

## Project Proposal submitted to AHEAD by WCS Zambia

Project title: Animal husbandry / health and market-support interventions as alternatives to illegal wildlife use

### Background

Wildlife Conservation Society (WCS) has an on-going program of working with rural communities across a large area of Luangwa Valley, Zambia to develop improved land use practices that lead to increased household income and increased wildlife production. An underlying constraint to achieve this objective is chronic shortfalls in food production, contributing to about 20-40% of resident households having insufficient food during the last 2 to 4 months of the harvest cycle in a typical year. The condition, of course, worsens when climatic extremes affect farming success.

WCS has studied this problem for the past four years in the context of rural livelihoods and resource production and has developed a model program called “Community Markets for Conservation and Rural Livelihoods”, or COMACO. The basic approach of COMACO is to target households who are most vulnerable to food shortages and to organize them into formalized producer groups as a basis for learning improved farming skills. If they adopt these skills and if group members also adopt by-laws, which define specific obligations the group will make to reduce threats to the production of key natural resources in their area, then the group is eligible to register with the “Conservation Farmer Wildlife Producer Trading Centre” or CTC in Lundazi and receive farm/livelihood input support.

The CTC currently operates as a trading hub for 10 producer depots in the Luangwa Valley, serving over 450 producer groups or about 6500 households. Both the CTC and the depots were established by WCS during 2001 and 2002. The CTC is staffed with a team of extension people who work closely with 61 community trainers who assist producer group members to first become food secure and then to expand their livelihood skills to develop marketable goods (rice, groundnuts, poultry, goats, honey, etc.) or income-making services (tourism, small shops, road work). Where appropriate these goods and services are marketed or facilitated through the CTC, which is a registered limited company with a 40% shareholding by community members. Cooperatives of Producer Groups make up 20% of the ownership shares and Community Resource Boards make up another 20%.

The impact of this approach has significantly decreased the major threats affecting wildlife production in a major area of the Luangwa Valley, namely snaring and illegal hunting. WCS believes these results represent a strong cause and effect relationship. Four independent indices for measuring change in snare use by local residents suggest a 50 to 70% decline in the use of snares. In addition, significant numbers of local hunters have surrendered their firearms (110) and have joined producer groups to benefit from the CTC. Correlated with these results is an active engagement of about 6500 households in the program, of which approximately 60% are members of producer groups and are actively trading with the CTC through their local Producer Group Depots, set up by this program. From these same households, approximately 15,000 snares were voluntarily surrendered to the CTC from 2001 to 2002. A high percentage (68%) of these participating households in COMACO have become food secure in maize production and have clearly given up their reliance on snares as a substitute for farming.

These same households are now seeking new livelihood skills to produce commodities which can be marketed through the CTC at fair producer prices to reduce the level of conflicts that poverty can often aggravate. The CTC is therefore a critical commercial broker for conservation by offering skills, inputs and markets to those households who have first demonstrated commitment to achieving food security and who next seek increased income opportunities. The condition for such services is to abandon land use practices that threaten wildlife and other natural resources. WCS Zambia produced a 20 minute self-automated, narrated Powerpoint presentation to describe in greater detail the way the CTC builds synergies between rural markets, improved agricultural/animal husbandry practices and conservation. This CD is included with this proposal as are three WCS Fact Sheets on some of the results of this program.

### The Proposal

WCS is seeking the use of *AHEAD* funds (\$17,595) to assist newly formed producer groups in three Districts in the Luangwa Valley: Lundazi, Chama and Mambwe. This support will make available required inputs to promote two important needs of food security and income generation in these areas and will lead to reduced threats to wildlife and wildlife habitat in these areas:

#### 1. Poultry

The first is poultry production, which is significantly below levels adequate to sustain families with a reliable, year-round supply of nutritional protein. One consequence of low poultry production is that household are more apt to use snares to kill wildlife or take increased time away from farming to seek other alternatives of protein, such as fish, often using over-exploitative practices.

