

Improvement of village poultry production by communities in the Limpopo National Park Support Zone in Gaza Province

Gaza Province (11 to 17 January 2009)

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ABBREVIATIONS

ACIAR	Australian Centre for International Agricultural Research
CAHW	Community Animal Health Worker
DPA	Provincial Directorate of Agriculture
HH	Household
LNP	Limpopo National Park
ND	Newcastle disease
PME	Participatory Monitoring & Evaluation
PRA	Participatory Rural Appraisal
SDAE	District Services of Economic Activities
SMS	Subject Matter Specialist
SPA	Provincial Agricultural Services
SPER	Provincial Rural Extension Services
SPP	Provincial Livestock Services
ToR	Terms of Reference
TOT	Training of trainers

In January 2009 1 US\$ = 23 MZM

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1. INTRODUCTION

Newcastle Disease (ND) is a high-risk factor to chicken-raising with a mortality rate ranging in village flocks between 50% and 100% (Mavale, 1995; Wethli, 1995; Harun and Massango, 1996). There is a consensus that vaccination campaigns have a vital role to play in the improvement of household food security and family income (Harun and Massango, 1996; Mavale, 1995; Wethli, 1995).

Improving the quality of poultry services, their reliability and accessibility to small farmers will offer an opportunity to increase inadequate household incomes and to curtail food shortages. The introduction of a thermotolerant Newcastle Disease vaccine into a region with an adequate extension package offers us a possibility to contribute to the relief of extreme levels of poverty registered in Southern African countries.

The International Rural Poultry Centre (IRPC) of the Kyeema Foundation is undertaking activities that aim to improve village poultry production in and around the Limpopo National Park (LNP). The project is financed by AHEAD and has a duration of one year with a beginning in January 2009. Vaccination campaigns using I-2 will be carried out in February, July and November 2009. The project aims to train 24 vaccinators in 2005 (12 in the NLP and 12 in the buffer zone or resettlement area).

The objectives of the projects are:

1. The control of Newcastle disease in village poultry;
2. Improved village poultry husbandry and management;
3. The development of poultry products suitable for sale to tourist centres; and
4. Improved household welfare, including improved nutrition and food security.

The LNP was created in 2001 and affects approximately 27,000 people. Of these, approximately 6,000 live inside the park and the remaining are located in the buffer zone. Households living inside the park will be resettled in the buffer zone or in the periphery of the park.

During the mission carried out between the 11 and the 17 January 2009, the gender/social anthropologist was requested to (see annex 1: TOR):

- Conduct initial social/gender analyses in each of the target areas to gain an understanding of the community's readiness, local priorities, perceptions, attitudes, resources and capabilities, as well as an understanding of local farming system and the role of chicken raising within the system.
- Identify animals available and consumption and sale pattern of chickens to document the impact of vaccination campaigns on wild life conservation and people well-being.
- Meet with farmers (male and female), extension workers, extension supervisors, livestock officers (*delegados pecuários*), veterinarians, trainers and respective NGO coordinators and appraise their readiness for the initiation of ND control activities.

- Facilitate the definition of baseline indicators by the target communities that will be used to monitor project progress.
- Assist with the identification of community members who are to be trained as community vaccinators against Newcastle Disease (ND).
- Identify steps that need to be taken to ensure that the training of community vaccinators in February 2005 and the first ND vaccination campaign in March 2005 can be successfully implemented.
- Prepare a draft report within one week of the end of your input and a final report within three weeks of the end of each input.

In order to carry out this task, several meetings were held with the District services of Livestock, vaccinators and beneficiaries of vaccination campaigns (see annex 2: List of people met and activities undertaken).

2. BACKGROUND INFORMATION ON THE LNP

The Limpopo National Park (LNP) created in 2000 spreads over three districts Chicualacula (59%), Massingir (35%) and Mabalane (15%). As the map below shows it has its border defined by the Limpopo river on the East, the Elephant river at South. There approximately 26,535 persons inside the park. The villages along the Xigweze river are the one whose population need to be displaced.

