Study confirms food security helps wildlife

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These are snares and guns voluntarily turned in by poachers to be part of the successful COMACO program in Zambia that provides food security while benefiting biodiversity. Credit: Julie Larsen Maher/WCS

A study in the *Proceedings of the National Academy of Sciences* (*PNAS*) documents the success of a Wildlife Conservation Society program that uses an innovative business model to improve rural livelihoods while restoring local wildlife populations.

Known as COMACO (Community Markets for Conservation), the program began in Zambia in 2003 and has resulted in wildlife populations stabilizing and rebounding in areas once ravaged by poaching. In addition, local people – including some of the world's poorest farmers – are now benefitting from higher crop yields and improved livelihoods.

The study appears in the August 23rd edition of PNAS. Authors include Dale Lewis, Mwangala Mukamba of the Wildlife Conservation Society; Makondo Kabila; Samuel Bell, Kim Bothi, Lydia Gatere, Carmen Moraru, Johannes Lehman, James, Lassoie, David Wolfe, David Lee, Louise Buck, and Alexander Travis of Cornell University; John Fay of the University of Cape Town; and Edwin Matokwaani and Matthews Mushimbalume of the Zambian Wildlife Authority.

The COMACO program teaches rural villagers – including former poachers – sustainable agriculture methods that improve crop yields while reducing deforestation. COMACO then helps them earn more by adding value to crops, such as selling peanut butter instead of peanuts. Importantly, the program provides access to national and international commodity and retail markets. COMACO links membership in the cooperative business with wildlife conservation by having new participants turn in their guns and snares and by monitoring of the sustainable practices.

"COMACO represents a pragmatic solution to several related problems that plague rural Africa: poverty, deforestation, and loss of wildlife," said the study's lead author and COMACO founder Dale Lewis of the Wildlife Conservation Society. "This study documents COMACO's initial successes and outlines some of the challenges that lie ahead to ensure the program's long-term success."

Since 2003, the program has trained more than 40,000 farmers. More than 61,000 wire snares and 1,467 guns have been voluntarily turned in by participants. The program has expanded from two locations in the Luangwa Valley to a growing network of sites surrounding national parks, providing a buffer of reduced poaching and snare use.

As part of the study, aerial surveys show that wildlife including zebra, wildebeest, eland and other species have stabilized or are increasing

following steady declines in the 1980s and 1990s from rampant poaching.

"COMACO shows how conservation can and should work," said John Robinson, WCS Executive Vice President for Conservation and Science. "Conservation cannot function without the buy-in of local people, and this is a shining example of how that goal can be achieved with impressive results for both people and wildlife."

In addition to environmental benefits, the study showed that COMACO farmers, particularly women, had higher crop yields than their non-COMACO peers. In response, many non-COMACO farmers are now adopting sustainable farming methods, learning from their COMACO-trained neighbors. Consequently, soil quality has improved with higher soil carbon on sustainable farms than on conventional farms.

As a business, COMACO is diversifying its products and markets. An important example is production of high-energy protein supplements sold to Catholic Relief Services and the World Food Programme for feeding orphans, HIV patients and refugees.

These efforts have allowed COMACO to move consistently toward an economic break-even point.

"They are trying to do something that very few wildlife and social interventions have ever dreamed of, which is to become self-sufficient," said co-author Alexander Travis of Cornell University's Baker Institute for Animal Health.

Provided by Wildlife Conservation Society