

## Sustainable Tourism and Benefit-Sharing in Zanzibar: The Case of Kiwengwa-Pongwe Forest Reserve

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**ABSTRACT** Sustainable tourism (ST) development in Zanzibar is considered as one of the vital activities that could generate income for day-to-day management of protected areas through benefit-sharing. This paper examines the potential of benefit-sharing from sustainable tourism in the Kiwengwa-Pongwe tourism zone (KPTZ) in Zanzibar from two major routes: water services and tourist attractions from Kiwengwa-Pongwe forest reserve (KPFR). Nine (9) out of thirteen (13) hoteliers and 35 tourists participated in a willingness to pay (WTP) survey conducted in August 2006. Data were obtained through questionnaires, interviews, focus group discussions and field observations. Great potential exists for the Kiwengwa-Pongwe tourism zone in Zanzibar to generate significant economic benefits from tourism business. However, the inexistence of an appropriate benefit-sharing mechanism makes the attainment of this goal difficult. If a benefit-sharing mechanism is properly instituted to allow an equitable economic, social and environmental benefit-sharing, tourism stakeholders and the surrounding communities would be able to generate enough revenue for financing a number of local sustainable development initiatives.

### 1. INTRODUCTION

The issue of sustainable tourism (ST) was clearly addressed by the World Summit on Sustainable Development held in Johannesburg in 2002, and presented in Chapter IV, paragraph 43 of the Johannesburg Plan of Implementation. The chapter, among other things, emphasizes the promotion of sustainable tourism development and capacity-building in order to contribute to the strengthening of rural and local communities which includes, among many actions, *developing programmes that encourage people to participate in eco-tourism, enabling indigenous and local communities to develop and benefit from eco-tourism, and enhancing stakeholder cooperation in tourism development and heritage preservation, in order to improve the protection of the environment, natural resources and cultural heritage* (WSSD, 2002).

According to Eagles et al. (2002: 161) and the World Tourism Organisations (WTO, 1999: 5), tourism involves the activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes and also refers to the provision of services in support of this act. It is regarded as a major source that provides material benefits for

the poor and can bring cultural pride, a sense of ownership and control (Benavides and Perz-Ducy, 2001: 59). It is considered to have greater impacts on employment, economic growth and foreign exchange earnings in particular.

There are many developed definitions of ST that are based on touristic activities that respect and conserve a location's economic, environmental, and socio-cultural balances. According to WTO (1999: 18, 389), ST refers to the kind of tourism that meets the needs of the present tourists and host regions while protecting and enhancing opportunities for the future. In its purest sense, ST is an industry which makes a low impact on environment and local culture, while helping to generate income, employment, and conservation of local ecosystems (Hens, 2006: 36-47).

ST is said to be informative in the sense that tourists learn about the destination and how to help sustain its character while deepening their own travel experiences. On the other hand, residents learn that the ordinary and familiar means of life may be of interest and value to outsiders. ST is also supportive of the integrity of the place and is beneficial to local residents and the conservation of resource. It respects local culture and tradition, strives for quality, not quantity. It thus embraces all segments of the

industry and uses guidelines and criteria that seek to reduce environmental impacts through measurable benchmarks, and improve tourism's contribution to sustainable development and environmental conservation. The only way that may ensure sustainable tourism requires enhanced cooperation and concrete partnerships among tourism actors that include industry, government at all levels, local communities, protected areas managers and planners, and the tourists themselves (Eagles et al., 2002: 49). In this case, benefit sharing is an important management tool to consider in motivating stakeholders.

## **2. GLOBAL SIGNIFICANCE OF SUSTAINABLE TOURISM**

Sustainable tourism has proved to be an effective instrument for realizing the Millennium Development Goals (Frangialli, 2006: 1). It has proved to be important in addressing the first goal related to poverty alleviation: providing sustainable development opportunity to isolated, poor communities, even in the most remote rural areas.

Globally, tourism contributes significantly to the nations' gross national products (GNP). The sector produces 4.4% of the total gross domestic product (GDP) and employs around 200 million people (WTO, 1999: 213). This is a result of an increased annual number of tourists to international destinations from 25 million in 1950 to 808 million in 2005, generating revenue of more than US\$800 billion (WTO, 2006a). In Africa alone, international tourist arrivals has increased from 28 million to 40 million between 2000 and 2005 - an average growth of 5.6 % a year, compared to a worldwide 3.1 % a year - resulted in a doubling of receipts from US\$10.5 billion to US\$21.3 billion (WTO, 2006b).

Tourism can contribute to overall socio-economic development through the provision of roads, telephones, piped and treated water supplies, waste disposal and recycling and sewage treatment (Benavides and Perz-Ducy, 2001: 65) and which can facilitate opportunities for further development and maximized benefits for the sector. It can help in the sustainable management of protected areas and support the protection of natural resources as local communities realise the value of their asset through benefit sharing. Tourism represents 40% of all exports of

services, making it one of the largest categories of international trade, with more potential that could benefit poor countries (WTO, 2006a).

## **3. TOURISM DEVELOPMENT TRENDS IN TANZANIA**

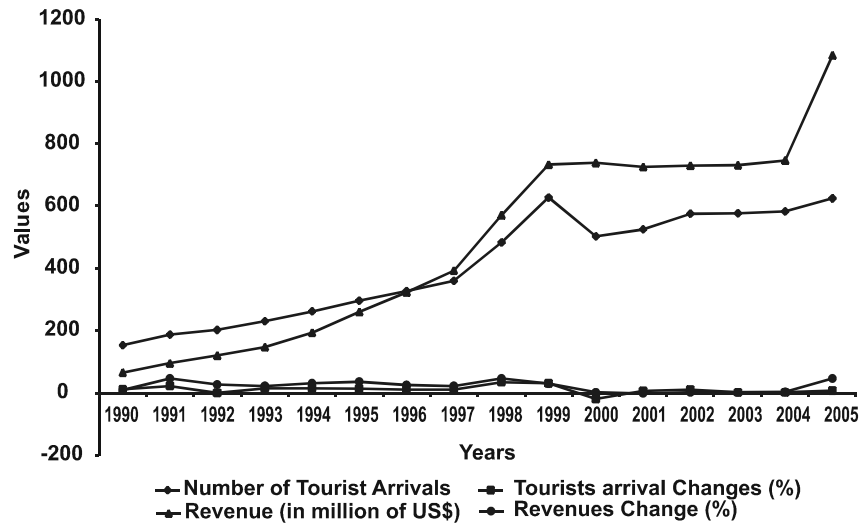
Tourism plays a vital role in the economy of the United Republic of Tanzania (URT). It is the major source of foreign exchange; it accounts for about 16% of the GDP and nearly 25% of the total export earnings with an estimated 14,800 jobs in 1999 (Luhano 2001). Furthermore, in 2005 foreign exchange receipts from tourism accounted for US\$1,083.50 million from 624,020 tourists (Fig. 1) (URT, 2006: 149). The target is to reach one million tourists by the year 2010.

