstances will continue indefinitely.

6.4 SENSE OF STEWARDSHIP

One of the Project's strategic aims is to engender a sense of stewardship by rural communities for wildlife in 'their' areas. Stewardship is a common goal of community-based natural resources management programmes. It is an ambitious goal that requires

- the people concerned to experience a sense of ownership over wild animals
- local institutions that can take decisions on how to use wildlife
- local institutions that have a capacity to manage wildlife or can afford to employ professionals to do so on their behalf

So far, the Project has demonstrated well an ability to direct money derived from hunting into community projects that satisfy important village needs. It has shown its capacity to mount anti-poaching operations although the impacts they have had on illegal activity and game stocks are uncertain. The extent to which these activities have made progress towards a sense of stewardship is also uncertain although there are indications, based upon favourable verbal reports made by Government representatives, that steps have been taken in the right direction.

Villagers in the nine villages visited during the evaluation showed a keen interest in the Project; men and women turned up in good numbers (almost 100 at one village) and joined in discussions. They praised the Project and showed understanding of how its community projects are funded. But to discover whether, in their hearts, they felt a sense of ownership over wildlife needs more detailed investigation by local researchers with sociological backgrounds. Participating villagers have shown that they can take decisions on how to spend their annual allocations from the Project but they have not been called upon to take decisions on how to use wildlife. They play no part in setting hunting quotas or in allocating concessions for tourism hunting; these remain firmly in government hands. They have no demonstrable capacity to manage wildlife although some individual men have acquired anti-poaching skills as a result of being mobilised by the Project.

The Meatu District Council (the only District Council we met) believed that villages associated with the Project had genuinely acquired a better understanding of the values of wildlife and tourism hunting, and hoped that efforts to foster this should be intensified. They further reported that the Project had made better progress in this way than similar initiatives undertaken in collaboration with other outfitters. The Council emphasised that the Project should focus upon instilling a sense of ownership for wildlife although this is clearly not helped by extant Tanzanian law, which gives the Director of the WD (who is appointed by the President) responsibility for the overall management of wildlife throughout the country. New legislation may redefine ownership.

6.5 IMPEDIMENTS TO PROGRESS

Budgetary constraints limit the coverage that the Project can provide for anti-poaching; they inhibit increased village contacts and expansion of data collection. Dependence upon donations is prejudicial to long-term planning.

The Project enjoys harmonious relations with the WD but the latter could do more to support anti-poaching by providing sufficient in its annual budget to cover the new rate of patrol allowances—TSh10,000/night, double the old rate. (See section 3.3.) The Project can contribute only TSh3,500 (and is, in any case, not obliged to do so), leaving WD with a shortfall of TSh6,500 that it still cannot afford. Game Assistants are reluctant to work unless they are paid their full entitlements.

Absence of geographical material and data (see section 6) limits the systematic storage, management, analysis and display of data on Project operations, illegal activities or game animal abundance and distribution.

Monitoring is insufficiently rigorous to be able to assess the impacts that the Project is having on poaching and, more especially, on game stocks.

7 FINDINGS AND RECOMMENDATIONS

7.1 FINDINGS

Referring back to the Project's strategic aims (see section 3.1), it seems that the Project

- has done much to ensure that communities benefit from wildlife in terms of money, employment, food and community projects
- promoted and encouraged village participation in anti-poaching programmes
- co-operated and helped the WD in all its conservation ideals—at least in anti-poaching
- discouraged illegal, unselective and wasteful use of wildlife, such as commercial meat poaching by such means as cable long line snaring, through its anti-poaching operations, although it is impossible at present to tell whether this has paid off in terms of its effects upon game stocks

Project success in the next two aims are less developed. They are

- to involve local communities in the promotion of wildlife and habitat conservation through sustainable utilisation of renewable resources
- to help local communities understand and manage wildlife in a sustainable manner and to take on responsibility for its long term stewardship

Villagers appear to understand that wildlife has a value, and that benefits can accrue to them from its sustainable use. But management and long term stewardship are still far in the future. This is hardly surprising; the far more advanced ADMADE programme in Zambia, heavily supported by USAID money, is still years from unaided local control over wildlife management in hunting areas. In both cases, future stewardship of wildlife

at local level will also depend upon the willingness of government organisations to cede some control, and upon the introduction of appropriate enabling legislation.