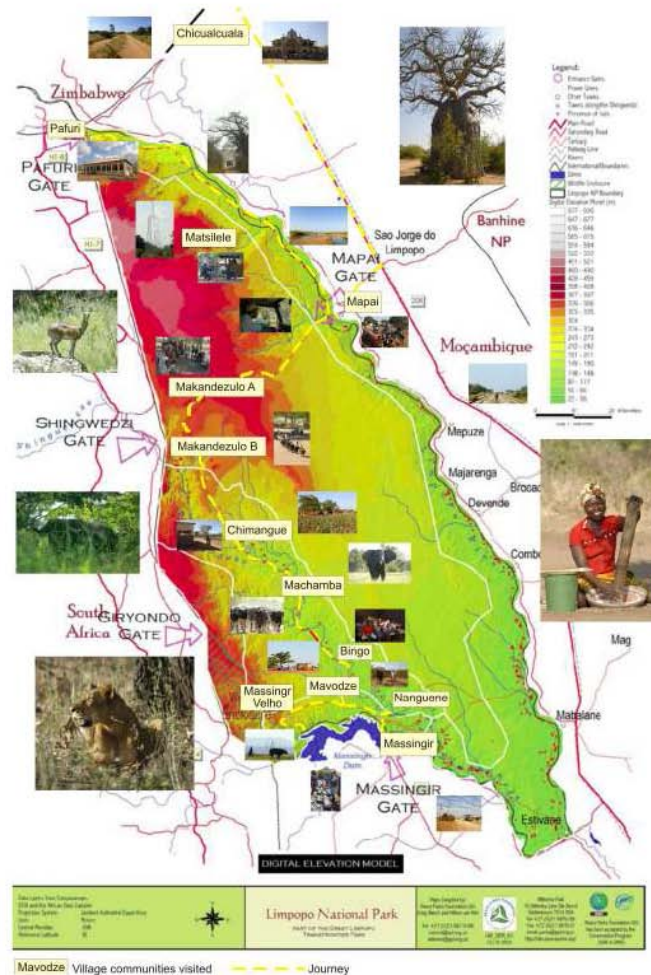


Figure 1. Map illustrating journey and places visited

Figure 1: Limpopo National Park (From: Ministry of Agriculture and Ministry of Tourism, 2007)

The notion of inside and outside the park is fluid. Strictly speaking only the village along the Xiguese are inside. There is a buffer zone which is 5 km from the rivers inside the park. But for management purposes, the LNP considers all villages within the borders of the rivers as inside the park. The explanation given is that “it is impossible to stop the elephants and other animals 5 km away from the river”.

The population started to be displaced slowly and 18 families were installed in Chimbangane at the time of our visit.

Table 1: Population of the area

Administrative Post Mavoze (1)	Km	Parque	Families	Persons	Men	Women
Mavoze	22	D	256	2205	1063	1142
Massingir Velho	39	D	171	1233	641	592
Machamba	69	D	77	612	285	327
Bingo	34	D	57	490	208	282
Chimangue	91	D	88	548	245	303
Macavene	11	D	84	683	332	351
Madingane	36	F om	97	637	270	367
Machaule	20	F om	58	424	190	234
Chibotane	17	F em	173	1304	584	720
Total						
AP Tihovene (2)	Km	Parque	Agregados	Pessoas	Homens	Mulheres
Tihovene		F	177	5680		
Mucatine		F em	NA			
Chinyangane	12	F em	188	757		
Cubo		F em	NA			
Decada da Vitória		F em	NA			
Ringane		F em	NA			
Cahane		F em	NA			
Total						
AP Zulo (2)	Km	Parque	Agregados	Pessoas	Homens	Mulheres
Banga		F em	NA			
Chipandzo		F om	61	178?		
Chitare		F em	NA			
Cunze		F om	102	511		
Macaringue	80	F om	536	2320		
Maconguene		F om	122	419		
Macuachane		F om	82	322		
Manhiça		F em	NA			
Mucatine		F em	NA			
Munhamane		F om	198	484		
Tchake		F em	NA			
Zulo		F em	NA			
Total						

(1) Data given by the Chief of the Administrative Post

(2) Data given by the PNL (from: community leaders 2003/2004)

“em” means this side of the river (“esta margem”).

“om” means other side of the river (“outra margem”)

3. EXPERIENCE WITH VACCINATION CAMPAIGNS AGAINST ND

The district of Massingir was one of the first districts to benefit from ND control in 1998 through vaccination campaigns every four months carried out by community animal health workers (CAHWs) with the support of VetAID (a British NGO with a livestock development project in Gaza Province) (Bagnol, 2000). The vaccine chosen was NDV4-HR administered via eye drop, due to its low cost, ease of use and conservation, safety and easy substitution by Vaccine I-2, which has been produced in Mozambique since 1999 within the framework of the ACIAR Project (Pagani: 1999 quoted in Bagnol, 200).

From the beginning, payment of the vaccines was introduced in all areas, pamphlets having been distributed through the CAHWs to the poultry farmers, on the vaccination and the price. The price of 300 MZM per bird vaccinated covered the costs of the labour of the CAHW and the cost of the vaccine (Pagani: 1999 quoted in Bagnol, 2000). At the end of 1998 audio cassettes about ND control produced by the ACIAR Project and INIVE were duplicated and distributed (with songs and radio programs in Portuguese, Shangana and Chitswa) to poultry farmers (Bagnol, 2000).

