

**Saadani Conservation and Development
Programme**

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**OPTIONS FOR THE FUTURE STATUS
AND
USE OF SAADANI/MKWAJA GAME RESERVE**

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1 INTRODUCTION

The Saadani/Mkwaja ecosystem lies on the northern coastline of Tanzania, directly opposite Zanzibar and approximately 133 km north of Dar-es-Salaam. Although the ecosystem covers an area of 2 000km², only 650km² lies within the protected areas of Saadani Game Reserve (260 km²), Zaraninge Proposed Forest Reserve (180km²) and Southern Mkwaja Ranch (210km²). There is also an option to include the remainder of Mkwaja Ranch (Northern Mkwaja Ranch) within the Saadani Game Reserve and possibly extend the Game Reserve in the south to incorporate the mangrove swamps along the Wami river. Other proposed acquisitions are the Green Turtle Beach in the West (Mkwaja village) and the former Kisauke Sisal Estate.

Saadani Game Reserve is the only protected coastal area in East Africa. It contains a wide variety of wildlife, including elephant, buffalo, lion, Roosevelt sable and Lichtenstein's hartebeest as well as coastal mosaic forests and mangrove swamps. The Game Reserve also has one of the few remaining nesting sites for the rare green turtle, and is steeped in cultural history dating back to Arab reign in East Africa. This ecosystem is therefore regarded as being of significant conservation, economic and cultural value.

These attributes have given the impression that Saadani has enormous potential to generate revenue for the local communities, the districts and the region through tourism. This is supported by the fact that the Wildlife Division has received various applications from various investors to develop tourism facilities in the Saadani Game Reserve, mostly along the coast.

Several studies have been undertaken that examine the Saadani ecosystem in detail. Virtually all these studies have highlighted the ecological importance of the region, and all have argued that the Saadani ecosystem should be protected from exploitation and/or over development. These studies have also highlighted the importance of involving the local communities in the future management of the area. However, the difficult terrain (poor access, high rainfall, and poorly drained soils and high water table) has meant that the area is extremely difficult to "manage". Add to this the various land tenure conflicts between the conservation authorities and the various villages, and one begins to appreciate the complexity of issues affecting this area.

Nonetheless, the Tanzanian Government recognises that unless the Saadani/Mkwaja ecosystem is protected and properly managed, this important ecosystem will be lost. In May 1996, the Ministry of Natural Resources and Tourism requested assistance from the German Government to establish a community based Wildlife Conservation and Management Programme in the Saadani/Mkwaja ecosystem. This prompted the Federal Ministry for Economic Co-operation and Development (BMZ) to commission GTZ to conduct an appraisal mission to design a support project on behalf of the Wildlife Division (Haase, Ndunguru and Siege, 1996). The Wildlife Division also commissioned

the Institute of Resource Assessment, University of Dar es Salaam, to evaluate the feasibility of accommodating four tourism project proposals that would result in the establishment of approximately 514 tourist beds in the area (IRA, 1997). In 1998 the TANAPA Planning Unit presented a proposal to upgrade Saadani Game Reserve and Zaraninge Forest Reserve to National Park status (TANAPA, 1998). The most recent study is a draft Management Plan Proposal for the Saadani Game Reserve prepared by Minja, Schenk and Baldus (1999).

1.1 Analysis and Conclusions of these Reports

The conclusions of these reports are varied. The appraisal mission conducted by GTZ in 1996 concludes that the Saadani Ecosystem has exceptionally good potential for tourism, citing the spectacular beaches, remarkable diversity of wildlife and habitats, and close proximity to Dar es Salaam, Zanzibar and Tanga. However, the report also identifies a number of constraints for tourism development, notably:

- Inadequate infrastructure, particularly the internal road networks and lack of appropriate tourist accommodation.
- Unreliability of game viewing.
- Poor roads that are difficult to negotiate during the rainy season.

This report also recognised that local communities, particularly those living in Saadani itself, were not enthusiastic about the Game Reserve since they received very little benefit from the Reserve but had to bear the brunt of anti-poaching operations. To secure the long-term viability of the Game Reserve, it was considered essential that buffer zones be established on the eastern and western boundary of the Saadani Game Reserve. Here Community Wildlife Management programmes were to be established where local communities could be empowered to sustainably utilise the natural resources in these areas.

In contrast to this, the evaluation undertaken by the Institute of Resource Assessment is of the opinion that the tourism potential of Saadani has been overvalued (albeit this study was completed before Southern Mkwaja Ranch was added to the Game Reserve). The report highlights several practical constraints to developing the tourism potential of the area. The more important of these are:

- Access to Saadani is poor and unreliable.
- The land suitable and available for proposed tourism development along the coast in Saadani is limited to 1km².
- The beach is not as expansive as perceived (effectively only 1.5km long, and 5m wide at low tide).
- The quality of the beach has limitations (steep, muddy, turbid water).
- Tourist recreational activities would conflict with local traditional interests, mostly artisanal fishing.

- Availability of drinking water, accessibility and the presence of tsetse fly restrict development of tourist facilities inland (e.g. Tengwe site).
- The physical characteristics of the area will make it difficult to handle domestic refuse, especially sewage.
- Land conflicts between the Saadani village and the conservation authorities still exist.
- The Saadani Game Reserve is under pressure in the west from an expanding human population that threatens its future viability.

Based on these observations, the IRA recommend that the scale of infrastructure development at Saadani should be enough to support not more than 85 tourists which is far less than the proposed 514 tourist beds. Furthermore, any development that does take place must respect the traditional user rights of the local communities, especially artisanal fishing.

The proposal to upgrade Saadani Game Reserve including Southern Mkwaja Ranch and Zaraninge Forest presented by TANAPA is based on the fact that the ecosystem represents the only protected area that incorporates wildlife, marine environment, beaches and coastal forests in Tanzania. It is also the home of rare species such as Roosevelt's sable and green turtles.