7.2 RECOMMENDATIONS

Some recommendations require extra funding. Given the precariousness of existing financial resources for management costs and anti-poaching, I am apprehensive about making recommendations that incur further costs but it will for the Project management to decide priorities and seek further funding if required.

Additional field units

A fourth field unit, comprising Field Officer, Driver and team of four casually-employed VAPs should be recruited so that the present Mlele-Rungwa Zone can be divided into two more manageable units—Mlele-Rukwa-Piti and Rungwa-Inyonga. This was included in the Project Director's original budget for 2001.

Enhancing ownership and stewardship

The Project might make progress in fostering a sense of ownership in wildlife resources if it introduced an extension or conservation education service to participating villages. Such a programme would need an additional staff member, use of a vehicle and appropriate audio-visual equipment with a small generator.

Fund-raising

If the Project is to expand its activities by setting up a new field unit or starting an extension service or both, extra funds will be needed. This may be accomplished by stepping up the existing flow of large donations from a few individuals but there may be other avenues. Ones recently pursued by the Project Director include arranging with an artist to produce pictures that are auctioned and a 25 per cent mark-up paid to the Project; production of T-shirts made in Arusha for about \$5 and sold for \$25; and files placed in RHS hunting camps that describe the Project with the aim of drumming up donations from across a broader base. She also plans to visit hunting clients more frequently. The web site may play a similar role.

If larger sums are needed, the Project management might consider preparing submissions to bilateral and multilateral aid agencies. Some of the major agencies are predisposed to disburse aid through NGOs, believing that the latter are more cost-effective and motivated than government departments or large institutions. In June of this year, the European Union gave the Dian Fossey Gorilla Fund a grant of about \$142,000 to support its community conservation programmes in DR Congo, Rwanda and Uganda.

Maps and geographical information

The Project needs decent maps of the hunting blocks in each of its operational zones. We were shown good topographical 1:250,000 maps of the Niensi-Luganzo area by the Africare Tanzania representative in Tabora. Presumably the other areas of interest to the Project are similarly covered. When maps are available for each zone, information relevant to the Project can be superimposed on them: participating villages, Project camps, RHS camps and tracks.

A databank should be compiled of relevant information in and around the RHS hunting blocks. It would include GPS co-ordinates of (for example) villages, camps, major road and track junctions, river crossings and level crossings. Distances between points would be recorded and stored. Demographic information on villages would be added. In no time, a useful compendium of geographical information will be available.

Data collection and management

The Project should systematise data collection so as to monitor the effectiveness of what it does, particularly anti-poaching. Management activities such as patrolling should be designed so that they are conducted and reported in a manner that provides feedback, which can measure effects and indicate where adjustments to activities may be needed.

Project anti-poaching patrols currently record incidents of illegal activity and the positions of each incident by GPS co-ordinates (see Annex E). They should continue to do so. These data are storable on paper or computer, and can be analysed to determine trends in poaching over time and space—*so long as patrol effort is taken into account*. (There is a useful book on monitoring illegal wildlife activities¹⁹ produced under a project financed by the Netherlands Government. I recommend it to the Project as a practical management manual.)

It would be useful if GPS co-ordinates could be recorded at intervals during patrols, instead of only where events occur. The Project Director would then acquire more detailed information on the ground covered. However, as she can only expect to visit each zone at three-monthly intervals there may be a problem in storing GPS data for so long. It is worth checking whether this is a feasible option.

At present there are no rigorous data by which long-term trends in game populations can be assessed. RHS is currently investigating opportunities for setting up a shared database with another outfitter, Tanzania Game Trackers Safaris. Together they anticipate collecting data for trophy sizes of all species, and observations of big cats recorded by their professional hunters. Without introducing excessive complexity, the database could be expanded to include hunting success rates and hunting effort. Sightings of animals by Project anti-poaching patrols (related to patrol effort) would add further data.