Some of the CAHWs still working in the area were trained in 1999 and vaccination campaigns have been carried out since then with support from the government services after VetAID left. However the activity is registering serious difficulty due to the lack of transport for distribution of the vaccine, the lack of a refrigerator at the district agriculture office to keep the vaccine and lack of per-diem for the staff to do the supervision in the field and contact the vaccinators/CAHWs. The vaccinators only carry out vaccination against ND while CAHWs are involved in all veterinarian activities such as the caring for cattle and goats.

In 2006 a total of 10 vaccinators were trained by district services. Table 1 below shows the evolution of the number of birds vaccinated during the 3 campaigns of 2007 and 2008. In Annex 3 the same data are available per village.

Table 2: *Number of birds vaccinated with I-2 ND vaccine per campaign in 2007 and 2008*

Village	March 07	July 07	Nov. 07	March 08	July 08	Nov. 08
PA Mavoze	2288	1820	1483	1154	0	723
PA Tihovene	1161	1559	866	238	1266	186
PA Zulo	238	431	0	0	0	0
GENERAL TOTAL	3687	3810	2349	1392	1266	909

The data available show that the number of birds decreased from 6687 in March 2007 to 909 birds in November 2008. In discussion with leaders and vaccinators it was explained that the last vaccination campaigns was very poor due to two consecutive bad harvests in September/November 2007 and 2008. Most of the birds were sold to buy food. Similarly cattle were sold showing the seriousness of hunger. Selling animals serves as a buffer and allows households to buy food. In addition to this factor, vaccinators mentioned the farmers's lack of money to pay for the vaccination and the lack of supervision by district services. Each bird vaccinated is charged 0.5 MZM. All the money is for the vaccinator/CAHW. The price of the vial is not charged to the vaccinator.

Experience of famers with vaccination is good especially in Mavoze and Massingir Velho. In Chinyangane the women complained that in 2007 after the vaccination campaign the chickens died and they suspect that the vaccination was carried too late with an outbreak already underway in the village.

In the district of Massingir there are two extensionists who are already trained to carry out and supervise ND control.

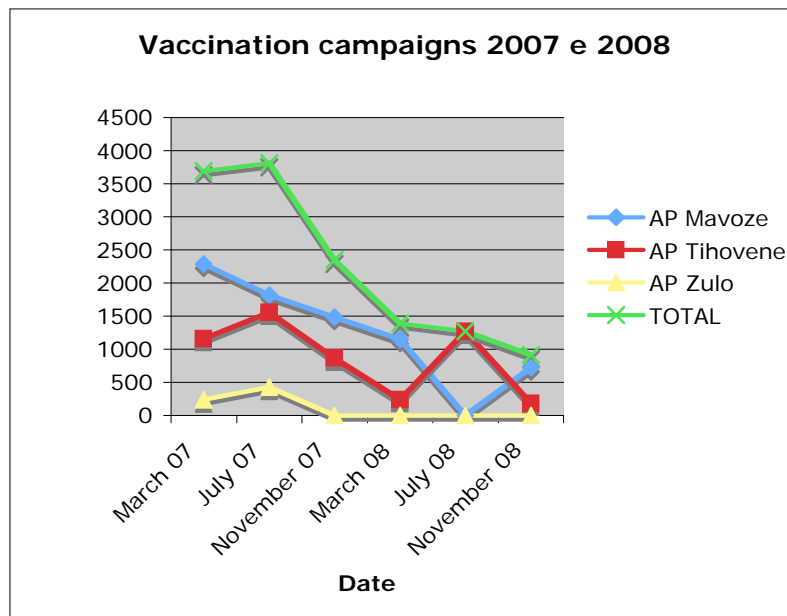


Figure 2: Graph of the number of birds vaccinated per campaign in 2007 and 2008

4. GENDER AND SOCIAL ANALYSIS AND CHICKEN RAISING CALENDAR

The focus group and PRA exercises carried out indicated that the harvest period is between March and April (see Table 1 below depicting the agricultural and chickens breeding calendar). It is during the harvest period from March to April that the chickens flock starts to grow again. Usually birds scavenge during the day and come back at night to sleep on the trees around the house or in a chicken house. During the months of January and February there is no food for people or chickens, hence the low number of chickens available.

They characterise “muzungu” as a disease that kills most of the chickens every year and whose clinical signs are those of ND. It occurs generally between August and September. People seem to know the signs quite well. Most know about vaccination campaigns by drop in the eyes but not all are fully aware of the need to vaccinate three times per year. When the birds are sick they do not know anything, they let the birds die and then bury them. In Massingir Velho and Chinyangane, women said that they do not eat dead birds but said they eat them before they die: «before they die we kill and eat them».

In Chinyangane men said that pox around the eyes occurs at the same time as «muzungu».

In Massingir Velho the leaders said that 80% of the households have chickens and that they have only 2-3 chickens per house due to the bad harvest as explained above. There was an outbreak in 2005 but except in July 2008 vaccination campaigns were regularly carried out by the local male vaccinator.

