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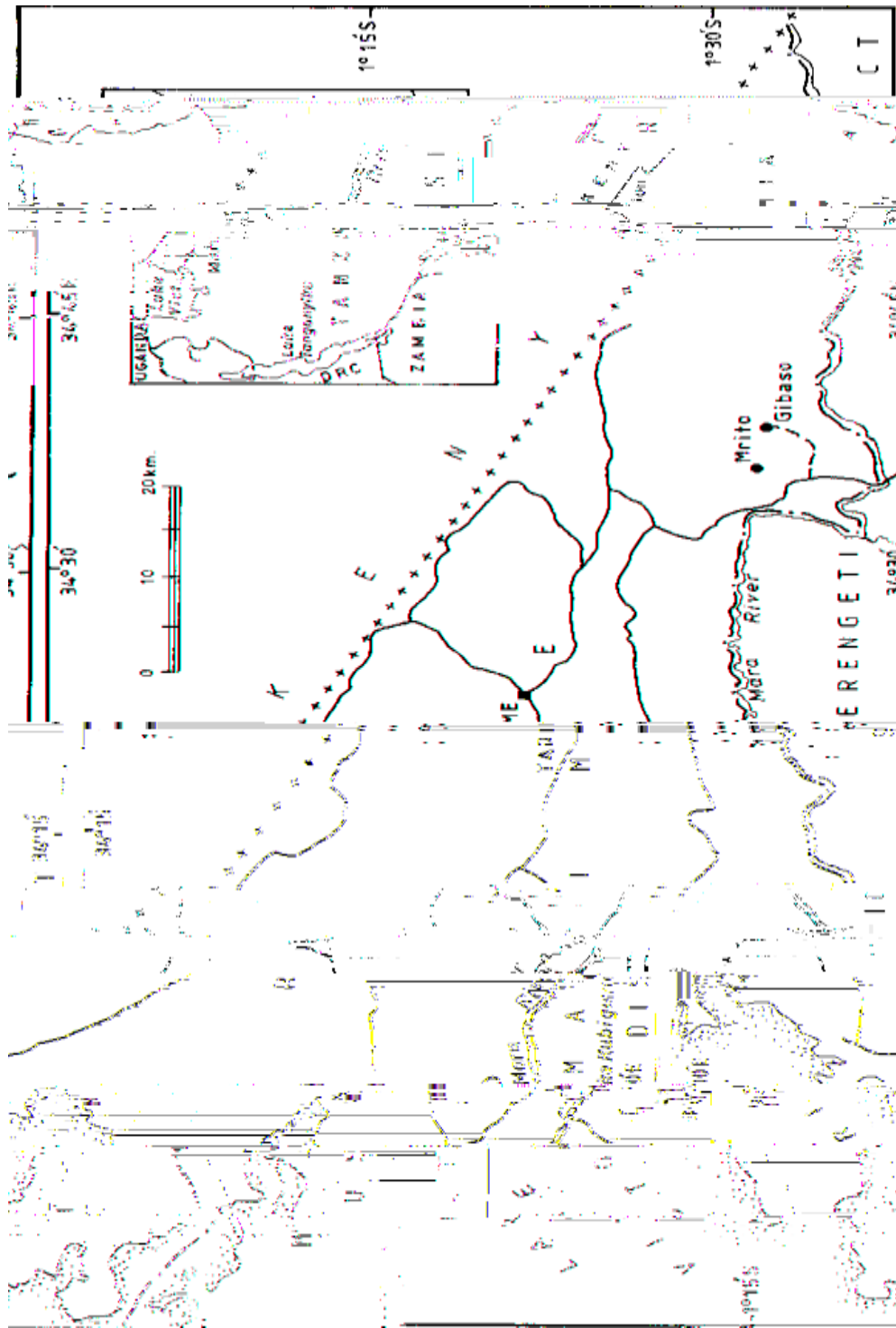
ACKNOWLEDGEMENTS

The Baseline study for the proposed Wildlife Management Areas (WMAs) initiated by the Wildlife Division (WD) in the Ministry of Natural Resources and Tourism (MNR&T) in collaboration with various donors, Non-governmental Organisations (NGOs) and local communities. The study has been conducted countrywide in 16 proposed pilot wildlife management areas. This team was charged with the responsibility of conducting the study for the Northern Working Area or Northern Zone which included the districts of Monduli, Kiteto, Babati, Ngorongoro, Serengeti and Tarime. Quite a number of people have therefore been involved in facilitating the completion of this study.