Annual report

Given the anticipated inflow of data on anti-poaching and game animal population trends, an annual report would be appropriate in which the data are reviewed and the Project's activities, constraints and successes outlined. It might be in the form of an annual newsletter of about 10-12 pages.

Village conservation

The Project Director has expressed hopes that villages might invest parts of their annual allocations in their own anti-poaching. This may be premature. The cost of maintaining one VAP in the field is TSh480,000 a year plus annual capital costs of uniform and

¹⁹ Jachmann, H. 1998. *Monitoring illegal wildlife use and law enforcement in African savanna rangelands*. The Wildlife Monitoring Resource Unit, Lusaka.

equipment adding about a further TSh50,000. In total, this is the equivalent of over \$550, a sizeable chunk of a village's expected annual benefits. However, given time and a mechanism that devolves wildlife management to local institutions, allowing them access to all or most of hunting revenue, there will be increased motivation to spend income on conservation. A recent study of the LIRDP in Zambia²⁰ reports that villagers have been ploughing back up to four per cent of wildlife earnings into management. And this was their decision—a sign that stewardship *was* being taken on board.

Nyamaluma visit

Nyamaluma in Zambia is the site of the College of CBNRM. If funds are available, the Project Director might usefully visit for a few days, if only to examine the ADMADE database. This database, known as the ADMADE Data Manager, integrates all datasets through a user-friendly interface. Analysts can query information from field patrol dataforms, safari hunting, licence revenue, hunting quotas, demography, poacher case records, or staff records for any year and hunting area. Dozens of preset summaries, including interactive charts and queries, are available, and new ones can be added. The database supports displays of GIS data, and can present customisable interactive maps through the same interface. Data entry is simple and robust. For further information, I have sent the Project Director a copy of a report prepared by the database designer, Andy Lyons. The College Principal's e-mail address is admade@coppernet.zm.

Powers of arrest

At present, each Project anti-poaching patrol includes a WD Game Assistant so that there is one person who has powers of arrest. However, the Director of the WD is said to be legally empowered to confer powers of arrest upon others, and has done so to forest officers, fisheries officers and bee-keeping officers. This is worth investigating. If it is so, Project Field Officers might be eligible.

Problem animal control

DGOs are responsible for dealing with dangerous animals if they menace human life or property. We were told by WD spokesmen that long delays may occur between receiving a request and dispatching a Game Assistant to deal with a problem. Game Assistants working on Project anti-poaching patrols could do the job as if they happen to be in an area at the right time. This could be a public relations plus for the Project. If Game Assistants working with the Project do not already have blanket permission to deal with dangerous animals, the WD Director might be asked to sanction it.

A research study

A UK geography undergraduate has submitted a project proposal.²¹ The title is '*Tourist hunting has a negative impact on local populations in Tanzania.*' The student's intention is to implement it in and around the Burko hunting block; its aims are to '*prove that hunting has an effect on the local populations surrounding protected areas and that this impact is negative*' and '*show that small conservation projects are more likely to work than big ones*'. This initially went down like a lead balloon with RHS but I suspect that the wording of title and aims are deliberately contentious. It will be interesting to read

²⁰ Dalal-Clayton, B & B Child. 2001. *Lessons from Luangwa: the story of the Luangwa Integrated Resource Development Project, Zambia*. IIED, London & SLAMU, Zambia.

²¹ Annabelle Stead: GEO296, proposal for a geographical research project.

the outcome of this study if it goes ahead; some useful insights might arise from it. I recommend that the Project give it their blessing, provided that it is self-financed.