Zanzibar experiences the same general trend occurring in the URT. Being a heaven for nature tourism, Zanzibar has been influenced by a dramatic increase in number of visitors from 42,141 tourists in 1990 to 113,237 in year 2005, mostly enjoying the spice tour (CTZ, 2001; News 24. Com, 2005; Agence France-Presse, 2005). The contribution of the tourism sector to GDP rose from 5.1% in 1995 to 5.5% in 1999 (Orjala, 2006: 28). This sector employs about 45,000 people and is likely to surpass agriculture as Zanzibar's leading revenue earner by 2015. Currently, the tourism sector contributes 35% to the GDP (News 24. Com, 2005; Agence France-Presse, 2005).

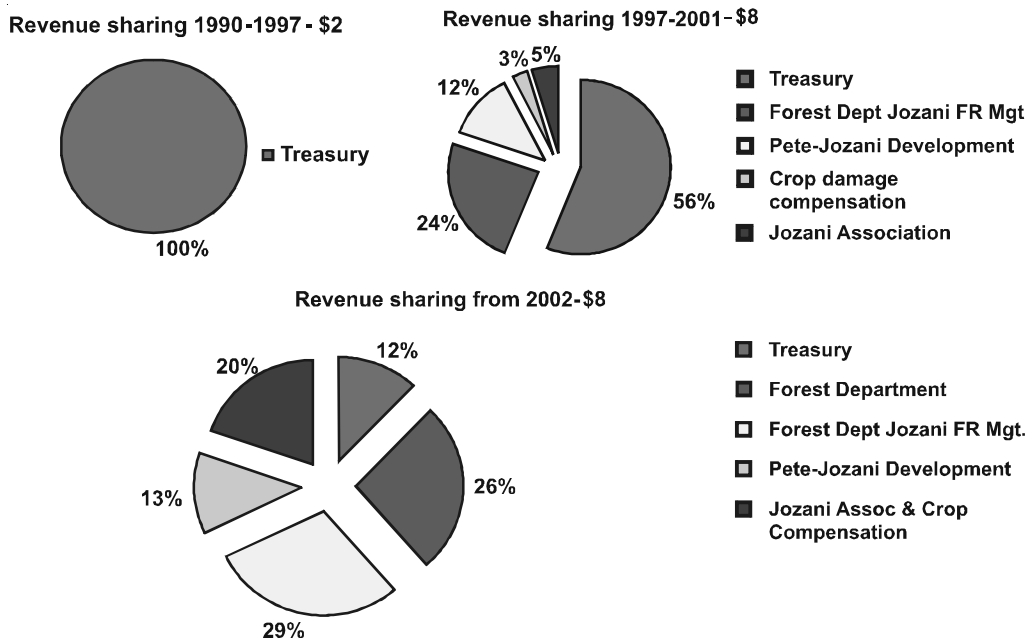
## **4. SUSTAINABLE TOURISM DEVELOPMENT AND BENEFIT SHARING IN ZANZIBAR**

Sustainable tourism development in Zanzibar has been viewed as one of the areas that could help run the day-to-day protected area management activities through benefit-sharing. Eco-tourism, which is regarded as a sub-set of sustainable tourism (Watkin, 2003: 6) is the main form of tourism in the country and focuses on an active conservation of natural and cultural heritages that include local and indigenous communities in its planning, development, operations and benefit sharing (WTO, 1999: 119).

Where as the traditional system of reserve administration in Zanzibar has been to deposit revenue accrued from protected areas in the treasury, advocacy has been made to allow some revenue retention for management and community (sharing) development. Since 1997, there has



**Fig. 1. International Tourism Trends in Tanzania, 1990-2005**  
 Sources: Data from Ministry of Natural Resources and Tourism, Tourism Division  
 (Cited by Luhanho 2001 and URT 2006).



**Fig. 2. The trend of tourist revenue sharing at Jozani National Park, 1990 - 2002**

been a system of sharing the revenue (Fig.2) from the tourism businesses with communities through the Forest Authority's initiatives. For example, the revenue in the Jozani National Park is shared proportionally (Finnie 2003: 32).

Moreover, the Forest Authority has developed a community-managed project (Pete-Jozani Mangrove Boardwalk) (Fig. 3) as an additional visitors' attraction to the park, so as to enhance the revenue sharing system with partner communities. The benefits shared are used to fund a number of community development projects such as schools, health services, safe water supply and many others.



Fig. 3. Pete Jozani Mangrove Board walk. A Community Tourist Project

## 5. APPROACH AND METHODS

### 5.1 Sources of Data

Information was obtained from four main sources: questionnaires distributed to hoteliers and visitors at Kiwengwa-Pongwe tourism zone, interview of key informants, focus group discussions and visual observation by the authors in August 2006. Questionnaire data for willingness to pay for water and tourism services from KPFR were obtained from 9 hoteliers (70%) and 35 tourists. Household data on community's socio-economic characteristics, existing benefit-sharing mechanisms, and potential benefits of environmental services and the role of benefit-sharing in sustainable tourism was obtained from 106 respondents (20%). Semi-structured interviews were conducted to 26 key informants

including the Department for Commercial Crops, Fruits and Forestry (DCCFF) staff working for the KPFR conservation project (7), practitioners on water management (3) and village key informants (16). In order to evaluate the accuracy of data collected from household questionnaires and interviews, two focus group discussions were held in each *shehia*<sup>1</sup> as per Kasemir *et al.* (2003). Each discussion involved 5 – 6 community members, who are well informed on the community natural resources incentives, benefit sharing mechanisms and sustainable tourism.

