

## **Human-Elephant Conflict (HEC) Pilot Study in Southern Lao PDR**

Khamkhoun Khounboline

*Lao PDR*

### **Introduction**

Lao People's Democratic Republic (PDR) is considered to have the most important national elephant population in Indochina with viable numbers remaining in many areas (Duckworth & Hedges 1998). However, as a result of overlapping elephant habitat and human settlements, resource use issues such as the human- elephant conflict (HEC) have emerged over the past few years and there is a strong need to improve our understanding of wild populations, habitats, and threats, and to improve the capacity of the national resource officials to manage existing elephant populations. Pressure from human activities has been found to be quite high, e.g. poaching and logging activities, which cause elephants to change their use of habitats which increases the HEC. This again results in wild elephants coming to eat and destroy villagers' crops, huts, and rice stocks and engaging in attacks.

Elephants are one of the big wildlife species, whose survival is one of the holy grails of conservation. Unfortunately, because of their size and migratory behaviour, elephants often come into conflict with people. This is especially so in areas where there is agricultural development as in Lao.

A new study from southern Lao looked at elephant problems and mitigation techniques. It found that, although the natural resource conservation awareness activities, guarding team/firecracker/noise alarm do help to mitigate conflicts between elephants and humans, they do not completely eliminate the problem and do not offer a stand alone solution.. This implies the need for an integrated approach to solve the problem of human-elephant conflict. The study was undertaken by species conservation specialist from WWF and staffs from DAFO, PAFO of Xekong Province. We

also undertook training to improve villagers' understanding of government policies relevant to forestry and wildlife management, in which 595 people from 12 villages took part.

### **The elephant problem**

The study was conducted to assess the conflict between farmers and wild elephants in four provinces of Lao. The HEC in this area has been increasing over the last eight years and is now a major social and economic issue. Since early 1975, the elephant population has been drastically reduced to the present level. This was primarily due to depletion of natural forests, which have been reduced by 50% in the last 30 years, and to the increase of the human population.

Today, the remaining elephants are confined to national Protected Areas and some forest pockets in the southern parts of Lao. However, given the elephants' food and water requirements, it is inevitable that free-ranging elephants still encroach on crop fields outside the Protected Areas. As small farmers and wild elephants compete for steadily dwindling land and water, so the conflict between them has gotten worse. Roaming elephants raid crops, damage houses and in some instances, injure or kill people. In frustration, many farmers have been killing elephants to protect themselves and their livelihoods.

Most villagers responded that habitat disturbance was the main cause of conflict rather than other activities in Phu Theung, Xekong Province. In 17 villages surveyed, 36% of people indicated that hunting and logging were large problems and caused HEC, 26% believed elephants liked to eat crops which caused HEC, while 14% believed a lack of water resources led to HEC.

Other reasons cited were the location of crop fields within the migration paths of elephants, and the occurrence of fire and other human disturbances such as logging, hunting, shooting and the collection of forest products. An unusual reason cited was that recent bamboo forests around a village had increased green cover in the area and encouraged elephants to linger there instead of quickly moving through, thus increasing crop damage and conflict.

### **Crop protection methods**

Guarding teams have been organized to keep elephants away from farmland because traditional ways of keeping elephants out - such as shouting, lighting fires, and making loud noises are no longer effective. The techniques used were field guarding by a team using firecrackers, making noise and use of alarms, and conducting elephant population conservation awareness activities in several villages of the area. Use of alarms involved using an electric alarm system, which runs off a 12 volt battery. This method was conducted on the edge of the field, where elephants were known to visit. Elephants were expected to trigger the alarm via a trip line.

In the next few years, the project plans to extend the activity to new areas in the north where HEC is most intense.

### **Crop damage mitigation experiment**

The effectiveness of conflict mitigation was evaluated in the Ban Chakham, Ngothong pilot area. Different field protection methods used, including guarding and use of firecrackers were studied.

For each of the methods selected for the study, information was collected both from villages

that were protected and not protected by guarding teams. In addition general information from households, agricultural, and land ownership information was also gathered. Data was also collected about the damage elephants caused and how the impact had been mitigated by the guarding team. People were asked for their ideas on compensation. Details were also gathered on their opinions about their responsibility for HEC mitigation.