ANNEX A

ITINERARY

- 29 May: Arrived Kilimanjaro airport at 1700. Met by Project Director, Sally Capper (SC). To Arusha. Overnight in Arusha.
- 30 May To the Project office shared with Robin Hurt Safaris. Met the Managing Director of RHS, Jay Blumer, and Project Trustees, Adam Hill and Hargy Kimei. Overnight in Arusha.
- 31 May Working at the Project office all day; early drafting of final report. Overnight in Arusha.
- 01 June Met WD's Northern Zone Anti-poaching Commander, Mr Chota. Discussions with SC. Met representatives of the Dorobo Fund (see Annex B). Overnight in Arusha.
- 02 June With Adam Hill to Arkaria Primary School in Burko open area hunting block. Had a meeting with Village Chairman, Village Secretary, School Chairman, Headmaster and colleagues and several fathers of pupils; speeches and presentations. Concert given by 38 pupils. Inspected the teachers' house and extra classroom. Returned via Monduli to stay overnight in Arusha. Distance travelled 120 km.
- 03 June With SC and John Magembe (JM) to Lepurko Primary School. Met the Village Chairman, Headmaster and colleagues. Inspected the new classroom block and teachers' house. Passed by the village dam, recently repaired, and to village office under construction. Drove on to stay overnight at Tarangire National Park. Distance travelled 154 km.
- 04 June With SC and JM to Makao anti-poaching camp in the Makao open area, passing through Ngorongoro Conservation Area and Maswa Game Reserve. Distance travelled 221 km. Overnight at the Project's Makao Camp.
- 05 June With SC and JM to Makao village. Inspected the new school, new church (both as yet incomplete), grinding mill, dispensary, water pump and tractor. Attended meeting with Village Chairman, Village Secretary, Headmaster, 14 other men and three women. Had discussions with SC, JM and the local Game Assistant on poaching; inspected various confiscated traps and weapons. Distance travelled 16 km. Overnight at Makao Camp.
- 06 June With SC and JM to Iramba Ndogo and Sungu, the latter a sub-village of the former. At Iramba Ndogo, met the Headmaster and inspected the school buildings. At Sungu met the Village Chairman and Village

- Secretary, and attended a meeting of about 55 men and 35 women after inspecting the school and work in progress to add latrines. Distance travelled 115 km. Overnight at Makao Camp.
- 07 June In Makao camp, discussions with SC and drafting report. Overnight at Makao Camp
- 08 June With SC and JM to Mwangudo Village. Met the Village Secretary and Counsellor of Kimani Ward. Inspected the clinic, school and additional latrines under construction. Continued to Iramba Ndogo Village for meeting with Village Chairman, Village Secretary and about a dozen villagers. Continued on to Mwanhuzi to stay overnight. Distance travelled 90 km.
- 09 June With SC and JM, attended a meeting with the District Council, Meatu District. Present were the outgoing and incoming District Commissioners, District Executive Director, District Secretary, District Game Officer and local Police representative. Discussed various issues focusing on district demography and ways of life, and matters concerning relations between the district and the Project. Also met the District Development Adviser (Netherlands Government) to the Meatu District Rural Development Programme. Overnight at Mwanhuzi.
- 10 June With SC and JM to Shinyanga, to stay overnight. Discussions with SC and JM on poaching and anti-poaching, and with SC on various other Project issues. Distance travelled 119 km.
- 11 June With SC and JM to Tabora by road. Distance travelled 196 km. Boarded train at 2015 in preparation for the 2100 service to Lumbe.
- 12 June Train departed 0015. Arrived at Lumbe B (Kilomita 60) Village at 0820 and met by Field Officer Elly Mamuya (EM). Distance travelled 200 km. Had meeting with 21 members of the 25-strong Village Government. Inspected the new school classrooms, teachers' housing, and police station under construction and water pump. By road with SC, JM and EM to RHS camp on Ugalla River. Distance travelled 68 km. Overnight at RHS camp.
- 13 June With SC, EM and JM to Kilomita 90 (Usinga) Village. Had meeting with the Counsellor for the Ukumbi Siganga Ward, Village Chairman, Village Secretary, Headmaster and a dozen other men and women. A song of greeting sung charmingly by two women. Inspected the new classrooms, teachers' housing under construction and the well that badly needs a pump. Returned to RHS camp via upper Ugalla River. Distance travelled 80 km. Overnight at RHS camp.
- 14 June With SC, EM and JM to Ukumbi Kakoko Village. Had meeting with Village Chairman, Village Secretary, Headmaster, about 25 other men