TANAPA also argue that this ecosystem is threatened by human activities such as poaching, timber cutting and destruction of turtles and their nests. Offshore, trawlers and dynamiting of the coral reefs for fish are also destroying the rich and diverse marine habitats.

Because of the area's rich biodiversity and endemism of flora and fauna, and the threat facing the ecosystem, the TANAPA report strongly recommends that they should secure and promote part of the ecosystem to be a National Park. In this way, it is believed, the area will be afforded the highest level of protection given in Tanzania.

This report goes on to promote a hard line stance regarding the future management, including:

- Reducing poaching of any kind through strengthening anti-poaching activities and introducing "benefit sharing" through an "outreach programme" into surrounding communities. Park planning will involve the public at all levels.
- Total conservation of the coastal forests. No tree cutting in the forest (including mangrove forests) will be allowed. TANAPA will however, continue to support the WWF projects in providing alternative resources to local people.
- Human access to the breeding sites of green turtles will be severely restricted.
- No fishing of any kind will be allowed in the portion of the ocean included in the area.
- The area will be zoned to support appropriate uses based on "Limits of Acceptable Use and Development".

- All major developments, including park and tourism facilities, will be encouraged outside the park boundaries.

TANAPA are also of the opinion that the present size of the core area needs to be enlarged in order to incorporate areas that are utilised by wildlife during the dry season. The areas to be included are in the south-west between the Saadani Game Reserve and Zaraninge PFR (Mwave kubwa), and an area north of Madete between Madete and Mligaji. These adjustments will increase the size of the protected area and thus "make it more viable".

Finally, the draft management report prepared in 1999 (Minja, Schenk and Baldus, 1999), attempts to analyse the management issues and problems facing Saadani Game Reserve and offers management objectives and strategies to resolve these. The proposed implementation strategy focuses on securing the area (boundary demarcation), zoning the area for non-consumptive tourism and improving law enforcement. Emphasis is also given to improving communications to and within the Game Reserve so as to support a low-volume, high cost tourism market. The management plan envisages working in co-operation with neighbouring communities to expand the Game Reserve to incorporate the mangrove swamps (and other minor boundary adjustments) as well as enhancing the living standards of rural communities from direct benefits derived from the sustainable use of wildlife.

2 PURPOSE OF THIS REPORT

It is clear from the above synopsis that there are differing opinions on the future management strategies of this important ecosystem. On the one hand, TANAPA are of the firm opinion that the area should be afforded national park status while at the same time implementing a system that benefits the local communities. Another opinion is that the area cannot support excessive tourism development while the opposite opinion is that the area has high tourism potential.

The common thread here is that all the parties agree that the Saadani ecosystem should be afforded greater protection: the question being asked is how the area should be administered in the future, and how the utilisation of the area can benefit all stakeholders. This report analyses the various options available to the authorities¹.

Since this study was commissioned it has finally been decided to give Saadani National Parks' status. The report serves therefore mainly as an attempt to discuss the options in principle and to draw conclusions in order to optimise future management. It also addresses the question whether a private non-consumptive management option can be incorporated, e.g. in a part of the proposed National Park and/or on village land.

2.1 Approach to this analysis

The options available for the future management of Saadani Game Reserve include:

- Upgrading to National Park status
- Maintain the area as a Game Reserve
- Develop Community Wildlife Management Area in the buffer zones
- Encourage investment from the Private Sector (Private Game Reserve?)

For each of the above, the advantages and disadvantages as well as the costs and benefits of the various options will be considered (where possible).

¹ It should be noted that the author has not visited Saadani, and has had to rely on the various reports to draw conclusions on the options for its future use.

3 UPGRADE TO NATIONAL PARK STATUS

The Saadani Game Reserve was officially gazetted in 1968 and although a limited amount of development took place, the Game Reserve was financially crippled until it became a National Project Game Reserve directly administered by the Wildlife Division Headquarters in 1992 and supported financially by the TWPF. The 1995/1996 budget was equivalent to US\$50 000 (or US\$600/km²), however with constraints on government finances, Saadani is now starved of funding. As a result, the Game Reserve is coming under increasing pressure that threatens its future viability.

TANAPA are of the opinion that if this area were upgraded to National Park status, they would be in a position to protect and manage this important coastal ecosystem. The following tables summarise the advantages and disadvantages of this option.

Table 1: Advantages and disadvantages of upgrading Saadani Game Reserve to national park status.

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"> • The Saadani Ecosystem will be afforded the highest level of protection in the country. • The National Park will afford protection to the forest areas, including the important mangrove swamps and Zaraninge Forest. • The marine environment will be protected, including the breeding site for the rare Green Turtle. • Under the current strategy, the Park boundaries will be extended to include areas used by wildlife in dry season. • Subsistence and commercial hunting will not be permitted in the Park, thus affording protection to the wildlife populations. • All major infrastructure development, including tourism development, will be encouraged outside the Park. • Tourism development will take place in an orderly manner so as not to impact negatively on the ecology of the Saadani ecosystem • Law enforcement will be strengthened through appropriate levels of staffing. 	<ul style="list-style-type: none"> • Under the current legislation, the National Park status limits the options available for future use to non-consumptive utilisation only. • Private sector investment, particularly in tourism development, will be strictly controlled by the General Management Plan for the Park. • Extending the boundaries of the Park will lead to land tenure conflicts with the local communities. • The extended boundaries, particularly of Southern Mkwaja, will increase TANAPA's operational costs (patrolling, road maintenance etc.). • Limited benefits will accrue to the local communities. • Local communities may be denied access to sites of cultural importance, particularly in the Zaraninge Forest. • TANAPA will have to accommodate Saadani village within the Park, and cater for future expansion. • The potential to develop a "hard edge" between local communities and the Park authorities is high. • Relatively small size of the National Park means that it is costly to operate and manage.