Table 3: Agricultural and chicken-breeding activity in Limpopo National Park

Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ND								X	X	X		
Rainy season	X	X										X
Hunger	X	X					X	X	X	X	X	X
Harvest			X	X	X							
High n° of chickens/ eggs				X	X							
Less chickens	X	X					X	X	X	X		

There are no passing traders that sell and buy chickens in the villages visited. According to participants the price of chicken is stable being 100 MZM for a big bird and 80 MZM for a small one. People never sell eggs. They also said that they never eat eggs in Chinyangane. It seemed that in Massingir Velho people were more likely to eat eggs. Participants explained that there is less strict division of the part of the chickens according to sex and age. However, they still mentioned that wings are for children, the legs for women, the liver for the mother and the gizzard for the father. They do not eat the head of the chicken.

People usually sell chickens when they need cash in their own neighbourhood or by going to the district capital. It is often by selling birds that a family can afford to pay the healer, the health centre or the school fees, buy soap and oil. The birds translate into petty cash, the smallest bank or purse which is managed by women. Women usually take care of the birds and manage the money to pay for the household expenses.

Based on people's assessment of the evolution of the flock of chickens and on the fact that up to 90% of the flock is wiped out by ND every year (Wethli 1996:19), I developed a chart to show the importance of vaccinating before ND outbreaks. The same table also shows that the flocks reach their lowest levels between Christmas and New Year. It is during this period of celebration of the festive season that most rural families eat chicken for the first and only time in the whole year. This is also a period when hunger generally occurs, thus the importance of chicken vaccination to improve households' cash availability to buy staple food.

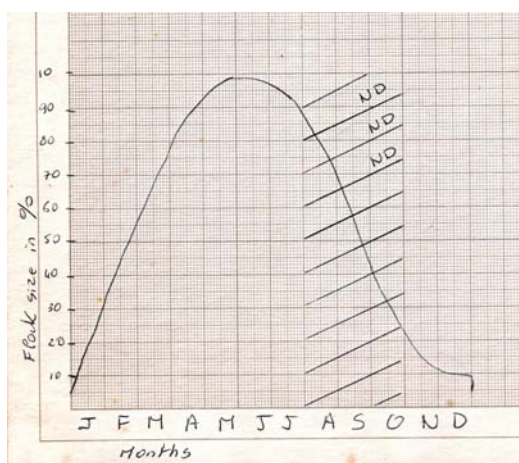


Figure 3: Evolution of flock size during the year and period of incidence of ND Limpopo National Park (From: Ministry of Agriculture and Ministry of Tourism, 2007)

Table 4: *Recommended vaccination calendar against ND using I-2 vaccine*

Months	J	F	M	A	M	J	J	A	S	O	N	D
I-2												

In most of the provinces of Mozambique, according to data collected over the last 10 years, ND outbreaks occur in the months of August, September, and October and sometimes continuing into November.

Most of the activities related to chicken raising are mainly under the responsibility of women and girls. The birds usually live outside and roost in the trees. As a consequence they have difficulties to isolate the chicken when there is an outbreak and to catch the chickens to vaccinate.

Table 5: *Activities carried out by men and women related to poultry raising*

Activities	Adult men	Adult women	Boy	Girl	Older men	Older women
Large species of animal (general)	x		x			
Small species (general)	x		x			
Chicken raising	x	x	x	x	x	x
Give feed		x				
Give water		x				
Build the poultry house	(1)					
Prepare the place for the hen to brood	x	x				
Clean the house		x				
Receive information on poultry raising	x	x				
Control birds	x	x				
Decide when to sell birds	(x)	x				
Decide when to sell eggs	x	x				
Decide to vaccinate		x				
Open and close the poultry house door		x				
Collect eggs		x				
Eat birds	x	x	x	x	x	x
Eat eggs						
Take care of sick birds	x	x	x			
Decide if vaccination was positive		x				
Slaughter the bird		x		x		
Cook the birds		x		x		

(1) The birds live in the trees

5. MAIN PROBLEMS WITH CHICKEN RAISING

The main problems related to chicken raising are related to ND although there was vaccination carried out in 2007 and 2008.

Table 6: *Priorization of chickens raising problems*

Problems	Men(%) Chinyangane	Women(%) Mavoze	Women(%) Chinyangane
Newcastle	32.4	75	51
Predators	15.5	0	
Fleas	2.5	0	5
Worms		0	
Thieves		0	
Snakes	7.7	0	
Intestinal parasites	7.7		
Diarrhea	10.3		
Ticks		25	5
Fowl pox	23.3		39
	100	100	100

6. OTHER ANIMALS AVAILABLE AND SALE AND CONSUMPTION

In addition to chickens participants explained that they also have cattle, goats, sheep and pigeons. The most valuable animals are cattle but not everybody owns them. Goats are the most popular after the chickens. Goats also can be sold in time of need. Thus, even if cattle are most valued by men and women they mentioned that chicken and goats are more important for their livelihood. Cattle are valued both because they allow men to give bride-wealth to the bride family (“*lobolo*”) and can be sold in time of hunger. Animal traction is also quite common and cattle are used to plough and to cart water, the harvest, construction material and other goods.