We would like to first and foremost wish to express our sincere gratitude to the WD for opportunity to conduct this important study, which heralds the beginning of a new era in natural resource management. Here we would particularly like to thank the staff of the WD who took part in the preparation of the study namely Mr Severe the Director of WD, Ms Miriam Zechariah, the co-ordinator of the project, and Mr Michael Maige. We further would like to thank the sponsors of the project for the northern working area namely USAID through WWF-Tanzania Programme Office. We would particularly like to thank Dr Hussein Sosovele and the team at WWF-TPO for the able facilitation all along the course of the study implementation.

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BASELINE DATA AND ANALYSIS FOR TARIME PILOT WMA



Map1: Map of Tarime District showing villages constituting the proposed Tarime WMA

2.1.2 Land Use Planning

Land Use Planning of the Gibaso village for different uses which include the WMA, livestock grazing farming, forestry and settlement has been done but the land use maps are not yet prepared.

2.1.3 Formulation of By-laws

The village government with the facilitation of experts from the Serengeti Regional Conservation Program has drawn up By-laws.

In this vill

The district allocated the natural resource sector 11.7% of its own income generation in the district income (see Table A1(b)). At the WMA level, the main source of income is shown to be tax retention of 25% of all collected taxes for the district. There is no any other major source of income for the village⁴. (See Table B2). The main economic activities are livestock keeping and farming. The majority of the people are agro-pastoralists.

2.2.2 Production trends and productivity

Bird species that were recorded in the field are shown in Table D2.

2.3.2 Vegetation

Open grassland, acacia woodland and dense forests at higher altitudes characterize the WMA. Tree species that dominate in these vegetation types is *Acacia spp.* and *Themeda triandra* being the main grass species.

2.3.3 Water resources

Water source for wildlife, livestock and human beings both for Gibaso and Mrito is Mara River, which is permanent. Gibaso has an additional source which is Gongo'la River.

2.3.4 Other natural resources

Bee-keeping: Organized groups that were started in 2002 are practicing bee keeping at Gibaso. Currently these groups have 15 modern and 33 traditional beehives. Three beehives in this village are owned by an individual. The problem that is currently faced by the beekeepers is lack of market and most of the honey harvested is given to children.

Mining: One investor and small miners do mining on the 20 ha piece of land and the type of mineral available is gold.

Charcoal making: Because forest products are increasingly becoming scarce, charcoal making, unless done illegally is prohibited.

Fishing: Few people in Gibaso do fishing mainly for food.

Medicinal resources: No use of medicinal plants at Gibaso.

2.3.5 Human-wildlife interactions

Elephant is the most problematic wildlife species that destroy crops. The critical period of the year when crops in particular cassava is destroyed is during dry seasons. Although scaring by making noise has been the usual strategy, elephants have learned that shouting has no harm and therefore the presence of Game Officers who can scare them with ammunition is crucial. Extent of crop raiding ranges between 50 and 100% of the expected yields with people residing in the vicinity of SWP

problem of disease transmission is critical is when wildlife is at the village that is, between June and October.

2.4 Sociological Analysis and Baseline Data

2.4.1 *Population characteristics*

2.4.3 *Ritual Sites*

Unlike other WMAs where there are well-recognized ritual sites, in Tarime WMA such sites are not well defined. This does not mean the absence of rituals in the area. Initiation

As a reflection of efforts of both the Serengeti Regional Conservation program and the Frankfurt Zoological Society, most 73.9% report that WMA is about benefit sharing, participation and resource conservation. After clarifications on what WMAs are all about, 96.2% said they like the idea of WMA. There were some respondent who said that they do not like the idea, they were afraid that they will be evicted from the area. Training has also not gone far enough to include the 16 village game scouts. According to the village residents, the game scouts have not been trained outside village. The little training that has gone into Gibaso is also reflected in the response to the question, “what are your opinions for improvement?” where 50% report needing more education, followed by 21.4% reporting that they need more village participation. Table 3 shows the opinions for improvement in the WMA concept.