3.1 Analysis of Recurrent and Capital Costs associated with National Parks

The 1998 staff compliment for Saadani was 18 patrolling staff operating from 4 ranger posts. Although the Game Reserve is supported by TWPF as a 'special' project, the funds are inadequate to cover its operational costs. Furthermore, infrastructure development is poor and the staff lacks regular payments of night allowances and other incentives. The Game Reserve is coming under increasing pressure from subsistence and commercial poachers, wood-cutters and illegal cultivation.

The operational budgets needed in protected areas in southern Africa are determined by the number of men required for effective patrolling² to deter illegal activities, and undertake routine management. Despite the establishment of effective community wildlife programmes in areas adjacent to national parks, there is still the ever-present threat from illegal hunters who may come from further afield in search of meat and other natural resource products. As a general rule the number of men required is related to the size of the park as follows:

$$\text{Number of men: } N_s = \sqrt{A}$$

- where A is expressed in square kilometres.

The number of men also determines the annual running costs (made up of salaries, field allowances, equipment, transport, maintenance costs *etc.*). Allowing for variations in salaries and other costs from country to country in the region, the operational costs are approximately given by the formula:

$$\text{Annual recurrent expenditure/km}^2: \quad C_R = \text{US\$50} \left(1 + \frac{2}{A} + \frac{3}{\sqrt{A}} \right)$$

Similarly, capital requirements are also dependent on the total staff complement in the park but vary depending on building costs across the region. The required capital per unit area is approximately given by the formula:

$$\text{Total capital expenditure/ km}^2: \quad C_c = \text{US\$500} \left(1 + \frac{1}{A} + \frac{1}{\sqrt{A}} \right)$$

Where A = thousands of square kilometres (*i.e.* A = 1 = 1000km²).

These formula suggest the recurrent and capital expenditure required to manage and develop a park of 1 000km² will require US\$300/km² and US\$1 500/km² respectively.

² Effective" patrolling is defined by the requirement that illegal activities are detected in less than two days.

Table 2 below illustrates these relationships.

Table 2: The relationship between park size, recurrent and capital expenditure to illustrate the impact of the economies of scale.

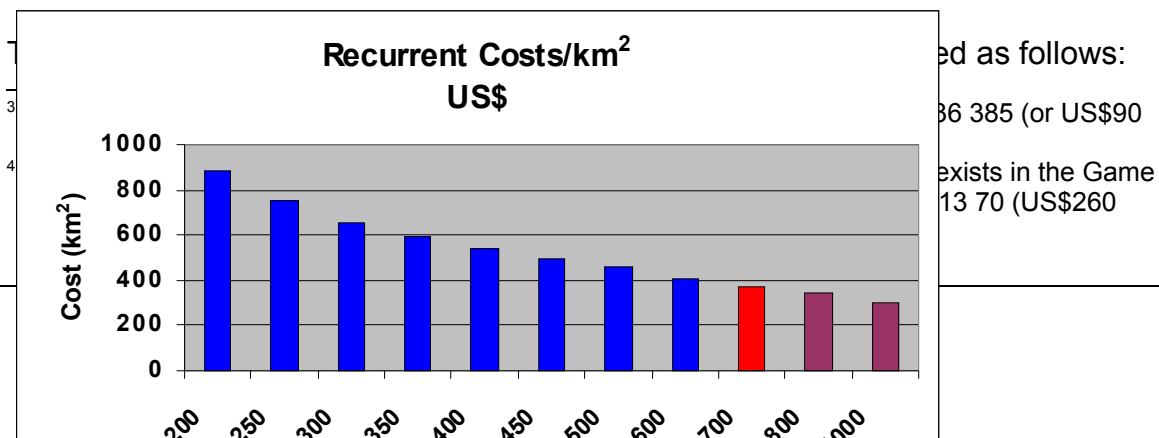
Area of Park (km ²)	Recurrent costs/km ²	Capital cost/km ²	Manpower (km ² /man)
200	885	4 118	14
250	750	3 500	16
300	657	3 080	17
350	589	2 774	19
400	538	2 541	20
450	496	2 356	21
500	462	2 207	22
600	410	1 979	24
700	372	1 812	26
800	343	1 684	28
1000	300	1 500	32

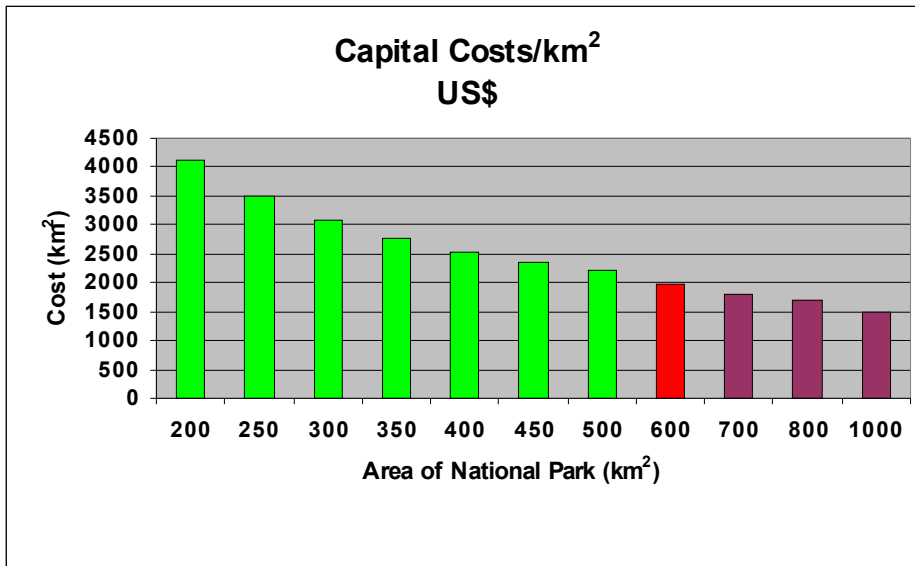
These budgets represent a threshold: where the state provides annual operating budgets equal to or greater than the amounts given in the table, there can be some certainty that the protected area will be adequately managed and conserved. Where budgets are lower than the amounts given, it is almost certain that the park management authority will not be able to protect the resources of the park.