However, the displacement of people outside the park and the possible loss of the communal area for grazing the cattle or access to lower quality and overcrowded areas is an issue of much concern. Sheep and pigeons even if mentioned are extremely rare. People also mentioned that they have dogs. In relation to bees, it seems that nobody harvest the honey and it was not possible to see traditional beehives in trees as it is common in other regions.

Table 7: *Sale and consumption of animals in 2008 in Mavoze (Focus Group with seven women)*

Animal	Consumption	Sale
Chicken	Once a week	1- 10 birds
Duck	Once a month	never
Cattle	Never	3-5 because there was hunger
Goats	Twice a year on the 25 th of December and the 1 st of January	5-10 last year because of hunger
Fish	Every day more often fresh than dry	They buy close to the dam; they do not sell

In Massingir Velho it seems that people are better off than in Chinyangane with higher intake of chicken and fish per week. In Chinyangane, women said they can spend two to three weeks without eating fish or even a whole year because they do not have money to buy it. Chickens were not vaccinated in Chinyangane in March and July 2008 which might explain the low consumption and availability of bird to eat and sell.

Table 8: *Sale and consumption of animals in 2008 in Chinyangane (Focus Group with seven women)*

Animal	Consumption	Sale
Chicken	2/3 per year	Never there was hunger
Duck	Once a month	never
Cattle	Never only few eat when there is a marriage	Never it is to work in the fields
Goats	Twice a year on the 25 of December and the 1 st of January and when there are visitors	Only one person sold 3 in 2008
Fish	3 times per year	They buy close the dam they do not sell

People living in the park complained that since the LNP was created and the elephants allowed to circulate they invade their fields and never again they had a good harvest. “It is hunger every year” they complained. Every body complained of the very bad harvest in the last three years. In Chinyangane, the women explained that this year they were expecting a good harvest. According to them, due to an accident in the dam, the doors were opened flooding and fertilizing the fields along the river.

Table 9: *Sale and consumption of animals in 2008 in Mavoze (Focus Group with ten men)*

Animal	Consumption	Sale
Chicken	Once per week	Never
Cattle	Twice in December	4 per year
Goats	Four times a year	3 or 4 per year
Fish	Daily	They buy close the dam they do not sell

7. DISTRIBUTION OF VACCINATORS

During the mission the team met with the SDAE, community leaders and vaccinators to develop the most suitable plan for the implementation of the ND control. The table below shows the distribution of vaccinators by village and sex.

Table 10: *Proposed distribution of vaccinators*

PA Mavoze	Families	Cur. Vacs	New vacs	Women	Vaccinators	CAHWs
Mavoze	256	2	0	0		Filimone Machaule (1998) James Ger
Massingir Velho	171	2	0	1		Domingos Sabonete
Machamba	77	1	1	1		
Bingo	57	1	0	1		Elisabeth
Chimangue	88	1	1	0		1 homen na AS?
Macavene	84	1	1	1		David Mongwe (a substituir/doença)
Madingane	97	1	1	1		David Manjaze (nunca vacinou gallin)
Machaule	58	1	1	0		
Chibotane	173	2	1	1	1 mulher (2006)	
Total		12	6	6	1	
PA Tihovene	Agregados	Tot	Nov os	Mulheres	Vaccinadores	Promotores
Tihovene	177	2	2	1		
Mucatine	NA	0	0	0		
Chinyangane	188	1	0	0	Pedro Kuna (2006)	
Cubo	NA	2	2	1		
Decada da Vitória	NA	0	0	0		
Ringane	NA	0	0	0		
Cahane	NA	0	0	0		
Total		5	4	2	1	

Table 10: *Proposed distribution of vaccinators (Cont.)*

PA Zulo	Agregados	Tot	Nov os	Mulheres	Vacinadores	Promotores
Banga	NA	0	0	0		
Chipandzo	61	0	0	0		
Chitare	NA	1	0	0	1 mulher	
Cunze	102	0	0	0		
Macaringue	536	2	0	2	2 mulheres	
Maconguene	122	0	0	0		
Macuachane	82	0	0	0		
Manhiça	NA	1	0	0	Ngovene Rochete	
Mucatine	NA	2	2	2		
Munhamane	198	0	0	0		
Tchake	NA	0	0	0		
Zulo	NA	1	1	1		
Total		7	3	5	4	

8. CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

1. Both community and district services are welcoming the support to improve the ND control.
2. Vaccination against ND has occurred since 1998 in the district and there is a good preparation for the activity. It was carried out in 2007 and 2008 but there is a lack of supervision and support to extension workers and veterinarian technician to monitor the activities and carry out refreshment training regularly.