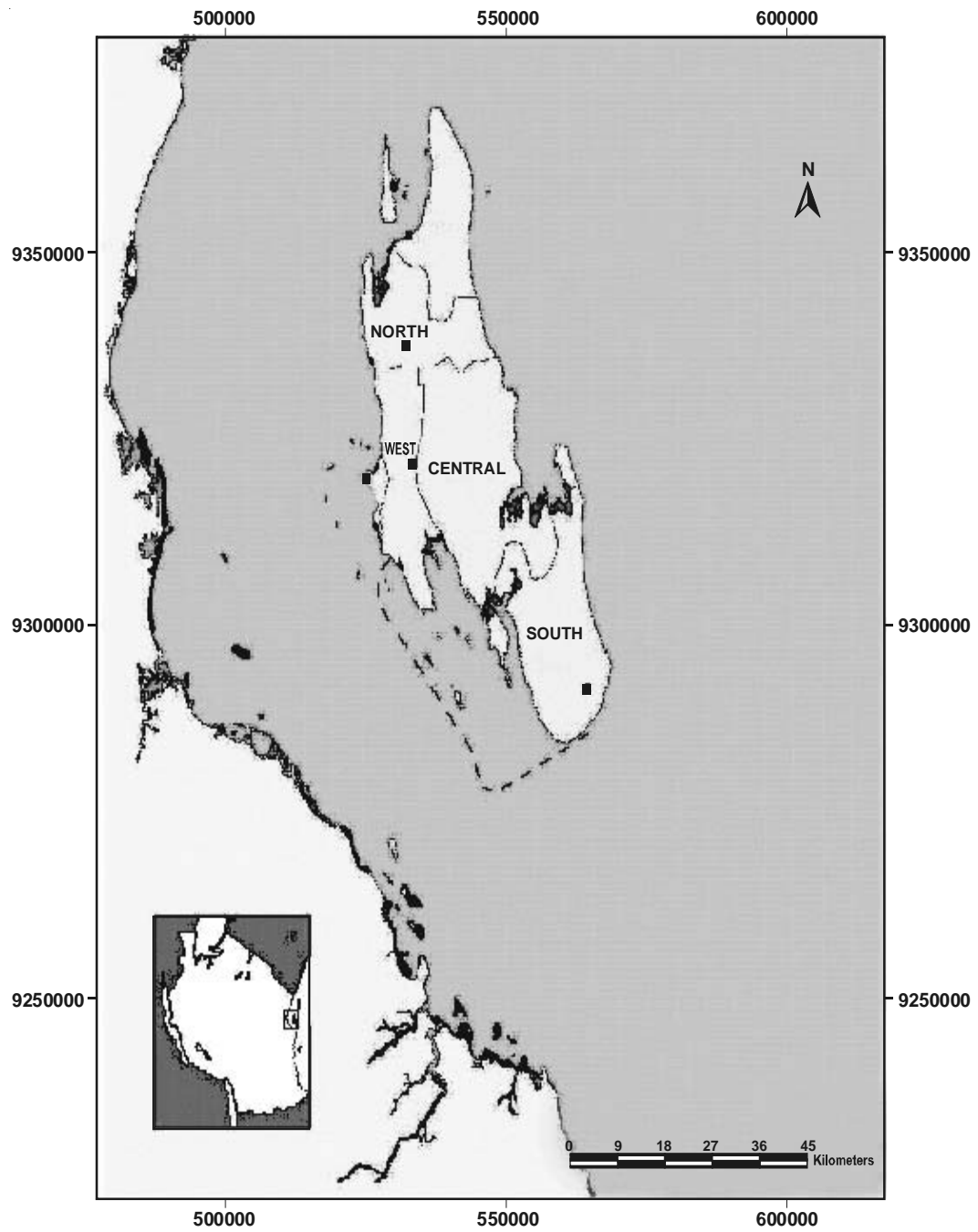
### 5.2 Study Site

This study was conducted in *Kaskazini* (North) Region of Unguja Island. The study area comprises primarily of the Kiwengwa-Pongwe Forest Reserve (Fig. 4), which is about 37 km north of Zanzibar Municipality. The reserve is located between coordinates 538000 to 544100 Eastings and 9329900 to 9343700 Northings (DCCFF 2003: 3). It is the only single largest existing natural forest found in the Northern zone of Unguja Island surrounded by fifteen villages including Gulioni, Kairo and Kumbaurembo (Kiwengwa), Pwani Mchangani, Kandwi, Kinunduni, Mchekeni, Mgonjoni, Kibuteni, Upenja, Gamba, Mwadudu, Pongwe, Ndudu and Chokaani.

The research was confined to five villages in two *shehias* in the *Kaskazini* (North) and *Kusini* (South) Regions of Unguja Island. The selection of these *shehias* was based on the community commitments towards natural resources conservation in KPFR and the opportunity for sustainable tourism in the area. The selected villages are Gulioni, Kairo and Kumbaurembo (in the *shehia* of Kiwengwa) and Pongwe and Ndudu (in the *shehia* of Pongwe). According to the 2002 census (URT 2003: 180,183), the total population of Kiwengwa is 2,429 people of whom 1,308 are male and 1,121 are female. Pongwe has about 513 people of whom 253 are male and 260 are female, and a total of 415 and 115 households in Kiwengwa and Pongwe respectively.

Agriculture and fishing form the basic occupations for livelihood sustenance and food security in the study area. Tourism oriented businesses, including guidance, product supply

<sup>1</sup> Shehia refers to the lowest administrative unit in the region that constitutes one or more villages.



**Fig. 4. Map of Unguja Island showing the location of the study area.**  
*Source:* Institute of Marine Sciences GIS Unit (2005)

(fruits, vegetables and fish products) to tourist hotels have overtaken the traditional means of earning income for family maintenance. Other minor occupations include sea weed farming, Government employment, petty cash business and extraction of forest products for domestic and commercial purposes.

**5.3 Data Analysis**

Data from this study were both qualitatively and quantitatively analyzed. Qualitative data were analyzed using content and structural functional analytical techniques in which components of verbal discussions from different respondents were broken down into the smallest meaningful units of information, values and attitudes of respondents. Quantitative data were analysed with the aid of Statistical Package for Social Sciences (SPSS) version 15 and Excel Spread Sheet in Office 2003. Frequency distribution tables and computation of proportions in percentage were used in analyzing the socio-economic variables for the households, hoteliers and tourists visiting Kiwengwa-Pongwe tourism zone.

Financial benefits from KPFR were determined through the analysis of willingness to pay (WTP) surveys for water services and reserve attractions. WTP survey data were analyzed through the examination of the frequency distribution of responses to WTP questions. The analysis aimed at determining the consistency of the respondents' answers and the establishment of statistical relationships that were used to aggregate responses of the population of hoteliers and visitors under study. Respondents' answers

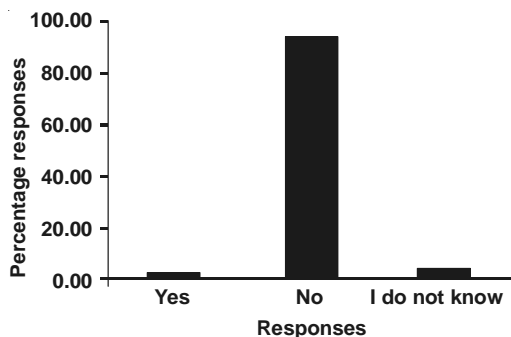


Fig. 5. Household responses for any formal agreement that allows access to benefits  
Source: Field data, 2006

yielded a data set of individual willingness to pay 'point estimates' which were used to construct the frequency distribution. Answers to yes/no questions placed each respondent's WTP in an interval defined by the last value accepted and the last value rejected. This information was used to predict the WTP for water services to hoteliers and entry fee for attractions to visitors at specified prices/fees.

Frequency distributions of WTP bids were used to estimate the total WTP for a given level of water services and attractions, and the revenue from providing the services from KPFR at a specified price/fee was estimated. Total WTP was calculated by multiplying the frequency distribution of the sample by the total population to get the estimated population in each WTP interval. By assuming that the mid-point of each interval is the mean WTP. The population was multiplied by this mean to estimate the total WTP. The total expected revenues were estimated by first predicting the total number of individuals that would be willing to pay for the service at a specified fee/price and then multiplied by the price.

**6. RESULTS AND DISCUSSION**

**6.1 Benefit - Cost Sharing and Mechanism Involved**

Kiwengwa-Pongwe tourism zone (KPTZ) has a great potential to fully gain local economic benefits from tourism business in the area. But the fact is that there are very low benefits enjoyed by the community because there is neither a legal

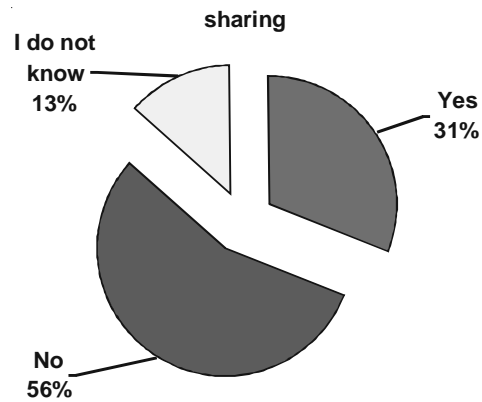


Fig. 6. Household response for any formal agreement that allows benefit sharing  
Source: Field data, 2006

agreement nor a recognised mechanism for sharing benefits. According to the interviews conducted in August 2006, 94% of the respondents answered 'No' for any formal agreement that allows access to benefits (Fig. 5), while 56% recognized the in-existence of such kind of agreement (Fig. 6).