Furthermore, these data illustrate the very high cost of developing and managing relatively small-protected areas. The cost of equipping and manning small, protected areas cannot escape from the economies of scale associated with large protected areas (see Figure 1 and 2).

Assuming that Saadani National Park is 600 - 700km², the overall recurrent costs based on the above formula would be in the region of US\$246 000 to US\$260 400 per year³. Twenty four to 26 game scouts would be required to patrol the park. Capital costs would vary from US\$1.19 million to US\$1.26 million depending on the level of infrastructure development⁴. The capital costs could be much higher if the road network is to be brought up to an "all weather" standard.

Figure 1 and 2: The relationship of Park size to illustrate the impact of economies of scale on Recurrent Expenditure and Capital Costs.





3.1.1 Recurrent Cost Assumptions

- The number of game scouts is computed as the square root of the total park area expressed in square kilometres.
- The number of labourers is computed at one half the number of game scouts.
- The number of senior scouts is set at 1 for every 10 game scouts.
- The number of junior officers is set at 1 for every 20 game scouts.
- The number of senior officers is set at 1 for every 3 junior officers.
- One warden (project manager) is appointed to be in charge of the National Park.
- One ecologist for a minimum of 2000km².
- One technician employed to assist each ecologist with data collection.
- One clerk is employed for every 50 junior staff persons.
- One typist is employed for every 50 junior staff persons.
- Field scouts are expected to be on patrol for 15 days of the month. Labourers may accompany them. A field allowance of US\$2 per day is paid as an incentive to ensure proper patrolling.
- Officers are expected to spend about 10 days per month in the field. Junior officers should frequently lead patrols.
- The provision of rations is optional, but to ensure adequate patrolling and to reduce the incentive to illegal hunt animals in the park, all staff members should be provided with rations.
- A reward system should be put in place to encourage game scouts to affect arrests.
- Uniforms are treated as consumables because they are generally written off after two years of use.
- VHF radios are essential for anti-poaching work. One radio needs to be provided for every 5 scouts (i.e. one per patrol) and each officer should have a radio. The cost of the radios can be written off over 5 years. The costs of

base stations and repeaters links can be absorbed within the overall radio communications budget.

- Every scout and every officer should be armed. The cost of each weapon can be written off over 10 years.
- A budget for "other consumables" is necessary for implements for labourers, first aid etc.
- Four wheel drive vehicles are treated as "consumables" to be written off over 5 years (possibly less in the coastal environment). One vehicle should be provided per 5 members of staff.
- At least one 5-tonne truck is needed per park. Saadani will also require access to a boat.
- At least one tractor is required per park. Additional equipment should include a tow grader and 4-wheel trailer suitable for moving heavy loads. A grass mower is optional. This equipment is to be written off over 5 years.
- An allowance of 2 500km/month for 4x4 vehicles will provide for all necessary travel within the park and allow one trip to a major centre every month.
- An allowance of 1500km/month for the truck will provide for one trip per month to a major centre to collect supplies and limited travel within the park.
- The provisions for the tractor assumes it will be used on average about 2 hours per day.
- The provision for water is based on the assumption of one borehole/well per 40 people. Running costs for the pump assume that it will operate 5 hours per day.
- It is assumed that one 50kva generator will supply the electricity needs for up to 30 people. The running costs assume that it will operate 6 hours per day.
- A provision for routine maintenance of all staff houses should include painting, plumbing repairs etc.
- Provision is made for all scouts to undergo at least 14 days training each year either in service in the park or elsewhere in Tanzania.
- Provision is made for all officers to undergo at least 28 days training annually within Tanzania.

3.1.2 Capital Costs Assumptions.

- Two game scouts will share a house with two bedrooms, a central mess area and an external kitchen.
- Five labourers will be housed in one "barrack" unit.
- Senior Scouts will have a two-bedroom house.
- Junior officers have their own house with one bedroom, shower and toilet.
- Senior staff have a two-bedroom house with sitting room/dining room and veranda.
- The warden (project manager) has a three-bedroom house.
- Ecologists have the same quality of house as the warden (project manager).
- Technicians, clerks and typists have the same quality house as a junior officer.

- Ablution blocks consist of 5 showers and 5 toilets and are intended to be shared by up to 25 people.
- The office provides space for all the officers although junior staff would not necessarily enjoy a room to themselves.
- Provision is made for nominal office furnishing.
- The size of the workshop/store room complex is dependent on the basic number of field staff on the station.
- Provision is made for a flat allowance to equip the workshop with tools.
- Provision is made to drill and equip boreholes/wells.

3.1.3 Road construction and rehabilitation

- The cost of road construction is very high if put out to tender. In the case of Saadani, considerable effort is required to upgrade the roads to a standard that most tourists are prepared to endure. This will require specialist input from a qualified road engineer.
- Where possible, the use of mechanical equipment should be kept to a minimum and routine maintenance undertaken by a labour gang using normal implements (picks, shovels, grass-cutters etc).
- It is assumed that a gang of 30 labourers can clear one kilometre of road per day. The following costings give an indication for a year of operations:

Wages	30 labourer @ US\$30/month	US\$10 800
Field allowance	US\$1/day x 30 x 365 days	US\$10 950
Ration allowance	US\$1/day x 30 x 365 days	US\$10 950
Implements	30 labourer @ US\$30 ea/yr	US\$900
Tentage	3 x 10 man tents @ US\$5000	US\$5 000
Logistic support	60km @ US\$0.75/km for 200 days	US\$9 000
TOTAL FOR 365 DAYS		US\$47 600

- Other provisions to be made include:
 - One culvert for every 20km of road (to cater for drainage lines that cause erosion problems if water cannot pass under the road)
 - Low level bridges over swamped areas that cannot be easily forded in the wet season.
- Finally, provision should be made to hire a motorised grader or bull-dozer for those portions of the road which are beyond the labourers capacity to make fir for vehicular traffic.