- and 12 women; many children gathered behind them. Inspected the two new classrooms and teachers' housing, still under construction. To the rail station at Kilomita 90. Distance travelled 70 km. With SC and JM caught the 1900 train to Tabora. Overnight on the train.
- 15 June Arrived Tabora 0300. Distance travelled 230 km; stayed on board until 0700. With SC and JM, met Mr Nkusa the WD's Western Zone Anti-poaching Commander. We also met John Mwamhanga, Field Conservation Officer Supervisor for Africare Tanzania's Ugalla Community Conservation Project. Overnight in Tabora.
- 16 June With SC and JM to Shinyanga to stay overnight. Distance travelled 196 km.
- 17 June With SC to Arusha by air. Overnight in Arusha. Distance travelled; air 410 km, road 62 km.
- 18 June At the Project office all day. Overnight in Arusha.
- 19 June At the Project office. With SC, met AWF representative, Arusha. Overnight in Arusha.
- 20 June To Kilimanjaro Airport. Depart Kilimanjaro 0745.

ANNEX B

PERSONS INTERVIEWED

Cullman & Hurt Community Wildlife Project

Sally Capper	Project Director
John Magembe	Field Officer, Makao-Burko
Elly Mamuya	Field Officer, Niense-Luganzo
Adam Hill	Trustee of the Project and former General Manager of RHS
Jay Blumer	Managing Director of RHS and Trustee of the Project
Hargy E Kimei	A Director of RHS and Trustee of the Project

Robin Hurt Safaris

The above-mentioned members of RHS plus

John Moller	Professional Hunter
Johnny Chipman	Apprentice professional Hunter

Wildlife Division

Mr Chota	Northern Zone Anti-poaching Commander, Arusha
Mr Nkusa	Western Zone Anti-poaching Commander, Tabora
Simon Charles	District Game Officer, Karatu
G L Ijumba	District Game Officer, Meatu
Tungu Mahigi	Game Scout, Makao

District, Ward and Village leaders

James Ole Millya	District Commissioner, Meatu (outgoing)
Miraji Pazi	District Commissioner, Meatu (incoming)
George Kagomba	District Executive Director, Meatu
Bula Gwandu	District Executive Secretary, Meatu
Thomas Mugeni	Police representative, Meatu
Gerard Kiers	District Development Adviser, Meatu
Counsellors for Kimani and Ukumbi Siganga Wards, various village chairmen, village secretaries, headmasters, teachers and other villagers as indicated in Annex A.	

Representatives of other organisations

Damian Bell	Managing Director of Sokwe Limited
David Peterson	Dorobo Fund
Thaddeo Peterson	Dorobo Fund
Daniel Ngoitiko	Dorobo Fund
John Mwamhanga	Field Conservation Officer Supervisor, Africare Tanzania
Richard Young	Manager, AWF Conservation Service Centre, Arusha

ANNEX C

FIXED ASSETS OF THE CULLMAN & HURT COMMUNITY WILDLIFE PROJECT (as of 30 June 2000)

Motor vehicles

- 1 x Nissan Safari
- 1 x LandRover 110 TDI
- 3 x Toyota Landcruisers

Tools and vehicle accessories

- 2 x Warn winches model 2800
- 1 x Warn winch model 9000
- 4 x Highlight jacks
- 2 x Roof carriers (Nissan, LandRover)
- 1 x Rear carrier (Nissan) & spare tyre
- 5 x Tool boxes with assorted tools
- 2 x Spare rims
- 4 x Bush bars
- 3 x Anchurs
- 1 x Car inverter (12v-220v)

Radio and hi-fi equipment

- 2 x HF radios, Kachina
- 4 x HF radios, ICOM
- 5 x Vehicle radios, Sonny & Artech
- 1 x VHF radio, Yaesu
- 1 x VHF aerial, Yaesu
- 1 x HF aerial, Barret
- 1 x 14-inch TV, Panasonic
- 1 x Video deck, Panasonic
- 1 x Editing deck, Sony