Based on a random sample of 1065 households living outside Luangwa Valley's four national parks (Lewis, Tembo and Nyirenda 2001), poultry represented the most common source of income but ranked only 34 out of 50 income sources for its relative contribution to total household income. The actual contribution to household income from the sale of chickens was only \$8 per year and annual income for the household head was \$67. On average, households owned at any given time 8 to 15 chickens, which also contributed an important source of animal protein to a family's diet. Newcastle's disease is endemic in the Valley and infects annually as many as 60% of the chicken population with death rates as high as 80 to 90%. In addition, mortality from predators and disease of young chickens often exceeded 50%.

From these results it was clear that poultry production was well below its potential and limited the level of income and food security chickens could provide to communities across large areas of Luangwa Valley. Where the effects of Newcastle's disease were high, we learned from household interviews that the loss of income or food from chickens placed greater pressure on wildlife to make up for the shortfalls.

Our research then turned to chicken husbandry and suggested that poultry production could increase three to four-fold by vaccinating against Newcastle's disease and by reducing mortality of young chickens using simple enclosures to reduce predation. From such improved husbandry practices, we estimated households could increase their income by an additional \$30 while also significantly increasing their supply of chicken

protein for household consumption. With improved access to higher market prices, total household income from poultry could reach \$50 per year or six times current levels

COMACO, through its extension staff and community trainers WCS current supports, has developed a low-cost approach for households to vaccinate their chickens using locally available drugs. COMACO facilitates neighboring families to join together to form poultry producer groups and encourages them to do so by offering protective fence enclosures (15 meters of small mesh chicken wire) to keep young chicks safe from predators and to more effectively administer anti-bacterial or anti-parasite drugs until they are large enough to be raised by their respective household owners.

COMACO through its network of depots has established holding pens for groups members to sell their surplus chickens at much improved prices directly to the depots. The chickens are then later collected by COMACO when farm-bulked commodities are sufficient for transport to come and collect the entire stock of commodities.

The vaccines, protective fencing, special watering containers, etc. are provided at a subsidized price through a bartering system in which producer groups pay for these with chickens worth 30% of the cost of inputs to assist COMACO in sustaining a revolving fund for furthering the program to new producer groups. We found that households were too poor to pay for these inputs with cash and COMACO did not want to establish a relationship with the producer groups, at least initially, by having groups incur debts with the trading centre. Allowing groups or households to pay for these inputs on a barter system, though subsidized, has created a positive environment for COMACO to work closely with these producer groups and to continue developing improved poultry production skills and increased food security.

This proposal will fund inputs to support not less than 80 additional poultry producer groups or between 800 to 1200 households in 2004. All of these households will reside in wildlife sensitive areas, and households selected or invited to participate in the program will be required to pay 15 chickens for the cost of inputs to help generate sufficient sales through the CTC to support an additional 30 groups. Each group will receive a 15 meter length of chicken-mesh fencing wire, poultry water dish, feeding dish, 1-year supply of vaccines for Newcastle disease and disinfectants (and related drugs) to reduce transmission of bacteria-borne diseases and ecto-parasites. Total input cost per group is about \$80. In addition, each group leader will receive intensive poultry husbandry training, and inputs will only be provided after COMACO verifies skills taught to group leaders were effectively disseminated to group members and the use and conditions of barter payment for the inputs (15 chickens, which the CTC will sell for about K8,000) are fully accepted and understood. Finally, *AHEAD* funds will support materials to establish well-run poultry collecting points at the depots as well as the printing of educational posters displayed at these marketing centres to ensure wider knowledge about poultry husbandry care.

## 2. Goats

In specific areas where there is minimal risk of geographic overlap between goats and wildlife, COMACO seeks to improve goat husbandry and market support for goats to promote alternative meat sources to wildlife as well as alternative income sources to poaching. Two specific areas qualify for these interventions: plateau region of the Luangwa Valley watershed east of Lukusuzi National Park and selected areas along the

lower stretch of Luangwa River near the confluence with the Zambezi River. In both areas rural communities suffer from the effects of poor livelihood skills and low market opportunities. Not surprisingly, both areas experience high rates of poaching in adjacent wildlife protected areas as well as over-exploitative fishing practices.