RECOMMENDATIONS

1. Carry out the training of 25 vaccinators (50% of women) as soon as possible working when ever possible with existing promoters and vaccinators.
2. Provide a refrigerator to the SDAE to store the vaccine.
3. Ensure that the community leaders from the Administrative Post and the secretary and of each village are invited to an afternoon meeting to support the activity and receive basic information on ND control.
4. Realize a viability study to commercialize organic village chicken from LNP to Maputo and inside the park.

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ANNEX 1

TERMS OF REFERENCE

Improvement of village chicken production by Junior Farmers & People living with HIV/AIDS

TERMS OF REFERENCE

Position: Gender/Social Anthropology Advisor

Location: Limpopo National Park

Tasks:

- Conduct initial social/gender analyses in each of the target areas to gain an understanding of the community's readiness, local priorities, perceptions, attitudes, resources and capabilities, as well as an understanding of local farming system and the role of chicken raising within the system.
- Identify animals available and consumption and sale pattern of chickens to document the impact of vaccination campaigns on wild life conservation and people well-being.
- Meet with farmers (male and female), extension workers, extension supervisors, livestock officers (*delegados pecuários*), veterinarians, trainers and respective NGO coordinators and appraise their readiness for the initiation of ND control activities.
- Facilitate the definition of baseline indicators by the target communities that will be used to monitor project progress.
- Assist with the identification of community members who are to be trained as community vaccinators against Newcastle Disease (ND).
- Identify steps that need to be taken to ensure that the training of community vaccinators in February 2005 and the first ND vaccination campaign in March 2005 can be successfully implemented.
- Prepare a draft report within one week of the end of your input and a final report within three weeks of the end of each input.

ANNEX 2

LIST OF PEOPLE MET AND ACTIVITIES UNDERTAKEN

Date	Activity
Sunday 11 January	<ul style="list-style-type: none"> • Flight Johannesburg/ Maputo • Trip Maputo/Xai-Xai with Ana Zandamela to fetch Agostinho de Nazare, SPP Gaza • Trip Xai- Xai /Massingir
Monday 12 January	<ul style="list-style-type: none"> • Meeting with Ana Zandamela; Agostinho de Nazare and Francisco Passe, Veterinary in charge in Massingir SDAE • Trip to Massingir Velho to prepare work with Ana Zandamela; Agostinho de Nazare and Francisco Passe. Meeting with promotor Domingo Sabonete and Simão Manuel Sitoi secretary of the village to prepare meeting with leaders • Trip to Mavoze with Ana Zandamela; Agostinho de Nazare and Francisco Passe and meeting with Filimone and Thomas (promoters) and the Administrative Post Chief Boaventure to prepare meeting with leaders • In Macavene meeting with David Mongwe (promotor) to prepare meeting with promoters
Tuesday 13 January	<ul style="list-style-type: none"> • Meeting in Mavoze with Ana Zandamela; Agostinho de Nazare and Francisco Passe and with 4 promoters to explain future activities and discuss their past activities (Filimone, Thomas, James and David) • Meeting in Mavoze with Ana Zandamela; Agostinho de Nazare and Francisco Passe and with leaders (Administrative Post chief, Boaventure; president of locality and secretary of village) and promoters (same as above) to explain future activities • Meeting with Ana Zandamela; Agostinho de Nazare and Francisco Passe and with leaders in Massingir Velho to explain the future activities. 16 men participating including Domingos the promotor, the traditional leader, the leader and the secretary of the village • Meeting with Leaders in Chinbangane Brazão Simangaisse Manhique , secretary; Daniel Cossene Boven, deader; Pedro Josia Cune, vaccinator to prepare focus group discussion for PRA with Ana Zandamela; Agostinho de Nazare and Simone (livestock technician from SDA Massingir) • Meeting with Ana Zandamela, Francisco Passe, Agostinho de Nazare and Simone to discuss distribution of vaccinators to be trained
Wednesday 14 January	<ul style="list-style-type: none"> • FGD for PRA with 7 women in Massingir Velho with Ana Zandamela and Agostinho de Nazare • Meeting with staff in the park to get population data • Brief introduction to NPL delegate • FGD for PRA with 7 women in Mavoze with Ana Zandamela; Agostinho de Nazare
Thursday 15 January	<ul style="list-style-type: none"> • Meeting with with Ana Zandamela; Agostinho de Nazare to define distribution of vaccinators • FGD for PRA with men in Mavoze carried out by Ana Zandamele. • FGD for PRA with women in Chibangane with Agostinho de Nazare • FGD for PRA with men in Chibangane with Agostinho de Nazare
Friday 16 January	<ul style="list-style-type: none"> • Meeting with Ana Zandamela; Agostinho de Nazare, Simone and Francisco Passe, Veterinary in charge in Massingir SDAE to give feedback on mission work and to discuss ways forwards and Ana Zandamela next visit