Computer equipment

- 1 x Computer, Mackintosh 2300 C
- 1 x Printer, Mac Stylewriter 2400
- 1 x Printer, Epson
- 1 x Computer battery backup
- 1 x Computer, Belinea

Office equipment

- 2 x Office chairs
- 2 x Filing cabinets
- 2 x Cell phones

Housing

1 x Bush house at Makao

Camping & field equipment

1 x Container

2 x Sim tank 500 litres

1 x Sim tank 1,000 litres

5 x Tents, Tarpo

2 x Tents, Field Officer

1 x Tent, Director's & accessories

2 x Shotguns, Remington

1 x Shotgun

5 x GPS

1 x Mobile telephone

5 x Torches, rechargeable

1 x Calculator extension cord

45 x Mattresses

45 x Mosquito nets

100 x Uniforms

30 x Overalls

Shovels, rakes, buckets, pangas

Slashers, sufurias, buckets

ANNEX D

SHARE OF PROJECT BENEFITS FOR 2001

(GATHERED FROM A 20 PER CENT SURCHARGE ON GAME FEES COLLECTED IN 2000)

<i>Hunting block groups (refer to Table 2)</i>	<i>Villages</i>	<i>Share per village cluster (US\$)</i>	<i>Share per village (US\$)</i>
Burko OA	Makao	12,892.96	3,223.24
	Iramba Ndogo		3,223.24
	Sungu		3,223.24
	Mwangudo		3,223.24
Maswa Makao GR	Lepurko	14,120.80	1,412.08
	Losimongore		1,412.08
	Lendikinya		1,412.08
	Arkaria		1,412.08
	Mbaash		1,412.08
	Arkatan		1,412.08
	Mtimoja		1,412.08
	Orkeswa		1,412.08
	Emairete		1,412.08
	Eluwai		1,412.08
Mlele (S)-Rukwa GR Piti OA	Mpanda	9,209.29	4,604.63
	Inyonga		4,604.63
Rungwa Inyonga GR Rungwa OA/FR	Kambikatoto	11,665.05	3,888.35
	Rungwa		3,888.35
	Bitimanyanga		3,888.35
Ugalla Niensi OA/FR Luganzo GCA/FR	Lumbe B	13,506.92	3,376.73
	Usinga		3,376.73
	Ukumbi Kakoko		3,376.73
	Nguruka		3,376.73
TOTAL		61,394.99	

Benefits for 1999 and 2000 were of the order of \$80,000 for each year. The decline in 2001 was due to fewer hunting clients caused by delayed allocation of hunting blocks to outfitters. Based upon the expected number of clients, benefits for 2002 are expected to be higher than 2001.

ANNEX E

REPLICA ANTI-POACHING PATROL REPORT FORM

ANTI POACHING PATROL REPORT – CHCWP

DATE FROM.....TO.....

NO. DAYS

NO. PEOPLE IN PATROL

GPS COORDINATES	PATROL AREA	NO OF POACHERS	NAMES	VILLAGE	VOLUNTARY SURRENDER FIREARMS	FIREARMS	WIRE SNARES	POACHERS CAMPS DESTROYED	SKINS ETC	CASE NO

ANNEX F

VILLAGE CONCERNS

Based upon concerns expressed by villagers at meetings held during the current evaluation, and upon concerns that have been or are being addressed by the Cullman & Hurt Community Wildlife Project

<i>Hunting blocks</i>	<i>Burko</i>		<i>Maswa Makao</i>				<i>Niensi Luganzo</i>		
	Arkaria	Lepurko	Makao	Iramba Ndogo	Sungu	Mwangudo	Lumbe B	Usinga	Ukumbi Kakoko
Water supplies	X	X	X		X		X	X	X
School facilities	X	X	X	X	X	X	X	X	X
Health facilities		X	X			X	X	X	X
Livestock health						X			
Grinding mills			X		X				X
Tractor			X						
Village office		X							
Communications			X				X	X	
Employment opportunities	X							X	X
Trade opportunities									X
Security							X		
Land tenure							X		
Conservation education								X	
Periodic famine or drought		X	X	X	X				
Problem animals						X	X	X	X
Bush meat shortage						X	X	X	