3.1.4 Potential Income

The Institute of Resource Management recommend that tourism infrastructure development should cater for a maximum of 85 people. This position is also adopted in the draft management plan (Minja *et. al.* 1999) that recommends establishing three camps not exceeding 30 beds.

The proposed fee structure is as follows:

- Entry fees per person per day: US\$20 non resident, US\$12 resident foreigner, TSH1 500 Tanzanians
- Vehicle entry fee: US\$10 per day
- Non tourist vehicle entry fee: TSH1 000
- Bed-night fee: US\$10 per day
- Camping fee: US\$10 per day
- Aircraft landing fee: US\$30
- Guide fees: US\$10 per guide.

This strategy is in keeping with the "low volume, high cost" tourism policy, however, this strategy also places a burden on the authorities to generate sufficient income to cover the operational costs of the Park. In addition, the management plan for Saadani will also have to accommodate the local communities in some form of revenue sharing or other form of benefits. Haase *et. al.* 1996 concludes that the Game Reserve will break even after 3 years assuming that accommodation catering for 200 beds is constructed, and occupancy levels are approximately 20%. This may be optimistic.

The background reports presented above have drawn attention to the fact that Saadani is not a 'Serengeti', and therefore cannot compete with the northern circuits of Tanzania. Furthermore, the quality of the tourism product is mediocre, and access to the area is difficult. Other constraints include the hot, humid climate, tsetse fly and the presence of a substantial village (Saadani) on the coast. Attracting "low volume, high cost" tourists to this park will therefore be challenging. Furthermore, limiting the number of beds to 90 also restricts the options, particularly as the tourist season is limited by the climate.

3.2 The Mozambique Experience

Mozambique has some of the finest beaches along the east coast of Africa, although it does not have a situation similar to Saadani. Nonetheless, coastal tourism based on a "beach holiday" experience is a booming market in that country.

In one example that approximates Saadani, the strategy adopted is one of "feast or famine" that relies on attracting large numbers of tourists at peak times of the year (Christmas, Easter, school holidays etc). The facilities are basic, consisting of simple two-bedroom self-catering lodges (with gas stove/deep freeze, shower and toilet, (see Figure 3). In addition, there is a camping ground that offers self-equipped camping, basic A-frame shelters and communal cold water ablution blocks. The entire complex is serviced by a generator and covers an area of approximately 1km².

The cost of these facilities is:

Camping: US\$7 per adult per day. Children under 12 US\$3.5 per day.
Hire of A-Frame shelter: US\$15 - US30 per day

Two bedroom Chalets: US\$100 per day for 4 persons (can sleep 6 - US\$120/day)

This tourist facility often has in excess of 1000 people at peak tourist periods. Bookings for the facilities have to be made well in advance (up to one year).

Some of the main factors contributing to the success of this camp are:

- It is remote, and located adjacent to spectacular beaches (coral snorkelling, safe swimming conditions, deep sea fishing etc). The beaches extend for approximately 60km, and thus can accommodate large numbers of people.
- Access to the site is relatively easy. Travelling time from centres such as Harare (Zimbabwe) and Johannesburg (South Africa) are approximately 12 - 15 hours (including time spent at the border crossing).
- The site can be reached by two-wheel drive saloon vehicles although a pickup truck or 4 x 4 is recommended.
- The camp can market to a very large pool of potential tourists in South Africa and Zimbabwe.
- The cost of the facilities is not exorbitant and is within the reach of most middle class families.

There are a number of villages in the hinterland, and the camp draws on the local community for labour (US\$2.50/day for Chalet Maids). The local fishermen sell their products to tourists. Supplies such as bread, cold drinks and alcoholic refreshments can be purchased from the small markets close by.

A unique feature of this camp is that it is constructed within a coconut plantation owned by a local resident. It is not clear what financial arrangements exist between the camp owners and the plantation owner, but both appear to co-exist amicably.

Data on occupancy levels are not available, however, using the following assumptions, one can guestimate the minimum level of income per season for this facility:

No Tourist Units	Cost	No days	No people	Total
7 (Chalets)	US\$100/day	150	-	US\$105 000
1000 campers	US\$7/day ea	90	90 000	US\$630 000
15 (A-Frame)	US\$15/day	120	1 800	US\$27 000
			Total	US\$762 000

3.2.1 Comparison with the Saadani

The example from Mozambique cannot be strictly compared to that in Saadani for a number of reasons:

- Saadani does not have access to extensive prime beaches to accommodate a large influx of people.
- Saadani village is located on the coast.
- Access very difficult.
- There is not a large pool of potential tourists such as South Africa and Zimbabwe, and has to rely on Dar-es-Salaam, Tanga and Zanzibar.

However, it may be possible to adapt the "low volume, high cost" marketing strategy to take advantage of the "feast or famine" strategy used in Mozambique. This issue requires further consideration to determine whether Saadani can attract a very large influx of tourists from centres such as Tanga, Dar es Salaam and Zanzibar for very short periods of time.

4 MAINTAIN THE AREA AS A GAME RESERVE

Saadani Game Reserve has been under the control of the Wildlife Division since 1968. At its inception, the Wildlife Division assisted the local villages at Saadani to embark upon prawn fishing as a source of income. Initially this was successful, but since the early 1970's, very little has been done to further develop the Game Reserve.