The respondents mentioned a number of reasons for not accessing these benefits: inexistence of sharing mechanism (44.3%), lack of local institutions to facilitate sharing operations (15.7%), inexistence of the benefits themselves (11.4%) as well as the inexistence of a formal agreement that allows sharing (4.3%) (Fig. 7).

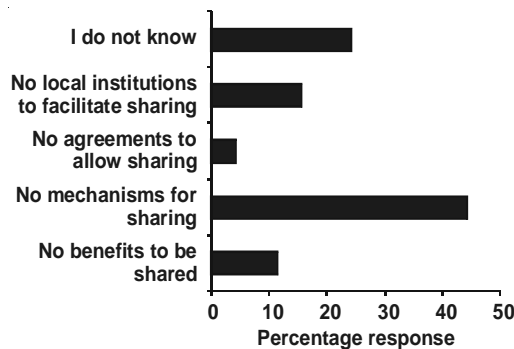


Fig. 7. Household responses for the reasons of not getting the benefits  
Source: Field data, 2006

In their opinion, involvement of the community in management (40.8%), provision of education to the community (32%) and development of appropriate benefit-sharing mechanisms (24.3%), are the only ways that can help to develop and sustain tourism and natural resources management (53.8%) on top of building community trust in conservation (36.8%) in the area (Fig. 8).

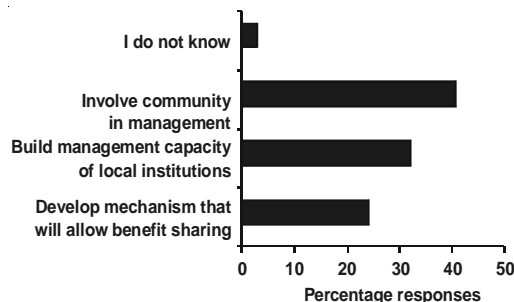


Fig. 8. Community opinions on how to improve the situation as far sustainable NR management is concerned  
Source: Field data, 2006

As cited by Eagles et al. (2002: 29), IUCN advises that protected areas, especially in Africa be repositioned 'in the context of community development and the local economy'. This can be possible through improved communication, improvement of road infrastructures, promotion of education in the local communities and health care services. These issues are receiving attention in Kiwengwa-Pongwe tourism zone. Some hamlets in the area are receiving funds from hotels for village development. For example, in Kumbaurembo village the local government is getting some funds from the neighbouring hotels to develop infrastructure like roads, schools and sports facilities.

Moreover, 51% of the respondents stated that their community is directly connected to the water supply system of hotels extracting water from KPFR. A contrary situation exists in the Pongwe area where potable water is still an unsolved puzzle to even hoteliers. With regard to health services, the study found that only 2.2% of the respondents in Kiwengwa area are aware that some hotels are providing health service free of charge on the basis of an arranged schedule.

Although environmental and social benefits do exist in Kiwengwa-Pongwe tourism zone, the scope of this study does not cover them. They are the focus of other studies still underway. Because Kiwengwa-Pongwe is a newly designated reserve (2005), there are very few studies have been conducted in the area. However, tourism development was in place before official gazettement of the reserve.

In any sustainable tourism development pursuit, both benefits and costs are accrued at the economic, social and environmental levels. If these are not well managed, attaining sustainable tourism becomes questionable. In terms of financial and economic costs, tourism can increase demand for goods, services and facilities. Kiwengwa-Pongwe tourism zone is well balanced in this respect as the zone is also well covered by tourist hotels, quality lodgings and restaurants. Furthermore, the area has a lot of attractions (Table 10) and many traditional souvenirs.

Social costs are normally expensive as tourists may disturb community value systems and activities and compete for recreational places. Poorly planned tourism development projects and programmes can lead to increased congestion, littering, vandalism and crime (Eagles et al., 2002: 31). This has been witnessed in

Kiwengwa village where hotel owners were competing with the community with regard to the access road which passes through right in the middle of the hotel area and dividing two sub-villages. This led to chaos and misunderstanding to the point that the central government had to intervene to ensure peace and sustainable tourism in the area. The community lost their access road and was forced to construct a new road from the other side of the village. The community sacrificed their access road upon realizing the benefits of sustainable tourism ahead. However, the fruits of their labour are still quite remote.

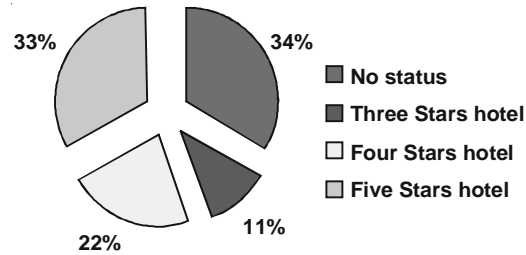
Kiwengwa-Pongwe tourism zone is a victim of congestion as a number of people come to work in the hotel sector. Different nationalities, mainly from East Africa, are attracted to job opportunities available in the area. Business partners from mainland Tanzania have found a good market for their goods and ‘services’, mainly paintings and wood carvings. However, some of these people come to the area for different purposes. For example, there have been a few occasions during which armed robberies have been reported in some hotels.

Tourism at Kiwengwa-Pongwe zone has imposed very high costs in terms of biodiversity loss. Initial poor planning of the sector has resulted in clearance of vast forested areas to allow for hotel development. Furthermore, as the hotels do not have a good area for the disposal of their solid waste, the wastes are secretly and haphazardly dumped in the KPFR. Though a number of training programmes on proper disposal of solid wastes have been conducted, there is no possibility of recovering the costs. The only way is to share the cost and benefits from what has been established. In other words, to make good the opportunity costs incurred from biodiversity loss, a most plausible solution is to share the benefits and costs of tourism development equitably amongst the various stakeholders.

**6.2 Willingness to Pay for Environmental Services**

The coastal area of Kiwengwa-Pongwe tourism zone is covered by a range of tourist hotels, of which about 66% are of three to five stars status (Fig. 9). About 78% of these hotels extract potable water directly from the Kiwengwa-Pongwe Forest reserve catchment area (Table 1). At least, 43% of these hotels extract more than

Hoteliers WTP survey restricted the study to only two prediction scenarios (Table 3). Assuming that hoteliers are willing to pay for all water that they extract from KPFR at the price of



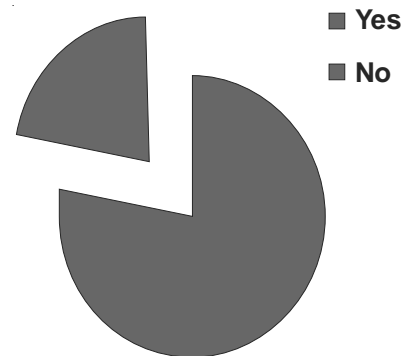
**Fig. 9. Status of hotels around Kiwengwa-Pongwe tourism zone**

Source: Field data analysis, 2007

5000 litres of water per day. This is a reserved catchment that is managed using a participatory approach by the surrounding communities and the Government of Zanzibar.