Table 3: Distribution of respondents according to the opinions for improvement WMA

Item	Frequency	Percentage
Village participation	3	21.4
Poachers disturbances	1	7.0
Educating villagers	7	50.0
Others	3	21.4
Total	14	100.0

2.4.6 Conflict and Conflict Management

2.4.6.1 Conflict in Tarime WMA

Conflicts here refer only to Gibaso where data was collected. While there may be a number of conflicts related to farm boundaries between households, one major conflict reported was in relation to a large scale farmer from Mrito village who claims 600 acres into Gibaso village. According to the Gibaso villagers, a wealthy goldminer and tourist agent bought 600 acres with the intention of starting a dairy farm but todate this land has remained idle. Again the villagers suspect that the village chairman received money from the businessman. According to the respondents, they suggest that the 600 acres was enough to resettle those who are going to be “evicted” from the proposed WMA. Otherwise they don’t see the possibility of getting alternative land for the victims since a large portion of Gibaso is flooded during the rain season.

There is also a deep mistrust of their neighbouring village of Mrito. Gibaso residents claim that Mrito is a name of a hill which is within Gibaso land. The name Mrito was deliberately adopted by the neighbouring village to legitimize their claim to the area. This action has created deep resentment on the pat of Gibaso.

2.4.6.2 Conflict Resolution Mechanisms

Amongst the Wakurya of

Village governments are also useful in resolving conflicts. But because of the present leadership crisis, it is difficult for village leaders to resolve conflicts as they may have a hard time maintaining impartiality.

2.4.7 Social Facilities

Social facilities that were investigated included educational and medical facilities as well as water supply situation. The availability of these social services is a good indicator of development.

2.4.7.1 Educational facilities

Gibaso village has two primary schools, namely, Karakatonga and Gibaso Primary schools. Table 4 shows the summary of the number of pupils and teachers by gender from the two schools in Gibaso.

Table 4: Number of Pupils and Teachers by Gender

Name of School	Pupils			Teachers	
	Boys	Girls	Total	Male	Female

Table A1(b): Tarime District Council Annual Expenditure for 1998-2002

S/N	Sources of Expenses [Department]	1998	1999	2000	2001	2002
1.	Accounts/Treasury	67,660,860.70	67,222,444.00	46,161,145.00	19,273,057.00	29,066,505.00
2.	Planning	988,500.00	1,432,330.00	1,601,419.00	1,903,515.00	1,338,288.00
3.	Agriculture & Livestock	-	-	-	-	-
4.	Personnel & Admin.	251,733,339.70	233,188,093.00	184,344,445.00	224,954,170.00	235,871,529.00
5.	Trade	1,095,000.00	2,399,050.00	4,842,300.00	4,978,400.00	2,408,625.00
6.	Land: Survey & Mapping	482,300.00	383,150.00	470,000.00	1,780,800.00	439,000.00
7.	Land: Development	68,000.00	4,000.00			

S e c t i o n B

**Table B1: TARIME PILOT WMA: Village Level Population Main Occupations and Other Economic Activities
February 2003**

VILLAGE	Population Size			Main Occupations				Type Of Business						
	<i>No. of Households</i>	<i>Total Popul.</i>	<i>Able bodied persons (labour supply)</i>	<i>Agric.</i>	<i>Livestock</i>	<i>Business</i>	<i>Civil Servants</i>	<i>Shops</i>	<i>Kiosks</i>	<i>Butchers</i>	<i>Tailors</i>	<i>Black-Smith</i>	<i>Photo</i>	<i>Hunting</i>
1. MRITO	641	4123	3412					NA	NA	NA	NA	NA	NA	NA
2. GIBASO	1,690	8,458	6,400					(3)	(10)	(1)	(3)	(3)		

N.A.

Table B2: TARIME PILOT WMA: Sources of Income and their Expenditure (2001)

**Table B3: TARIME PILOT WMA: Productivity of Economic Activities
February 2003**

	MAIZE (Bags/acre)	CASSAVA (Bags/acre)			
1. MRITO	NA	NA	NA	NA	NA
2. GIBASO	8	3	-	-	-

NA = Data not collected due to insecurity.

**Table B4: TARIME PILOT WMA: Costs Associated with Accessing Basic
Services
February 2003**

	HEALTH	WATER	ENERGY	SCHOOL	OTHER
1. MRITO	NA	NA	NA	NA	NA
2. NYICHOKA	FREE ¹	FREE	FREE	FREE	-

¹ Medical kit finishes very fast!

