

Brown Bear-Proof Fence Experiment in Changtang Grassland, Tibetan Plateau

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Human-wildlife conflict has become a popular topic within China, especially in Western China. Between 2000 and 2009, there was reported damage by wildlife, including brown bears, in 20 provinces in China. Most cases occurred in remote and poor areas, such as the Changtang Grassland in the western part of the Tibetan Plateau. The grassland is mostly within the Tibetan Autonomous Region (TAR).

In 2006, TAR announced the establishment of its own government compensation programme for damage caused by wildlife. The programme, entitled “Compensation Measures for Personal Injury and Property Damage Caused by Terrestrial Wild Animals in the Tibet Autonomous Region of China” was officially promulgated in 2010 after the China State Forestry Administration selected TAR in 2008 as one of four provinces for wildlife damage compensation demonstration projects.

However, cash compensation has not mitigated the root cause of wildlife-caused damages. Conflicts with bears, once food-conditioned, have increased, which has resulted in increased economic losses for the people affected and larger compensations. For example, in 2008, Naqu prefecture in Changtang paid RMB 10,599,400 in compensation.

Besides compensation schemes, there is an urgent need to research measures to prevent or mitigate the conflict. Foggin & Rabden (2010) reported a trial use of electric fencing in the east part of the Tibetan Plateau. Tsering (2008) from WWF Lhasa Field Office delivered bear-proof food containers and improved fences.

During 2008-2009, WCS China selected the Tibetan Brown Bear as a target species and conducted a pilot study on bear-proof fence and its effect in Changtang. The project is a part of the “Biodiversity Conservation and Sustainable Natural Resource Use in Chang Tang of Tibet” initiative supported by the EU-China Biodiversity Programme. The main partners for pilot study on bear proof fence are the Provincial Forestry Bureau (TFB) of TAR, WWF and Nagqu Prefecture Forestry Bureau (NPFB). Due to the implementation differences, the information here only refers to the results from three sites cooperatively run by WCS, TFB and NPFB.

The study seeks to answer the following questions: 1) Can prevention measures reduce bear access to human food and houses? 2) Will local communities be interested in prevention measures? 3) Will a three-party cooperation mechanism help monitoring the effect of prevention measures?

The project was initiated in June 2008. Based on a research by Tsering et al. (2006) and initial discussion with NPFB in 2007, we selected, for participation in the study, 20 families in Pubao Town (Ban'ga County), 10 families in Baling Township (Shuanghu Special Zone) and 10 families in Nyma Town (Nyma County). In total, 7,337 heads of livestock were involved. Because of fund limitation and in order to get independent effect evaluation, the project planned to try only one measure for those families. Ten different bear-proof measures were provided for local people to choose. Base on education levels, local access toward materials, local experience, wire netting were selected. Then the project team designed a special wire running along the fence to prevent bear attacks (Figure 1).

In Nyma and Shuanghu county in 2009, the project tried a “three-party cooperation agreement” model in 2009. The project, each demonstration family and related township government signed a contract. Clear responsibility of each part was listed. The families took responsibility to maintain their fence and conduct the requested routine monitoring. The township government assigned one staff member to help with monitoring and coordination. Additionally, each family agreed to pay 20% of the cost of the fence.