If an appropriate sharing mechanism is instituted to facilitate water benefit sharing with hoteliers, the surrounding community of KPFR will generate adequate funds to finance a good number of local development initiatives.

The WTP survey for water services reveals that 78% of hoteliers are willing to pay for water extraction from KPFR (Fig. 10) and that 83% are willing to contribute between US\$1-5 per 100 litres (Fig. 11) of water extracted. The majority of the hotels are extracting between more than 5000 litres per day (42.9%) and 100 – 500 litres a day (28.6%) (Table 1). The only problem in KPFR is lack of an appropriate benefit-sharing mechanism.



**Fig. 10. Hoteliers' Willingness to Pay response**

Source: Field data analysis, 2007



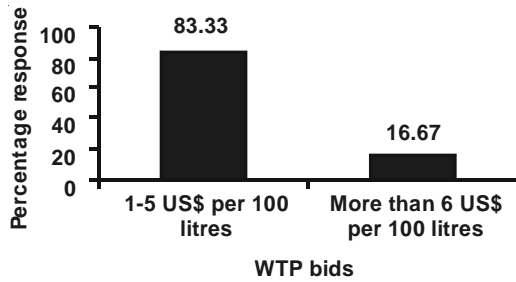


Fig. 11. Hoteliers WTP amount responses

Source: Field data analysis, 2007

KPTZ is covered by 13 touristic hotels that have the potential of extracting water directly from KPFR. From Table 1, it is clear that 43% (5.5) of these hotels extract 100375 units of water per year, whereby 1 unit is equivalent to 100 litres of water, (50 units/day x 365 days x 5.5 hotels). In addition, 29% (3.7) extract 405.15 units/year (0.3 units/day x 365 days x 3.7 hotels) and 14% (0.8) extract 2190 units/year (7.5 units/day x 365 days x 0.8 hotels).

The hoteliers' willingness to pay for KPFR water resources is estimated to be a mean WTP of US\$3.83 per unit, with a standard deviation of US\$2.24. The confidence limits at 0.05 level of significance were found to be in the range of US\$3.16 to US\$4.51 per unit. The total annual willingness to pay for water services was calculated to be US\$394,718.91 (Table 2), which is equivalent to the area of the graph in Figure 12.

Table 1: Percentage of Water sources and amount extracted from KPFR

Sources	Percentage sources (%)	Amount extracted	Percentage extraction (%)
Extract direct from KPFR	77.8	100-500 litres	28.6
Own water sources	22.2	501-1000 litres	14.3
Total	100	More than 5000 litres	42.9
		I do not know the amount	14.2
		Total	100

Source: Field data, 2006

Table 2: Response of hoteliers' WTP for water services from KPFR

Intervals for WTP bids (US\$/100 litres)	Mid-pts	Resp-nts	Freq-ency data (%)	Total distribution num ber of water units (100 litres /unit)	Total WTP
1 - 5	3	5	83	85808	257425.38
6 - 10	8	1	17	17162	137293.53
11 - 15	13	0	0	0	0.00
16 - 20	18	0	0	0	0.00
20 +	23	0	0	0	0.00
	<b>6</b>	<b>100</b>		<b>102970</b>	<b>394718.91</b>

Source: Field data analysis, 2007

N.B: Mid-point for the last category is assumed to be US\$23

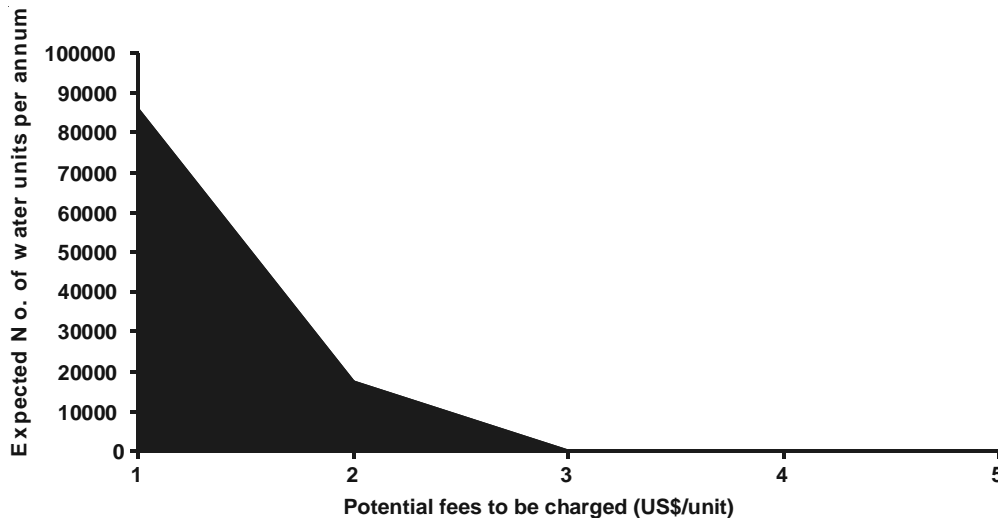


Fig. 12. Hoteliers total WTP for water services from KPFR

Source: Field data analysis, 2007

US\$3 per unit of water, the management expects to collect an estimated revenue of US\$308,910.45. Nonetheless, if the charged price is increased to US\$8, on the prediction that hoteliers will be willing to pay 50% of the amount of water they extract, the management will get revenue reaching US\$411,880.60 (Table 3). However, this is too ambitious from the mean willingness to pay of US\$3.83.

**Table 3: Total expected annual revenue from Hoteliers WTP**

Mid-points	Freq	Predicted % of distri bution	Number of units that hoteliers are willing to pay at different fees	Expected revenue
3	83	100	102970.15	308910.45
8	17	50	51485.08	411880.60
13	0			
18	0			
23	0			
	100			

Source: Field data analysis, 2007

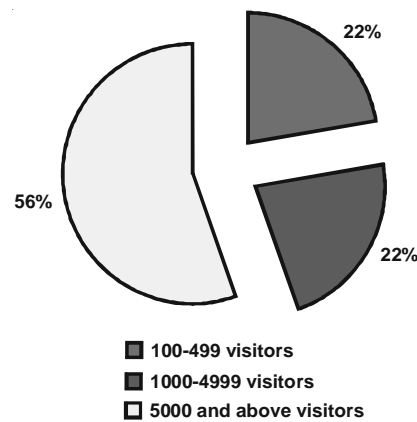
Tourism based on protected areas can be a key factor in supporting the conservation of natural and cultural heritage (Eagles et al., 2002: 27). It can generate funds through entrance and service fees which can be used to sustain efficient resource management. For instance, in the Jozani National park in Zanzibar an entrance fee (of US\$8 per head) has been instituted for visitors who want to explore the park and enjoy the nature. This activity attracts about 20,000 tourists annually and generating about US\$160,000, which is retained for park and surrounding communities' development (Finnie, 2003: 31). Revenue retention and sharing mechanisms have been installed and stakeholders are getting their shares accordingly (Table 4).

