



COMACO Case Story: A Model for Land Management Outside Protected Areas

Background

Farming is the principal source of income for communities living in Zambia's Luangwa Valley, a wildlife-rich landscape fragmented outside its national parks and national forests by clustered settlements occurring principally along the main tributaries to the Luangwa River. Primary food crops are maize and sorghum, but increasingly farmers, especially in the plateau areas, have become reliant on outgrower farming schemes that promote cotton and tobacco. Preliminary findings suggest these schemes leave many families less able to directly meet their own food security needs. As well as being economically risky, planting monoculture crops depletes the soil, which is further exacerbated by the local practice of burning crop residues that leads to soil nutrient loss. In turn, farmers cultivate new land, hastening deforestation of the Luangwa watershed and contributing to increased frequency and intensity of downriver floods that threaten crops grown on alluvial soils.

Poor subsistence farmers have typically relied on illegal wildlife poaching to compensate their food shortage by exchanging game meat for food produced by more successful farmers. In areas where wildlife is not a common resource, families affected by hunger may generate extra income to buy food by converting trees into charcoal for sale or by exploiting wild fisheries for sale with undersized nets. Studies prior to 2002 showed that 20 to 60% of local residents in Luangwa Valley were not food secure for up to 3 months, with food security being defined as sufficient food to last from one harvest to the next for a given family.

Addressing the problem

In response to these problems, Wildlife Conservation Society (WCS) concluded that until markets were able to provide supply-chain strategies that could link value-added commodities to the adoption of improved farming technologies and land use practices, hunger, poverty and land degradation would likely persist. Such a scenario for Luangwa Valley provided a strong argument for how to enhance conservation success across this rural landscape of renown importance to wildlife. The approach called for a business approach that encouraged market synergies between wildlife, agriculture, forestry and fisheries, as well as production practices that enhanced both profitability and natural resource management. It was an untested strategy for conservation which WCS decided to test and in 2002 launched as a pilot program called Community Markets for Conservation or COMACO.

COMACO's operational structure consists of a network of rural trading depots that are linked to regional trading centres, called Community Trading Centres or "CTCs," where rural commodities are bulked, processed, packaged and marketed as "added value", environmentally friendly products. Through these depots, poor, food-insecure families are invited to learn improved farming practices and in return receive maize support through a collaborative partnership with World Food Program. Participants are organized into producers groups around their respective trading depot and are trained in conservation farming and alternative livelihoods to promote new income alternatives.



Part of this training effort is to encourage farmers to adopt the right mix of crops that provide an improved basis for soil management as well as increased food security and household income. As surplus yields are realized, premium prices are offered, provided farmers adopt the better farming practices they were taught. Trading benefits supported under the business plan of COMACO are extended only to communities who develop land management plans that provide sound stewardship for their area's natural resources. Similarly, for members of producer groups to be eligible to COMACO benefits, farmers must abide by community land use plans and production practices that promote wildlife and watershed conservation.

Results

One particular group of people COMACO has worked closely with is local hunters who have a history of poaching wildlife. Recognizing that snaring and in many cases illegal hunting was motivated mainly by food insecurity; COMACO requested that farmers turn in their snares and firearms in exchange for maize as they were trained in conservation farming. While maize provided an immediate incentive to hand over snares and firearms, increased production of food crops and ultimately income benefits associated with COMACO trade schemes were intended to decrease future snaring and illegal hunting. From 2001 to 2005 a total of 20,368 snares were surrendered by farmers from COMACO core areas, and by 2006, over 40,000 snares and 800 firearms were surrendered from the entire COMACO project area, as program activities expanded into new areas. Results from survey data suggest this removal of snares and firearms has saved up to 5000 wild animals annually.

COMACO trains farmers in zero-tillage farming, where land managers apply home-made fertilizer individually to each plant, and suppress weed growth and increase soil moisture by covering the area between rows with the previous year's crop residues instead of burning them. COMACO has promoted five crops in particular: paddy rice which requires no pesticides and produces food as well as a favorable income source without extensive labor inputs; groundnuts and soybeans, both of which provide a source of food and income and as nitrogen fixers are ideal for crop rotation; poultry which provides an alternative to game meat; and honey produced in bar or log hives (already dead trees) which provides a good economic incentive to manage forest resources.

Preliminary results from a 2006 food survey indicate that household adoption of conservation farming techniques among the 30,000 producer group members now in the program are having a positive impact on food security. 84.6% of households practicing conservation farming achieved food security to the 9 month target (when fresh produce becomes available), as opposed to only 70.1% for non-practicing farmers. Moreover, COMACO has demonstrated its capacity as a business model to sustain produce price increases of over 100% for most of the commodities it purchases. Farmers are now realizing real financial gains from complying with the COMACO conservation guidelines. Illegal hunters, for example, have doubled their income from legal sources since joining the program. As incomes increase and food sources diversify, the wildlife population has stabilized and increased slightly since the beginning of the COMACO intervention in 2002¹.

¹ For more detailed information about the COMACO program visit www.itswild.org, soon to be updated with a completely new format, or contact dlewis@wcs.org.