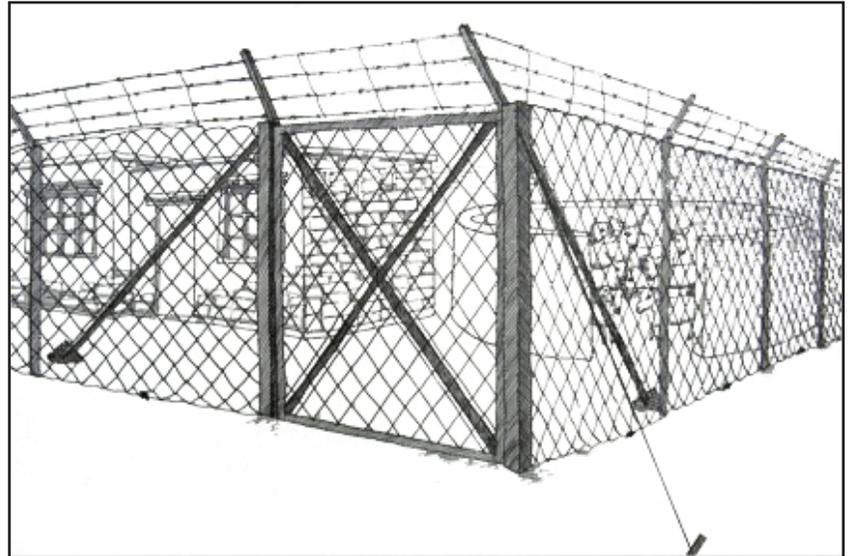
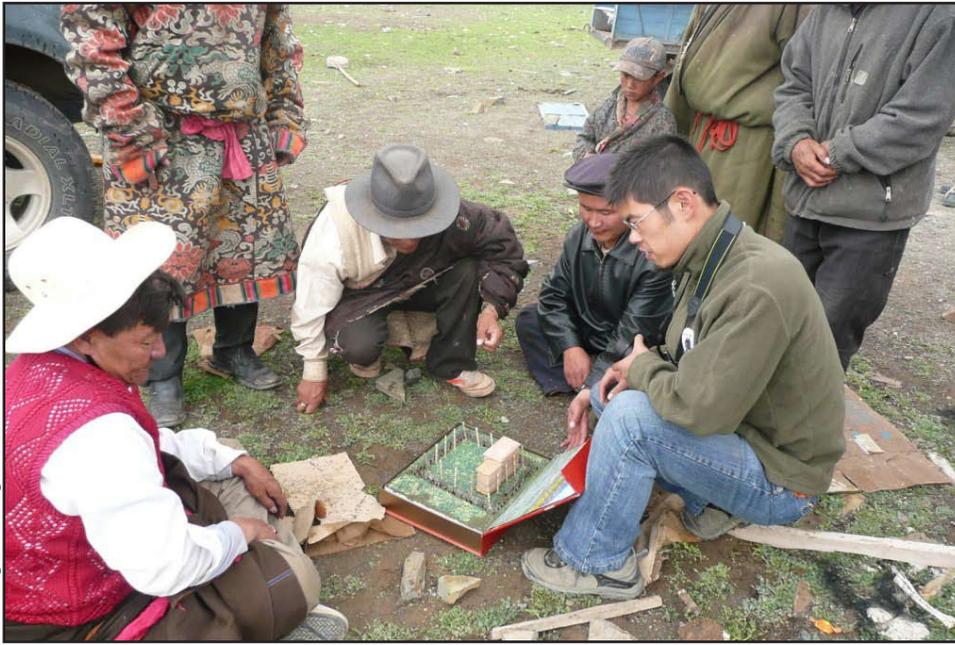


Figure 1. Bear-proof fence designed and established by WCS China for the pilot study in Changtang Grassland

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Project staff discussing with people about the standard of bear-proof fence at trial site.

In Bangaa, the first bear-proof fences were set up in August 2008. Those plots were visited again by the project in September and December of 2008. The project team then set up the fences in two other counties in April 2009.

Monitoring on the effectiveness of the bear-proof fences included weekly records made by participating families on bear occurrence, fence conditions and bear attacks, and four interviews with families carried out by project members and local officials. The monitoring form was designed by the project and translated into Tibetan. Training for learning the monitoring protocol and recording skills was provided to participating families after the fences were set up.

By the end of 2009, the project received 224 monitoring forms

filled by the participating families. The data show that there were 71 occurrences of brown bears around the experimental fences. The fences were attacked 16 times. Four fences were broken and had holes. A total of seven sheep/goats were lost. By comparison, the livestock loss is 90% less than in 2006-2007 when there was no protective fence around the households.

People from the surrounding villages visited the experiment sites and have shown great interest in the tests and have expressed desire to have the same equipment in the near future. Some herders said that they would like to receive technical support from the project, but pay for the fences themselves.

Results seem to show that prevention measures like the bear-proof fence can be a solution to mitigate root causes of wildlife-caused damage. Local communities can understand and welcome those measures.

However, the results are only partial since they account for only the first seven months of the study. Long-term monitoring to gain a fuller assessment will be necessary. WCS China plans to continue collecting information from the same participating families in 2011.

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Project staff conducting training for local people about how to maintain bear-proof fences at trail site.