The Wildlife Division is now under pressure from a variety of stakeholders to develop this area. Tour operators are anxious to develop tourist facilities in the Game Reserve; local communities on the eastern and western boundaries are eager to gain more land; TANAPA are of the opinion that the area should fall under their control and finally, the Wildlife Division needs a strategy to utilise the newly acquired Southern Mkwaja Ranch.

An analysis of the advantages and disadvantages of continuing to maintain the area as a Game Reserve under the Wildlife Division are given in Table 3.

4.1 Recurrent and Capital Costs

The Wildlife Division will face the same constraints regarding the recurrent and capital costs associated with the management of the Saadani Game Reserve as would TANAPA (see above). However, in view of the fact that the Wildlife Division has greater flexibility in the legal uses of wildlife (hunting etc), it has the option to involve the private sector in some of the management activities. This is particularly important when considering the options for Southern Mkwaja Ranch where there may be an opportunity to involve the private sector in running this area as a high-class game ranch. This is discussed in detail below.

4.2 Potential Income from Saadani Game Reserve

Given the status of the wildlife populations in the area, the only option available to the Wildlife Division in the medium term is to promote non-consumptive tourism, especially along the coast. The levels of income would not differ significantly from those described above.

Table 3: Advantages and disadvantages of maintaining the status quo

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"> • The administrative continuity will be maintained under the Wildlife Division. • The legal use of wildlife under the Wildlife Division is not restricted to game viewing only, but also permits tourist hunting and traditional use. • Under the jurisdiction of the Wildlife Division, it is possible to afford the same level of protection to wildlife and forests as if it were a national park. • Under the proposed management plan, the boundaries will be extended to include areas used by wildlife in dry season. • Subsistence and commercial hunting will not be permitted in the Game Reserve, thus affording protection to the wildlife populations. However, the Wildlife Division has the option to introduce this form of utilisation in the future. • Through the adoption of a General Management Plan, the Wildlife Division can control the level of tourism development within the Game Reserve. • The Wildlife Division can implement a Retention Scheme similar to that operating in the Selous Game Reserve thus ensuring a steady income for Saadani to meet its operational costs. • Law enforcement will be strengthened through appropriate levels of staffing. • The Wildlife Division has a Community Wildlife Management programme that it could implement in Saadani. • The mandate of the Wildlife Division can accommodate access into the Game Reserve by local communities. • The Wildlife Division has greater flexibility to negotiate with the private sector. 	<ul style="list-style-type: none"> • As a Game Reserve, Saadani will not be afforded the same level of protection as a national park • The status of the wildlife populations cannot justify the introduction of tourist hunting in the area for the foreseeable future. • Incorporating Southern Mkwaja Ranch into Saadani Game Reserve has increased the management burden on local staff in the medium term. • The Wildlife Division will have to deal with issues that are outside its core business (marine environment, local fishermen, mass tourism(?)). • It is not in the Wildlife Division's mandate to conserve and protect unique ecosystems in Tanzania - this is the responsibility of TANAPA. This issue could become an area of conflict between the two agencies. • Extending the boundaries of the Park will lead to land tenure conflicts with the local communities. • The extended boundaries, particularly of Southern Mkwaja, will increase the Wildlife Division's operational costs (patrolling, road maintenance etc.). • The Wildlife Division will have to accommodate Saadani village within the Game Reserve, and cater for future expansion. • The potential to develop a "hard edge" between local communities and the Wildlife Division authorities is high. • Relatively small size of the Game Reserve means that it is costly to operate and manage.

5 DEVELOP COMMUNITY WILDLIFE MANAGEMENT AREA IN THE BUFFER ZONES

There are currently no buffer zones in the Saadani ecosystem that affords protection to the wildlife populations that move out of the Game Reserve in the dry season. The general consensus is that buffer zones should be established on the eastern and western boundary of the Game Reserve if the limited wildlife resources are to be conserved. However, the issues surrounding the land tenure are complex and will only be resolved through dialogue.

In principle, the communities accept the concept of Community Wildlife Management, although they have reservations that the government can implement this policy to their benefit. There are still unresolved issues concerning the boundaries of the Game Reserve, and more recently, there are claims that part of Mkwaja ranch was illegally taken from the community.

The issues here are:

- How does the conservation authority channel benefits from the Game Reserve into the local community, and still meet its obligations to manage the area effectively?

Under the current scenario, the proposed Eastern Buffer Zone is likely to cause the least problems. This community of four villages makes up 19% of the overall human population (4 323), and are predominantly fishermen. Their development needs are simple (improved water supply, better health and education and improved road access). This gives the conservation authorities some latitude to assist this community, particularly through facilitating better market opportunities for their products. There is also the opportunity to develop some form of joint-venture agreement with the local communities to promote tourism in the area (the example of a tourist camp constructed within a coconut plantation in Mozambique is a model that can be explored). There is also the option to link Southern Mkwaja Ranch with the communities along the coast to develop (e.g. Sange Island).

However, the Western Buffer Zone poses some significant problems. This area accounts for 81% of the human population (18 940) spread out in five villages. This community relies heavily on using the natural resources in the region for its livelihood, particularly bushmeat, and thus poses the greatest threat to the Saadani ecosystem.

Opportunities to implement "traditional" community wildlife management programmes are limited, especially as the wildlife resources are limited. Furthermore, these resources (apparently), are not found in the buffer zone throughout the year.

Implementing any form of Community Wildlife Management programmes in the Western Buffer Zone will be an up hill task. The conservation authorities should gear itself to formulating a strategy that will deal with the confrontations that are likely to arise in the medium term.