**Table B5: TARIME PILOT WMA: Village Perceptions on Wealth Status
February 2003**

VILLAGE	COMPOSITION BETWEEN FARMERS & LIVESTOCK KEEPERS		PROPORTION OF PEOPLE IN WEALTH CATEGORIES					
			Farmers			Livestock Keepers		
	Farmers (%)	Livestock Keepers (%)	Rich (%)	Middle Income (%)	Poor (%)	Rich (%)	Middle Income (%)	Poor (%)
1. MRITO								
2. GIBASO	-	100	-	-	-	20	30	50

Note: Some people do farm but main activity is livestock keeping.

Criteria for categorisation

Livestock Keepers:..... Poor < 10
Middle 10-200

**Table B6: TARIME PILOT WMA: Land Tenure Regimes
February 2003**

VILLAGE	TENURE REGIME & COST
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**Table B7: TARIME PILOT WMA: Progress in Preparation for WMA
February 2003**

VILLAGE	Land Use Plans	By-law enactment	Training of Village Game Scouts (number)	Establishment of AA
1. MRITO	NA	NA	NA	NA
2. GIBASO		-	- ²	-

NA = data not collected due to insecurity.

¹ in progress.

² Have 16 VGS not yet trained.

Table B8: TARIME PILOT WMA: Existing land Use, February 2003

VILLAGE	AGRIC.	LIVESTOCK	SETTLEMENT	WILDLIFE	FISHING
1. MRITO	NA	NA	NA	NA	NA
2. GIBASO				-	-

Note: determination of proportions allocated for each use was not possible by villagers, this data was not available.

Table B9: TARIME PILOT WMA: Indicative Potential Economic Opportunities, February 2003

VILLAGE

FARMING TOURS 1 B28-69-251-00 Use, FEB 2004 (197663)

Table B10: TARIME PILOT WMA: Livestock Size, February 2003

VILLAGE	CATTLE	GOATS	SHEEP	DONKEYS	CHICKEN	OTHER
1. MRITO	NA	NA	NA	NA	NA	NA
2. GIBASO	4,600	2,100	3,500	40	1	-

¹ Number not known.

S e c t i o n C

Table C1: Survey Sample Villages

S/N	Village	Number of Respondents	Proportion
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Table C3: Level of Education of Household Head

S/N	Level	% Age of Respondents	Remarks
1.	None	34.5	The rate of illiteracy is regrettably high with the majority who got formal education (44.8%) having primary level education. About 7% of the respondents did not finish

Table C7: Reasons for Immigration

S/N	Reason	%age of Immigrants	Remarks
1.	Villagization	3.4	Apart from the main reasons of seeking farming land and pasture for livestock, an element of conflict shows in the data. People who have moved due to conflict situations account for about 10.2% of the 58.6% who have moved into their present homes.
2.	Farming land	34.5	
3.	Grazing land	37.9	
4.	Employment	3.4	
5.	Peace and harmony	10.2	
6.	Business	3.4	
7.	Marriage	6.9	
	n = 29	100	

Table C8: Reason for Out-migration

S/N	Reason	% of Outmigrants	Remarks
1.		30.43	While 58.6% of people came into the localities they are now in over the years, about a of the respondents had a relative who moved away from their village to other villages. The main reasons being land scarcity and shortage of grazing land but also drought.
2.	Grazing land scarcity	30.43	

Table C10: Amount paid for Water

S/N	Amount paid	Village Kiosk n = 29 (%age)	Village Well N = 29 (%age)	Remarks
1.	No payment	100	100	Water is obtained free of charge, no payment is done since even the sources of water are not reliable.
2.	Between Tshs 5 – 500 per bucket	-	-	
3.	Between Tshs 100,000 per year	-	-	

Table C13: Sanitation Situation: Toilet Use

S/N	Type of Facility	Proportion of Respondents (%)	Remarks
1.	No facility	6.9	Sheltered pit latrines were seen although the quality of the shelters need improvement.
2.			