**Table 4: Percentage shares of revenue retained in Jozani National Park**

Beneficiary/Activities	Percentage Share (%)
1. Retained and used for National Park Management activities	33.60
2. Retained by the Department responsible for Forestry (DCCFF) for the development of forest resources throughout Zanzibar	30.00
3. Retained by local communities to be used to compensate farmers for crops lost to monkeys and for local development initiatives	22.40
4. Retained by the Treasury	14.00

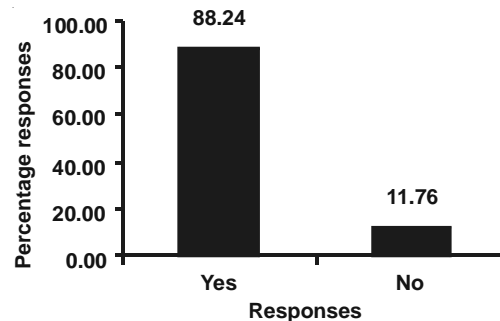
Source: Finnie, 2003:33

The same mechanism is possible in Kiwengwa-Pongwe forest reserve since the area is very rich in tourist attractions that can easily be paid for (Table 10). The number of tourists visiting Kiwengwa-Pongwe Tourism zone (KPTZ) is promising. The results of the study indicate that 56% of hotels receive more than 5,000 visitors per year while the rest get between 1,000 - 4,999 (22%) and 100 - 499 (22%) visitors per year (Fig. 13). Roughly, KPTZ receives up to 52,000 visitors per year, out of which 88% (45,760) are willing to pay for the services at KPFR (Fig. 14).



**Fig. 13. Proportion of annual hotel visitation at KPTZ**

Source: Field data analysis, 2007



**Fig. 14. Visitors' willingness to pay response**

Source: Field data analysis, 2007

When asked to state the maximum amount that they would be willing to pay as entry fees for the services and attractions available at KPFR in a close ended bid willingness to pay study conducted in August (2006), 74% of the respondents indicated their willingness to pay

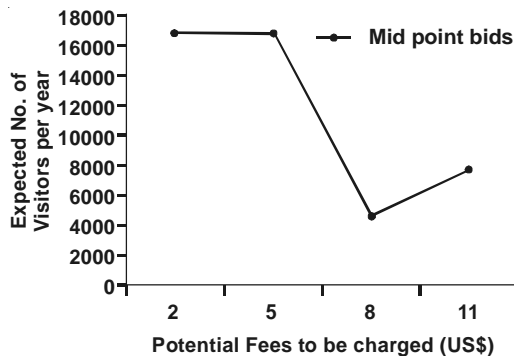
between US\$1 and US\$6 per head (Table 5) for the potential services and attractions of KPFR.

From the results presented in Table 5, the survey gives a mean willingness to pay of US\$5.20 per head with a standard deviation of US\$3.24. The confidence limits at 0.05 level of significance were found to be in the range of US\$4.80 to US\$5.60 per head. The total calculated willingness to pay of visitors for the KPFR from entry fees is US\$237,952 per year (Table 5), which is graphically depicted in Figure 15.

**Table 5: Response of visitors' WTP and total WTP for the KPFR**

Intervals for WTP bids (US\$)	Mid-points	Response data	Frequency distribution (%)	Total number of visitors/year	Total WTP
1 - 3	2	11	37	16779	33557
4 - 6	5	11	37	16779	83893
7 - 9	8	3	10	4576	36608

Source: Field data analysis, 2007  
 N.B: Mid-point for the last category is assumed to be US\$11



**Fig. 15. Graphical representation of the total willingness to pay of visitors of KPFR**  
 Source: Field data analysis, 2007

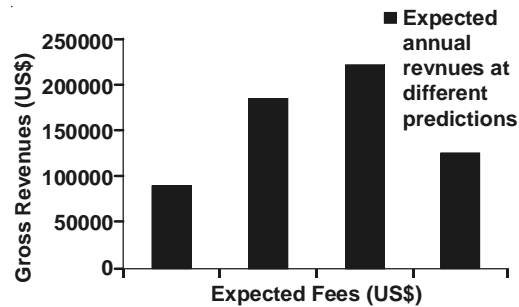
From the prediction that 80% of tourists visiting KPFR are willing to pay an entrance fee of US\$5, KPFR should expect to receive 36,608 visitors and generate an estimated revenue of US\$183,040 per year (Table 6). However, a maximum fee of US\$8 may be charged based on the prediction that 60% of visitors (27,456 visitors per year) will visit KPFR. This corresponds to what is charged in Jozani National Park (Finnie 2003: 32). On the other hand, if the smallest fee of US\$2 is charged per head, 100% (45,760) of visitors will be willing to pay and

generate an annual gross revenue of US\$91,520 as is illustrated in Figure 16. If equitably shared, this revenue can act as an incentive for community participation in the management of natural resources and tourism.

**Table 6: Total expected annual revenue from KPFR's visitors**

Mid-points	Frequency distribution (%)	Predicted % of visitors willing to pay	# of visitors who are willing to pay at different fees	Expected revenue
2	37	100	45760	91520
5	37	80	36608	183040
8	10	60	27456	219648
11	17	25	11440	125840
	100			

Source: Field data analysis, 2007



**Fig. 16. Expected annual gross revenues at different entry fees and predictions**  
 Source: Field data analysis, 2007

One of the critical challenges of benefit-sharing at KPFR is the inexistence of a benefit-sharing mechanism. The process of getting an appropriate mechanism is dependent on an effective and efficient management system that considers the community as an important and equal development stakeholder.

Considering the fact that the KPFR has a similar ecosystem like that of Jozani National Park (JNP), the benefit-sharing mechanism of the latter has been applied to the present study to provide an insight on the financial benefit that Kiwengwa-Pongwe communities can generate from entrance fees to KPFR.

Under the prevailing benefit-sharing mechanism at JNP, local communities retain 22.4% (Finnie 2003: 31), which is used for compensation and financing local development initiatives. If the same percentage will be applied

at KPFR, communities will be able to get about US\$69,195.94 and US\$92,261.25 per year as compensation for water services they provide to hoteliers according to the first and second scenarios respectively (Table 7). On the other hand, the community's share of visitors' willingness to pay ranges from US\$20,500.48,

US\$28,188.16, US\$41,000.96 to US\$49,201.15 for the first, first, second, third and fourth prediction scenarios (Table 8).

### 6.3 The Role of Sustainable Tourism at Kiwengwa-Pongwe Tourism Zone

Sustainable tourism (ST) development aims to take advantage of the interest shown by tourists so as to enhance economic opportunities, protect the natural and cultural heritage and advance the quality of life of all concerned. In this way, tourism will help to increase jobs and income in local areas. WTO (2006a) records indicate that tourism employs about 200 million people around the world.

At Kiwengwa-Pongwe tourism zone, the sector employs 14% of the community members (Fig. 17) as tour guides, employees in the hotels and as owners of restaurants; it is third to agriculture and fishing. Moreover, tourism contributes about 15.2% of the income to the local community (Table 9) - second to crop and fish production.