Table 4: Advantages and disadvantages of developing Community Wildlife Management programmes in the Buffer Zones

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"> • Creating the buffer zones will afford some level of protection to the Saadani ecosystem. • Village communities will be made more aware of the importance of wildlife and other natural resources. • In the Eastern Buffer Zone, opportunities exist to involve the local communities in the benefits derived from tourism development. This will, however, depend on the strength and capabilities of the local institutions. • Establishing the Buffer Zones provides an opportunity to resolve the boundary differences in the region. • Subsistence hunting can be implemented under more sustainable management systems. • Limited infrastructure development can be implemented (water supply, health and education facilities etc.) • Level of law enforcement can be reduced. • Opportunity to introduce village scouts. • Training opportunities for village personnel and local leaders (budget and financial control, benefits of natural resource conservation etc.) 	<ul style="list-style-type: none"> • The conservation authority will have to invest in developing local capacity to implement Community Wildlife Management programmes. • Once the boundary issues have been resolved, local communities will no longer have the option to claim more land from the protected area. • The potential to develop a "hard edge" between local communities and the Wildlife Division authorities is high.

6 ESTABLISHMENT OF A PRIVATE GAME RESERVE

Direct involvement of the private sector in managing wildlife resources is not well advanced in Tanzania, primarily because of the legal status of wildlife being invested in the State. Nonetheless, activities such as game cropping and live capture are permitted but only in Game Control Areas and Open Areas. Even then, these are strictly controlled by the Wildlife Division.

Within the Saadani ecosystem, there is an opportunity to introduce a pilot scheme to test the involvement of the private sector in managing a private game reserve. The obvious area is the Southern Mkwaja Ranch that was formally operated as a cattle ranch. Infrastructure such as roads and dams are already in place (although some dams have recently been breached and need repair).

Consumptive use options (hunting) are not possible within the proposed National Park of course. But the private option could also be implemented on village land. One such scenario could e.g. be a private operator signing a contract with Saadani village to build tourist facilities on the beach owned by the village and use the village land for game viewing. TANAPA could lease him additionally the exclusive right for game viewing on a neighbouring part of Southern Saadani towards the Wami and Kisauke. Other such possibilities exist which are worth to be considered, as this would have pilot character for Tanzania.

Botswana has adopted this approach where the private sector is invited to tender for selected Wildlife Management Areas. These areas are either controlled by the Wildlife Department, the Regional Land Authority or a local community. Tenderers are required to submit a management plan for the area and the selected company is granted a long-term lease (up to 20 years) to manage and develop the area accordingly.

6.1 Example: Feasibility of establishing a private game reserve in Southern Mkwaja Ranch

The author is not fully conversant with the legal position and policies relating to private sector involvement in an operation such as this. The following points are therefore offered to stimulate discussion.

- Southern Mkwaja Ranch was formally a cattle ranch. The habitat has therefore been modified to accommodate this form of land use.
- From the literature it would appear that this property supported reasonable numbers of wildlife. Uncontrolled poaching by subsistence and commercial hunters led the ranch management to press for a complete hunting ban in the area.
- Southern Mkwaja Ranch is approximately 210km² - this is far greater in size to many of the private game ranches in southern Africa.

- This property has only recently been incorporated within the Wildlife Division. This presents the Wildlife Division with an opportunity to embark upon a new form of wildlife utilisation that can have far reaching effects on the future use of wildlife in Tanzania.

6.2 Implementation of the project

The Wildlife Division will retain the sole rights of managing the resources of Southern Mkwaja Ranch. As a guide, the overriding objectives of the Wildlife Division will be:

- To sustainably use the natural resources of the area for the benefit of the region and development of the local communities.
- To conserve and protect the natural resources of the area against misuse and any other threats.
- To link the management of Southern Mkwaja ranch to the improvement of livelihoods and development of the residents of the adjacent buffer zones.
- To monitor the condition of the natural resources of the area in order to protect and sustainably use them.

To achieve these objectives, the Wildlife Division is willing to enter into a joint venture arrangement with a private entrepreneur interesting in managing the hunting and tourism potential of the area.

6.2.1 Tender Procedure

- The interested parties are required to prepare a technical proposal which best addresses the ecological, economic and social requirements of the area and its people.
- The tenders will be open to qualified Tanzanian nationals as well as international safari companies.
- The joint venture agreement will be valid initially for five years irrespective of any development proposals in the tender.
- Any decision to renew or retender after expiry of the agreement will be at the sole discretion of the Wildlife Division.

6.2.2 Conditions:

- The Wildlife Division will provide up to 10 game scouts to monitor the operations, and to monitor the wildlife populations.
- At least 50% of all meat hunted in the area will be delivered to one of the neighbouring villages as may from time to time be directed by the Wildlife Division.

- The hunting seasons and hunting quota will be determined by the Wildlife Division.
- The safari operator will be permitted to re-stock the property with wild animals upon being given authority by the Wildlife Division.
- Consideration will be given to fencing the property to reduce the incidence of crop raiding in neighbouring communities.
- The winning tender will be entitle the selected company to have exclusive rights to conduct hunting and photographic safaris on Southern Mkwaja until the agreement expires.
- The selected company will abide by all of the terms and conditions of the agreement with the Wildlife Division.
- The selected company will employ people from the local communities.

6.2.3 Technical Proposal

- The technical proposal should be within the framework of relevant government legislation, and adhere to any local development plans, management plans or any other local legislation.
- The technical proposal should provide a clear and concise statement of the social, ecological, economic and management objectives of the joint venture, including the proposed management arrangements,
- The technical proposal should provide a brief outline of the regional and local setting of the project demonstrating an understanding of the natural resources present in the area and the current business and economic environment.
- The proposal should demonstrate a clear understanding of government policies and business environment.
- The proposal should demonstrate a clear understanding of the social and development needs of the local communities.
- With regards to the wildlife, the technical proposal must demonstrate knowledge and understanding of the current wildlife status and the intentions of the tenderer towards managing the wildlife populations during the period of the joint venture, including how the wildlife populations will be protected from illegal use.
- The technical proposal must show compatibility with the draft management plan for Saadani Game Reserve.