These areas are ideal for goat husbandry for a number of reasons:

- minimal conflict with wildlife,
- high accessibility to potential markets,
- high market value, and
- high level of producer interest, including local hunters seeking alternatives to poaching.

Constraints in developing goats as a more valued source of income as well as protein food source include:

- undeveloped market links
- poor breeding stock
- poor husbandry skills
- lack of supply of goats for interested producers
- lack of skills to develop secondary products (e.g., tanning of hides)

In both target areas proposed in this project, COMACO is supporting a program to help local hunter poachers find alternative livelihoods to the illegal killing of wildlife. Annual income for these hunters from wildlife is about \$180, representing an average loss of 28 wild animals per year per local hunter. Local price of goats is only about \$6 while potential market price in urban areas is about \$24 with growing demand, especially from the large Asian community in Chipata (Eastern Province) and Lusaka (Central Province) who have two annual holidays when goats are in very high demand. COMACO seeks to help hunters become model goat producers to fully benefit from these markets and reduce community tendencies to exploit wildlife as a basis for poverty reduction. These efforts will also target other households who have adopted charcoal making to reduced this destructive land use practice of tree-clearing. One bag of charcoal earns a producer approximately \$1.20 at considerable cost of labour and environmental damage to watershed and wildlife production.

In 2004 COMACO through program leadership by WCS will undertake the following interventions to demonstrate the potential value of proper goat management and local improvements in goat marketing through the CTC.

- Purchase and delivery of breeding stock (approximately 200 animals) to new goat producers
- Training of goat producer groups on improved husbandry practices
- Development of improved market links and logistics for buying, collecting and selling goats in bulk to high-paying markets
- Trade agreements between CTC and goat producers to adopt conservation practices and group by-laws in support of wildlife habitat and wildlife production in adjacent wildlife areas.
- Baseline study on veterinary services needed in these areas to maintain healthy, productive goat populations and low-cost solutions for sustaining these services.

Estimated number of households to benefit from this program in 2004 is approximately 100 and cost for providing a breeding pair to each household (purchase and delivery cost) is about \$55 per household. COMACO will establish holding pens at designated depots in the selected areas where goats will be introduced. It will also support training in husbandry and extension services to monitor the use of these practices as well as the development of producer groups in compliance with group by-laws that support basic needs of wildlife conservation and watershed protection.

It is important to point out in this proposal that wildlife resources are regarded by WCS through its leadership role of the COMACO program as a very important resource for local consumption and for legal meat and skin sales. Current policies in Zambia, however, do not support these local user rights to utilize wildlife surplus populations in this way, despite well-demonstrated evidence that local communities do contribute significantly to increased wildlife production. COMACO in partnership with the community producer groups and community-based leadership institutions will continue to advocate for changes in these policies. Such policies are essential to resist local demand for domestic livestock in wildlife areas, which would increase the potential for conflicts and would ultimately lead to lowered income opportunities for local communities and the nation as a whole.

#### Budget for AHEAD funds

The budget below covers producer group inputs (83%), training support (10%) and logistics and baseline study (7%).

#### Poultry Producer Groups

chicken wire	15 roles	\$3,375
water containers	80	\$320
vaccines	160 vials	\$750
disinfectants, anti-parasite drugs etc.	80 units	\$2,000
group leader trainings	3	\$1,000
	sub-total	<u>\$7,445</u>

#### Goat Producer Groups

Purchase and delivery of goats	100 pairs	\$5,500
group leader trainings	2	\$750
Baseline study (market, veterinary needs)	2	\$500
	sub-total	<u>\$6,750</u>

#### Additional support for Producer Groups

Holding pens at depots (goats/poultry, separate pens)	12	\$1,700
Production of educational materials: laminated posters, photocopied local language production manuals	12 units	\$1,000