	to prepare training <ul style="list-style-type: none"> • Trip back to Xai- Xai to drop Agostinho de Nazare • Trip back from Xai-Xai to Maputo
Saturday 17 January	<ul style="list-style-type: none"> • Brigitte Bagnol fly back to Johannesburg

Contacts**Massingir Velho**

Community leader: William Valoi : 828252382

Promotor, Domingo Sabonete: 824219546

Secretary, Simão Manuel Sitei: 828732325

Mavoze

Promotor, Filimone: 826141078

Promotor, Tomas: 825168333

Chief of the Administrative Post: 828970654

Chimbangane

Vaccinator, Pedro Josia Cune: 823647580

Leader, Daniel Cassene Bovenne: 825850475

Secretary, Brazão Simangaisse Manhique: 826143765

Secretary Neighbourhood 1, Julião Manuel Manhique: 8298217528

ANNEX 3**BIRDS VACCINATED PER VILLAGE AND CAMPAIGNS IN 2007 AND 2008**

	2007			2008		
Aldeia	Março	Julho	Novembro	Março	Julho	Novembro
PA Mavoze						
Bingo	92	0	0	0	0	0
Chibotane	435	246	0	0	0	0
Chimangue	0	0	0	0	0	0
Macavene	312	223	279	0	0	0
Machamba	0	0	0	0	0	0
Madingane	0	0	0	0	0	0
Massingir Velho	708	676	330	552	0	280
Mavoze	741	675	874	602	0	443
Muchaule	0	0	0	0	0	0
TOTAL	2288	1820	1483	1154	0	723
PA Tihovene						
Cahane	143	0	0	0	0	0
Chinyangane	712	562	673	0	0	186
Cubo	0	147	0	0	0	0
Decada da Vitória	0	0	0	0	0	0
Macaringue	306	850	193	238	0	0
Mucatine	0	0	0	0	0	0
Ringane	0	0	0	0	0	0
Tihovene	0	0	0	0	1266	0
TOTAL	1161	1559	866	238	1266	186
PA Zulo						
Chipandzo	0	0	0	0	0	0
Chitare	162	220	0	0	0	0
Cuze	0	0	0	0	0	0
Maconguene	0	0	0	0	0	0
Macuachane	0	0	0	0	0	0
Manhiça	0	0	0	0	0	0
Munhamane	0	0	0	0	0	0
Tchake	0	0	0	0	0	0
Zulo(1)	76	211	0	0	0	0
TOTAL	238	431	0	0	0	0
TOTAL GERAL	3687	3810	2349	1392	1266	909

(1) e Manhiça em Março 07

ANNEX 4

TABLES FOR THE MONITORING AND EVALUATION SYSTEM

1- Collection of data from each campaign

Table 1. Households Involved in the Vaccination Campaign in XXXX by vaccinator and neighbourhood

Vaccinators/group of vaccinator	N° of HH in village/ neighborhood	N° HH vaccinating	% HH vaccinating
Vaccinator/group 1			
Vaccinator/group 2			
Vaccinator/group 3			
Vaccinator/group 3			
Vaccinator/group 4			
Total			

When each vaccinator or group of vaccinators work in a single clearly identified village or neighbourhood it is possible to obtain the number of Households (HH). Then it is possible to obtain the % of Households vaccinated in this village or neighbourhood. This provides an idea of the coverage of the vaccination.

Table 2. Average number of chickens vaccinated per vaccinator/group and per household in the Vaccination Campaign in XXXX by vaccinator/group

				Average n° of chickens vaccinated per HH	Average n° of chickens vaccinated per vaccinator/ group	N° of vials
Vaccinators/group of vaccinator	N° vaccinators	N° HH vaccinating	N° chickens vaccinated			
Vaccinator/ group 1						
Vaccinator/ group 2						
Vaccinator/ group 3						
Vaccinator/ group 3						
Vaccinator/ group 4						
Total						

2. Analysis per Administrative Post/village

Table 3. Households Involved in the Vaccination Campaign in XXXX by vaccinator and neighbourhood

AP/ village	N° of HH in village/ neighborhood	N° HH vaccinating	% HH vaccinating
Total			

Table 4. Composition of beneficiaries of the vaccination campaign XXXX per village

AP/ village	N° vaccinators	N° HH vaccinating	N° chickens vaccinated	Average n° of chickens vaccinated per HH	Average n° of chickens vaccinated per vaccinator/group
Total					