In addition to job creation, tourism is regarded as a source of foreign exchange. Most of the tourists visiting Zanzibar are of international origin and therefore provide foreign exchange for economic development, as it is in many countries (Eagles et al., 2002: 24). But to secure such benefits there must be products and services for

**Table 7: Expected annual community benefit according to different scenarios on hoteliers' WTP at KPFR**

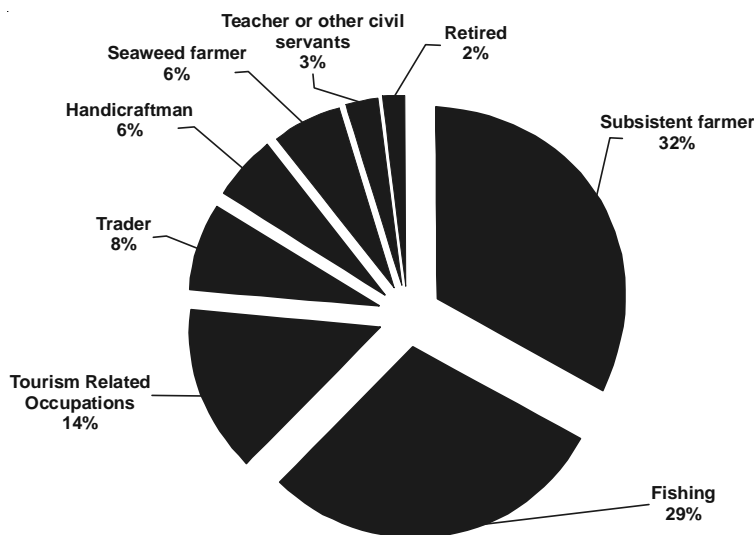
Predicted % of Hoteliers willing to pay	Number of units that hoteliers are willing to pay at different fees	Expected revenue share	Expected community share
100	102970.15	308910.45	69195.94
50	51485.08	411880.60	92261.25

Source: Field data analysis, 2007

**Table 8: Expected annual community benefit according to different scenarios on visitors' WTP at KPFR**

Predicted % of visitors willing to pay	# of visitors who are willing to pay at different fees	Expected revenue	Expected community share
100	45760	91520	20500.48
80	36608	183040	41000.96
60	27456	219648	49201.152
25	11440	125840	28188.16

Source: Field data analysis, 2007



**Fig. 17. Main occupations at Kiwengwa-Pongwe Tourism Zone, Zanzibar**

Source: Field data analysis, 2007

**Table 9: Major sources of income at Kiwengwa-Pongwe Zone**

<i>Source of income</i>	<i>Percentage to community members (%)</i>
1. Crop and fish production	65.70
2. Small scale trading	14.30
3. Tourist related income (Hotel employee and other tourism businesses)	15.20
4. Civil servant	1.00

Source: Field data, 2006.

tourists to spend money on. It is also necessary to minimize the amount of economic leakages of the local areas. This will ensure self-sustenance in tourism and reduce dependency on imported goods and services.

Kiwengwa-Pongwe tourism zone can be considered to be self-sufficient in terms of availability of goods and services that tourists can spend on. The area is privileged by a number of ecotouristic attractions (Table 10). Some attractions are illustrated in figures 18-29.

### 7. CONCLUSION

The following conclusions are drawn from the study on ‘Sustainable Tourism and Benefit Sharing in Zanzibar’:

- There is a great potential in Kiwengwa-Pongwe Tourism Zone (KPTZ) to achieve sustainable tourism through benefit-sharing. The zone has a good number of attractions worth visiting and a natural ecosystem (KPFR) very rich in environmental services that can sustain tourism. The existence of potential buyers of environmental services (hoteliers and a good number of visitors) from

the reserve (water and forest attractions) as well as their willingness to share benefits makes sustainable tourism even more possible. The existing policies and laws governing the zone and the surrounding community’s commitment to sustainable tourism makes its realization feasible.

- The study has found greater willingness for benefit-sharing from all concerned parties – hoteliers, visitors and surrounding communities. But their commitment to contribute to sustainable tourism is constrained by the inexistence of a benefit-sharing mechanism that allows them to enjoy the benefits to be generated in the sector. Efforts to share some benefits, such as health services, water supply, education support services and infrastructure development, have been made by investors (hoteliers) while they await the establishment of a benefit-sharing mechanism. The mechanism has to be put in place by Department for Commercial Crops, Fruits and Forestry (DCCFF), which is the leading institution with regard to sustainable tourism. Presently, the pace of developing the mechanism is very slow and needs to be accelerated so as to motivate the various stakeholders to actively participate in sustainable tourism. In other words, benefit-sharing mechanism is paramount at KPTZ.
- Though potential benefits of sustainable tourism at KPTZ are real, associated social and environmental costs constitute one part of the equation. Therefore, proper planning is fundamental if these negative (costs) aspects of sustainable tourism are to be effectively mitigated. The aim is to significantly increase the benefits side of the

**Table 10: Eco-touristic attractions at Kiwengwa-Pongwe Zone**

<i>Ecological attractions</i>	<i>Social attractions</i>
1. Natural, beautiful dry and watered caves - about 8 caves. Seven caves with water and one dry.	1. Community gift shops.
2. Spices as well as agricultural plots grown along on the way to the caves.	2. Swahili culture surrounding the area
3. Natural habitats for a wide diversity of flora and fauna.	3. Native people selling local products to tourists as well as acting as local guides
4. Wildlife including red colobus monkeys, variety of birds, duikers, antelopes, bats and a good number of butterflies.	4. Biking
5. Beautiful beaches with white sands	5. Generally beach tourism including boat driving and sun bathing.
6. Attractive landscapes.	6. Diving and snorkelling
7. Good natural forest which is very rich in species diversity of more than 100species.	

Source: Field data, 2006



**Fig. 18. Dry cave with in the KPFR**  
Source: Field data, 2006



**Fig. 19. Dry cave – an important sacred place in the area used for spiritual purposes**  
Source: Field data, 2006



**Fig. 20. Watered cave - Important sources of water for tourism Industry in the area**  
Source: Field data, 2006



**Fig. 21. Beautiful landscape - attractive and bewildering**  
Source: Field data, 2006



**Fig. 22. Natural forest - very rich in species diversity**  
Source: Field data, 2006



**Fig. 23. Beautiful creatures found in the reserve**  
Source: Field data, 2006



**Fig. 24. Swahili house made of wood, stone, lime and coconut leaves as roofing materials**  
Source: Field data, 2006



**Fig. 25. Swahili traditional fish trap – Madema (fish basket)**  
Source: Field data, 2006



**Fig. 26. White sand beach – an ideal place for beach tourism**  
Source: Field data, 2006



**Fig. 27. Natives selling local products to tourists as well as acting as local guide**  
Source: Field data, 2006



**Fig. 28. Souvenirs sold right at the beach**  
Source: Field data, 2006



**Fig. 29. Attractive picework – Just one of the attractive souvenirs**  
Source: Field data, 2006

equation and minimize the costs. This can only be achieved by creating positive effects/impacts on sustainable tourism stakeholders and the surrounding communities. The study shows that there are enormous opportunities for sustainable tourism related businesses the local communities can engage in to foster sustainable development of KPFR.