Table C17: Frequency of Use of Natural Resources Used

S/N	Frequency	Building Poles	Thatching Grass	Game Meat	Medicinal Plants	Pottery
		n=10 (%)	n=20(%)	n=12(%)	n=10 (%)	

Table C21: Potential Productive Activities Anticipated due to WMA Establishment

S/N	Activity	Proportion of Respondents (%)	Remarks
1.	Cash crop farming	-	Respondents did not seem to have given a thought to the potential benefits of establishment of WMAs since they in the first place were misinformed about the intention of WMAs hence more sensitization is required.
2.	Food crop production	6.3	
3.	Small business	37.5	
4.	Wage employment	18.8	
5.	Vegetable farming	18.8	
6.	Handcrafts for sale	12.5	
7.	Game meat business	6.3	
8.	Tourist business	-	
	n=16	100	

Table C22(a): Transfers into the Households (Remittance)

S/N	Status	Proportion of Respondents %	Remarks
1.	Yes, do receive financial assistance from relatives and friends living out of the village	47.4	The proportion of respondents who receive transfers do obtain an average of Tshs 99,000/= per year from relatives and friends living outside their mainly locality.
2.	No, we do not	52.6	
	n = 19	100	

Table C22(b): Earnings from Off-season Income Generating Activities

S/N	Activity	Amount (Tshs)	Remarks
1.	Off-season activity other than the main occupational activity includes casual labour, small-business among others.	55,400.00	17.2% of the households in Gibaso village, earn an additional US \$0.15 per day from other IGAs.

Table C23: Wealth Status of Households (Mean, Mode)

S/N	Asset	n	Mean Value	Mode Value	Min	Max	Std Deviation	Remarks
1.	House (Tshs)	28	246,229	30,000	5,000	2,142,857	509,270.5	The mode values are more closer to reality since there is existence of extreme values in the sample which affects the mean values. This can be seen from the minimum and

Table C25: Farm Sizes and Harvests amounts Mean (Productivity)

S/N	Crop	Short Rains			Long Rains			Remarks
		<i>Acres Planted</i>	<i>Bags Harvested</i>	<i>Bags/Acre</i>	<i>Acres Planted</i>	<i>Bags Harvested</i>	<i>Bags/Acre</i>	

Table C28: Building Materials used for Roofing

S/N	Type of Material	Proportion of Respondents(%)	Remarks
1.	Thatching grass	58.6	Two main types of materials are used. With cement and burnt brick walled houses, corrugated iron sheets are used with a few mud brick houses also having corrugated iron roofing.
2.	Mud, poles and grass	-	
3.	Mud and straw	-	
4.	Corrugated iron	41.4	
	n=97		

Table C29: Respondent Credit Use

S/N	Status	Proportion of Respondents (%)	Remarks
1.	Borrowed	60	Money borrowed goes to satisfy consumption needs and emergencies like hospital bills, etc.
2.	Not borrowed	40	
	n = 97	100	

Table C30: Source of Credit

S/N	Source	Proportion of Respondents (%)	Remarks
1.	Family members	30.8	Friends are shown to be the major source of credit for those who need it. The activity is based mainly on trust more than anything else.
2.	Friend	69.2	
3.	Money lender	-	
4.	Don't remember	-	
	n = 13	100	

Table C31: level of Understanding of WMA Concept

S/N	Meaning	Proportion of Respondents (%)	Remarks
1.	Community participation	28.6	Majority of respondents responded poorly to this question due to reasons discussed before. Due to misinformation many were suspicious that WMA were designed to disposes them of their village land.
2.	Benefit sharing	40.8	
3.	Resource conservation	30.6	
4.	Follow WMA guidelines and regulations	-	
	n = 23	100	

Table C32: Opinions for Improvement of WMA Implementation Success

S/N	Opinion	Proportion of Respondents (%)	Remarks
1.	Villagers' involvement	21.4	Here again the call for educating villagers on the concept of WMA costs and benefit g[