3. Data from different campaigns

Table 5. Number and Percentage of Households Registering their Chickens during the XXX Vaccination Campaigns

	N° HH/ villages	1 st campaign		2 nd campaign		3 rd campaign	
		N° of HH	% of HH	N° of HH	% of HH	N° of HH	% of HH
Village 1							
Village 2							
Village 3							
Village 4							
Village 5							
Total							

Table 6. Data from the campaigns carried out in XXXX per Village

	N° of vaccinators	N° of households involved	N° of chickens vaccinated	N° of chickens / household	Average n° of chickens vaccinated	N° of vials

1 st campaign 2005						
2 nd campaign 2005						
1st campaign 2006						
2 nd campaign 2006						
1 st campaign 2007						
2 nd campaign 2007						
1 st campaign 2008						
2 nd campaign 2008						

Basic indicators

Indicators	Periodicity	Target	Qualitative	Quantitative	Means of verification
N° of chickens vaccinated/HH/ campaign	Each campaign	8 (in July)		X	Vaccination records
Average N° of birds per vaccinating HH in project area	yearly	8		X	Vaccination records
Total number of households in the neighborhood X where vaccination is carried out	idem				Data from population census
% of households vaccinating/village	idem	60%	X		Vaccination records; local govt records
% of vaccinators trained and carrying out the vaccination	idem	80%		X	Vaccination records
% of vaccinators trained dropping out	idem	20%		X	Vaccination records
% of female vaccinators	idem	50%		X	Vaccination records
Average number of chickens vaccinated per vaccinator	idem	300		X	Vaccination records
% of HH raising chickens in project area	yearly	80	X		PRA; Local & govt records
Total number of Household with orphans	Per campaign			X	Vaccination records
Total number of households with orphans raising chickens	idem	100%		X	Vaccination records
% of farmers knowing and accepting that disease in their chickens is caused by an infectious agent	yearly	60%	X		PRA

ANNEX 5

NÚMEROS POPULACIONAIS NO PNL

(fonte: líderes comunitários 2003/4)

DISTRICT	ADMINISTRATIVE POST	VILLAGE		FAMILIES	HABITANTS
Chicualacuala (1.583 Famílias e 6.615 Habitantes)	Pafuri (817 Famílias e 3.303 Habitantes)	1	Pafuri (Chicumba e Malhangalene)	100	328
		2	Mbuzi	64	196
		3	Ndlala	39	191
		4	Muguambane	103	420
		5	Chitsutsuine	83	363
		6	Salane	71	392
		7	Chicoro	40	165
		8	Mbeti	53	215
		9	Matsilele	85	455
		10	Sehogone	53	170
		11	Makandazulo 'A'	26	80
		12	Makandazulo 'B'	100	328
	Mapai (766 Famílias e 3.312 Habitantes)	13	Lissenga	121	673
		14	Chicumbane	268	1226
		15	Tchoe	113	437
		16	Panhame	120	336
		17	Nwamavique	54	231
		18	Hassane	50	242
		19	Chipeluene	40	167
Massingir (2.534 Famílias e 11.467 Habitantes)	Zulo (1.096 Famílias e 4.234 Habitantes)	20	Macaringue	536	2320
		21	Maconguele	122	419
		22	Chipanzo	61	178??
		23	Munhamane	198	484
		24	Cunze	102	511
		25	Macuachane	82	322
	Mavoze (1.438 Famílias e 7.233 Habitantes)	26	Madingane	78	359
		27	Chibotane	262	972
		28	Malhaule	112	402
		29	Macavene	128	691
		30	Mavoze	345	2039
		31	Massingir Velho	206	1105
		32	Bingo	105	548
		33	Machamba	107	632
		34	Chimangue	95	485
Mabalane (2.604 Famílias e 8.453 Habitantes)	Combomune (667 Famílias e 2.692 Habitantes)	35	Muchacha/Dzovo	24	104
		36	Chiconzo	98	397
		37	Mvundla	37	129
		38	Matafula	83	333
		39	Hassane	68	356
		40	Macuva/Mahawane	31	182
		41	Matsambo	240	960
		42	Zulo	82	231
	Hlavene (1.941 Famílias e 5.761 Habitantes)	43	Ngacha/Chirete	221	618
		44	Ndope/Chivanzane	250	832
		45	Dgelene/M'wanzo	194	620

		46	Nyimbayinwe A/Tsinane	308	801
		47	Nyimbayinwe B/Nhanganhanga	212	701
		48	Chimangue	89	251
		49	Hlavene/Muvamba	303	949
		50	Nkumba	82	221
		51	Maguezi/Chinhezane	89	257
		52	Mahanuque/Psitima	193	511
TOTAL*		52		6721	26535