6.2.4 Wildlife Utilisation

- The technical proposal must clearly show the activities proposed to be undertaken within the Southern Mkwaja Ranch (hunting, game viewing, cropping etc.).
- The technical proposal should suggest ways and methods to diversify into other tourism activities, preferably those that will benefit the local communities.

6.2.5 Natural Resource Management

- The proposal must demonstrate how the natural resources (fuel wood, building materials, thatching grass and other natural resources of traditional use) will be managed.

6.2.6 Physical and Technical Plan

- All proposed development of infrastructure in the area must be described and detailed on appropriately scaled maps, including roads, camps, airstrips, dams, waterpoints and fences.
- All physical developments, including any infrastructural community benefits, should have a detailed, costed plan and time frame. The tenderer must demonstrate that the planned infrastructure will not adversely affect the area, its people or wildlife.
- Details of all physical and technical features of the project should be provided, and all existing and planned developments should be detailed on an appropriately scaled map e.g. routing of roads, fire breaks etc.
- A detailed development time schedule should be included. The development schedule should take into account climatic seasons, breeding season and any animal migrations or movements to minimise disturbance during the development phase.
- Proposals should include a detailed plan of all activities proposed and how these activities will be carried out. Where possible, the plan should include a concise plan of proposed activities to be undertaken by the company as community benefits.

6.2.7 Staffing

- Tenders should stipulate the number of local employment opportunities that the company will provide and respective positions, competitive salaries and details of the work involved.
- Tenders should clearly indicate the number of temporary and seasonal positions that the company hopes to offer during the period of the lease.
- The tenders should demonstrate how they can complement the salaries of the game scouts through the provision of items such as uniforms, camping equipment, rations, transport, accommodation, schooling etc.
- Tenders are required to demonstrate how staff will be trained.
- Proposals must indicate the type of housing that will be offered for staff and other staff welfare matters.

6.2.8 Community Development

- Any other benefits that the tenderer may wish to propose, such as schools, clinics and water, should be detailed in the proposal.

6.2.9 Financial Analysis

This section should not be confused with the *financial offer* for the land, any hunting fees or resource royalty that the tenderer may offer. The financial analysis should indicate:

- A cash flow analysis of the proposed infrastructure development, including the costing of the technical and physical plan. Sources of finance should be included. The staff requirements should be listed and costed. The assumptions used to derive the projected income should be clearly explained, with details of anticipated tourist numbers and turnover.
- Tenderers should demonstrate how they will market the area, their activities nationally, regionally and internationally and how this will be sustained over the duration of the lease.

6.2.10 Company background

- An overview of the company, including all experience in the tourism industry is to be provided. This includes details of the names of all shareholders, directors and their nationalities.
- The names and CVs of any proposed professional hunters/guides should be included in the tender document.

6.2.11 Financial proposal

- The financial proposal shall be structured to show;
 - The proposed land rental offered (Wildlife Division can stipulate a reserve price in US\$).
 - A resource royalty set as a percentage of gross income.
 - A fee for each species on the hunting quota.

Table 3: Advantages and disadvantages of establishing a private game reserve

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"> • Relieves the Wildlife Division of the responsibility of managing that sector of the Saadani Game Reserve. • This initiative will broaden the scope of the Wildlife Division to promote wildlife conservation in Tanzania. • Encourages the involvement of the private sector in the conservation of the Saadani ecosystem. • Under a wildlife management programme, the natural habitat of the property will be encouraged to return. • The Wildlife Division will still be in a position to monitor the protection of the wildlife and forest resources. • A private company will have the incentive to protect and increase the wildlife numbers on the property. • Through the adoption of the selected company's Management Plan, the Wildlife Division can control the level of tourism development within the private game reserve. • The Wildlife Division is guaranteed an income for the private game reserve. • The Wildlife Division does not have to finance any of the recurrent and infrastructure development costs. • Law enforcement will be conducted under the control of the Wildlife Division. • There are opportunities to involve local communities in Community Wildlife Management programmes. <p>Creates employment opportunities.</p>	<ul style="list-style-type: none"> • Leasing the area to the private sector forecloses options to the Wildlife Division for a set period of time. • Denies local communities the opportunity to become directly involved in the scheme. • Political reservations ("selling out the National Heritage")

7 CONCLUSIONS

The Saadani Ecosystem is a unique combination of natural riches and cultural wealth, yet despite these attributes, the area is marked by poverty and neglect. With careful planning this situation can be reversed. There are exciting opportunities for local and international investors to realise the regions potential that will contribute to the creation of long-term jobs, economic growth and improved livelihoods.

Despite the constraints facing the area, the Saadani development initiative must believe that it can achieve its objectives of making maximum use of this under-utilised area but at the same time protect its unique character. However, under the current financial constraints of the government as well as TANAPA, this may not be possible in the short to medium term. The key is therefore to maximise private sector involvement wherever possible. This will ensure that job creation is maximised, opportunities are created for new small businesses and co-operation between all stakeholders is ensured.

However, to achieve this, the key issue of the inadequacy of the road infrastructure must be resolved. This is the main reason for the minimal tourism (and agricultural) development in the region. Upgrading the road will offer the following advantages:

- Provide access to the tourism projects.
- Provide all-weather access for the 23 000 people living in the immediate vicinity of the Saadani ecosystem.
- Provide access to schools outside the region.
- Open new markets for products produced in the area, notably the prawn industry.

By resolving this issue, the government will unblock the obstacles that are preventing the implementation of programmes to enhance the capacity of the conservation agencies to take part in activities that will secure the Saadani ecosystem and improve the livelihood of the local communities.

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