- In addition, the potential economic benefits from KPRF can play a greater role in ensuring sustainable resource management in the reserve. If the benefits are equitably shared, the joint management team will get substantial funds to run the day-to-day activities of the reserve and thereby enhance the conservation of KPFR and the quality water supply to the tourism industry. Under the prevailing benefit-sharing mechanism at Jozani National Park (JNP), whereby 22.4% of financial benefits is retained, communities at KPFR have the potential to get between US\$69195.94 to US\$92261.25 per year as a levy for water services from hoteliers and about US\$20500.48 to US\$49201.15 per year from visitors at KPFR. Though a number of obstacles are hindering economic benefit-sharing at KPTZ, there is great potential for benefit-sharing to positively influence local attitudes towards efficient natural resources and sustainable tourism management.
- More studies on environmental and social benefits and costs in the KPTZ are needed to produce a complete analysis of the sustainable tourism situation in KPFR. Since sustainable tourism development depends highly on shared costs and benefits amongst the stakeholders, a complete package of relevant information is crucial for effective planning. The stakeholders and the communities should be educated to understand that tourism development is a double-faced endeavour. On the one hand, it can provide more job opportunities and revenue to help sustain a community's economy (WTO 1999: 361) and on the other, it may accelerate negative changes in the cultural and natural environment. Therefore, effective planning of sustainable development should be done so as to prevent and/or mitigate the negative effects while at same time maximizing the positive impacts.

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## LIST OF ACRONYMS, ABBREVIATIONS AND TERMINOLOGIES USED

CTZ	Commission for Tourism Zanzibar
DCCFF	Department for Commercial Crops, Fruits and Forestry
GDP	Gross domestic products
GNP	Gross national products
HOUSEHOLD:	All people living together and share common services in a homestead.
JNP	Jozani National park
KASKAZINI	Swahili name for the Northern administrative region
KPFR	Kiwengwa-Pongwe Forest Reserve
KPTZ	Kiwengwa-Pongwe Tourism Zone
KUSINI	Swahili name for the Southern administrative region
NGOs	Non-Governmental Organisation(s)
MADEMA:	Locally made fish traps that resemble basket. Main raw material is wood from <i>macphesonia gracilis</i> – 'mjoma'
SHEHA:	The village/shehia leader.
SHEHIA:	Lowest administrative unit in the region that constitutes one or more villages.
SMZ	The Swahili abbreviation - <i>Serikali ya Mapinduzi ya Zanzibar</i> for the Revolutionary Government of Zanzibar.
URT	United Republic of Tanzania
WIKIPEDIA:	The Free encyclopaedia.
WSSD	World Summit for Sustainable Development
WTO	World Tourism Organisation
WTP	Willingness to Pay

## REFERENCES

- Archabald, K. and Naughton-Treves, L.: Tourism Revenue Sharing around National Parks in Western Uganda: Early Efforts to identify and reward local communities. *Journal of Environmental Conservation*, **28(2)**: 135-149 (2001). Foundation for Environmental Conservation.
- Benavides, D. D. and E. Perez-Ducy, E. (Eds): *Tourism in the Least Developed Countries*. III United Nations Conference on Least Developed Countries, Brussels, May 2001. World Tourism Organisation. 392pp (2001)..
- CTZ (Commission for Tourism Zanzibar): Working Reports (2001:).



- DCCFF (Department for Commercial Crops, Fruits and Forestry): Project Proposal for the Kiwengwa-Pongwe Forest Reserve Conservation Project. Submitted for Global Conservation Fund. August 2003. The Revolutionary Government of Zanzibar document. 12pp (2003).
- Eagles, P. F. J., McCool, S. F. and Hynes, C. D.: *Sustainable Tourism in Protected Areas*. Guidelines for Planning and Management. IUCN Glands, Switzerland and Cambridge, UK. Xv + 183pp (2002).
- Finnie, D.: *Jozani-Chwaka Bay National Park – General Management Plan*. Forestry Technical Paper 142. Department of Commercial Crops, Fruits and Forestry, Zanzibar. 89pp. (2003).
- Frangialli, F.: Tourism Stands Up Against Poverty, Tourism Stands Up For The Millenium Development Goals: Message From The Secretary-General. [www.world-tourism.org/pdf/standup\\_e.pdf](http://www.world-tourism.org/pdf/standup_e.pdf) (Retrieved on 19<sup>th</sup> October 2006). [http://www.biodiversityeconomics.org/applications/library\\_documents/lib\\_document.rm?document\\_id=710](http://www.biodiversityeconomics.org/applications/library_documents/lib_document.rm?document_id=710) (Retrieved 20<sup>th</sup> December 2005) (2006).
- Hens, L.: *Tourism and Environment*. In: Course readings on Tourism, Recreation and Heritage. Free University of Brussels. 47pp. (2006).
- Kasemir, B., Jaeger, C.C and J. Jager, J.: Citizen participation in sustainability assessment. In: *Public participation and sustainability Science*, Kasemir B., C.C Jaeger, J. Jager and T.M Gardner (Eds.). Cambridge University Press 3-36pp. (2003).
- Luhanho, P. L.: Tourism Development Trends in Tanzania. A Note. Pp. 361 – 364. In: *Tourism in the Least Developed Countries*. Benavides D. D. and E Perez-Ducy (Eds). (2001).
- News24.Com. 2005. Zanzibar Sets Tourism Record. 27/12/2005 19: 44 - (SA) [http://www.news24.com/News24/Africa/News/0,2-11-1447\\_1856046,00.html](http://www.news24.com/News24/Africa/News/0,2-11-1447_1856046,00.html) (Retrieved 21<sup>st</sup> October 2006).
- Orjala, M.: *Life World and its Reflectios in Rural Communities: The Interaction Between an Individual, a Village Community and Nature on the Island of Unguja in Zanzibar*. Turku University Department of Geography Publications B Nr 8. Turku, 124pp. (2006).
- URT (United Republic of Tanzania): *The Status of National Economy for the year 2005. (Hali ya Uchumi wa Taifa Katika Mwaka 2005)*. Ministry of Planning, Economy and Empowerment. Government Printer, DSM. 241pp. (2006).
- URT (United Republic of Tanzania): *Population and Housing Census*. General Report. Central Census Office, National Bureau of Statistics, President's Office. Planning and Privatization. Dar-Es-salaam. Government Printer DSM. 203pp. (2003).
- Watkin, J. R.: *The Evolution of Ecotourism in East Africa: From an Idea to Industry*. Wildlife and Development Series No. 15. International Institute for Environment and Development, London. 28pp. (2003).
- WSSD (World Summit on Sustainable Development): *Report of the World Summit on Sustainable Development*. Johannesburg, South Africa, United Nations (2002).
- WTO (World Tourism Organisation): *International Tourism: A Global Perspective*. 2<sup>nd</sup> Ed. World Tourism Organisation, Madrid, 406pp (1999).
- WTO (World Tourism Organisation). 2006a. Tourism - A Key Resource for Sustainable Economic and Social Development. [http://www.world-tourism.org/newsroom/Releases/2006/september/think\\_tank.htm](http://www.world-tourism.org/newsroom/Releases/2006/september/think_tank.htm) (Retrieved 19th October 2006).
- WTO (World Tourism Organisation). 2006b. African Tourism Surges Ahead – UNWTO. <http://www.world-tourism.org/newsroom/Releases/2006/september/africantourismahead.htm> (Retrieved 19th October 2006).