3.2 Ecological Baseline Data: Section D

Table D1: Wildlife species and their status at Tarime WMA

S/n	English name	Scientific name	Abundance				Habitat type	Movement	
			VA	A	F	VF		M	N/M
1	Wildebeest	<i>Connochates taurinus</i>	X				Grassland	X	
2	Zebra	<i>Eguus burchelli</i>	X	X			Grassland/ woodland	X	
3	T. gazelle	<i>Gazella thomsoni</i>	X				Grassland	X	
4	Elephant	<i>Loxodonta africana</i>		X			Forest/woodland	X	
5	Reedbuck	<i>Redunca redunca</i>				X	Riverine		X
6	Impala	<i>Aepyceros melampus</i>		X			Woodland		X
7	Dikdik	<i>Madoqua kirkii</i>			X		Woodland		X
8	Lion	<i>Panthera leo</i>			X		Grassland/woodland		X
9	Cape hare	<i>Lepus capensis</i>		X			Grassland/woodland		X
10	Buffalo	<i>Syncerus caffer</i>	X				Grassland/woodland	X	
11	Topi	<i>Damaliscus korriguns</i>				X	Woodland		X
12	Hyena	<i>Crocota crocota</i>		X			Grassland/woodland		X
13	Crocodile	<i>Crocodile crocodilus</i>			X				X
14	Giraffe	<i>Giraffa camelopardalis</i>			X		Woodland	X	X
15	V. Monkey	<i>Cercopithecus aethiops</i>				X	Woodland/Forest		X
16	Y. Baboon	<i>Papio cynocephalus</i>		X			Grassland/woodland		X
17	Warthog	<i>Phacochoerus aethiopicus</i>			X		Grassland/woodland		X
18	Hippopotamus	<i>Hippopotamus amphibius</i>				X			X
23	Bushbuck	<i>Tragelaphus scriptus</i>				X	Woodland		X
19	Waterbuck	<i>Kobus ellipsiprymnus</i>			X		Riverine/woodland		X
19	Cheetah	<i>Acinonyx jubatus</i>				X		X	X
20	Leopard	<i>Panthera pardus</i>			X		Forest/woodland		X

Key: VA- Very abundant, A- Abundant, F-Few, VF-Very Few, M-Migrant, NM-Non-migrant.

Table D2: Bird species recorded at Tarime WMA between 05/03 and 07/03/2003

S/N	Common name	Scientific name	Movement		Habitat
			<i>M</i>	<i>R</i>	
1.	Ostrich	<i>Struthio camelus</i>		X	Grassland
2.	Egyptian Goose	<i>Alopochea aegyptiacus</i>		X	Water bodies
3.	Red-eyed dove	<i>Streptopelia semitorquatus</i>		X	Woodland
4.	Helmeted Guineafowl	<i>Numida meleagris</i>		X	Forest/woodland
5.	Lilac-breasted Roller			X	Woodland
6.	Yellow-necked Spurfowl	<i>Francolinus leucoscepus</i>		X	Forest/woodland
7.	Kori Bustard	<i>Ardeotis kori</i>		X	Grassland/woodland
8.	Superb Starling	<i>Lamprotornis superbus</i>		X	Woodland
9.	Augur Buzzard	<i>Buteo augur</i>		X	Grassland/woodland
10.	White-headed Vulture	<i>Trigonoceps occipitali</i>		X	Grassland
11.	White-backed Vultrue	<i>Gyps africanus</i>		X	Grassland
12.	Cattle Egret	<i>Bubulcus ibis</i>		X	Grassland
13.	White-browed Coucal	<i>Centropus superciliosus</i>		X	Forest/woodland
14.	Taita Fiscal	<i>Lanius dorsalis</i>		X	Grassland/woodland
15.	African Pied Wagtail	<i>Motacilla aquimp</i>		X	Grassland woodland

APPENDICES

Appendix Table 1: Itinerary and People Consulted

DATE	ACTIVITY	PLACE
24-31/01/2003		

Appendix Table 2: List of respondents

	Names of respondent	WMA	Village
1.	Athuman Abdallah	Tarime	Gibaso
2.	Paul Mchombe	Tarime	Gibaso
3.	Wankuru Chacha	Tarime	Gibaso
4.	Antony Magalya	Tarime	Gibaso
5.	Nyang'Anyi Samboru	Tarime	Gibaso
6.	Maki Mwita	Tarime	Gibaso
7.	Henry Mtatilo	Tarime	Gibaso
8.	Masambe Mkoti	Tarime	Gibaso
9.	Gichogo Wangesai	Tarime	Gibaso
10.	Chacha Marwa	Tarime	Gibaso
11.	Gesero Chacha	Tarime	Gibaso
12.	Maho Mato	Tarime	Gibaso
13.			