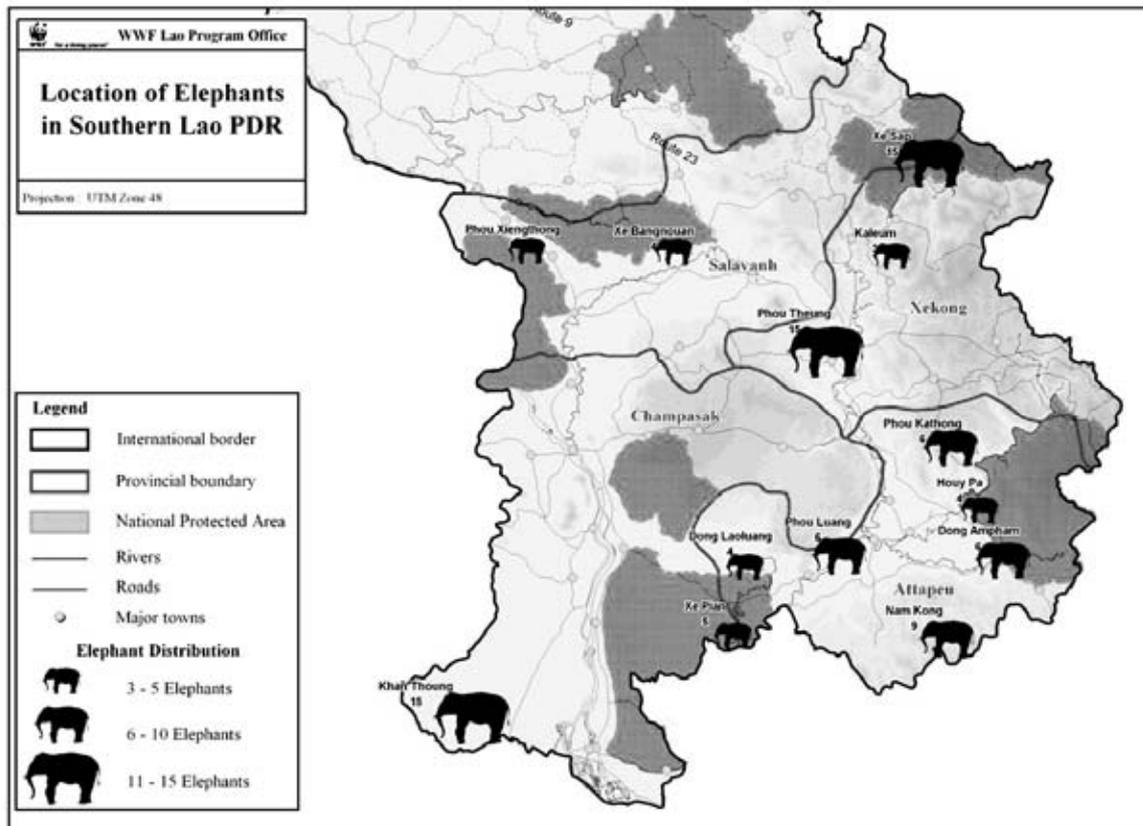
### **Do the methods work**

Overall, it was found that, although the methods employed do help mitigate HEC, they are not capable of completely eliminating conflict. While some problems have been solved by these methods, the responsibility of farmers and local staff has been inadequate. The guarding team failures were mainly due to lack of responsibility and problems with supporting official staff. Other problems resulted from failure to take into account elephant behavior and distribution patterns.

Compensation schemes are required to be established. Important ways in which communities can help is by support to enforce laws against illegal hunters, traders and wood collectors. Another important observation was that officials sometimes were seen as part of the problem, which meant that no one was interested in solving the problem.

### **Making the methods more effective**

According to local people, guarding teams will be more effective if combined with other mitigation measures. Among the suggestions made by them were establishing corridors between forest areas and planting fodder trees in the forest. One problem is the illegal timber fellers and hunting activities in elephant habitat.



### What should be done

The findings of the study show that responsible local officials are needed to support activities for implementing of the HEC work. Local people should be involved in planning and implementing HEC mitigation methods and they should be supported, so that they can play a role in solving problems.

Appraisals should pay attention to present land use patterns. A successful activity plan to deal with the elephant problem must be far-reaching. And land use planning exercises need to be conducted where there is elephant habitat.

HEC mitigation experiments should continue in pilot study sites to look for other useful methods, which can be conducted in the field, which villagers can then implement.

Pressure from human activities has been found to be quite high on initial investigation. There appears to be a heavy presence of hunting due to evidence of poachers' camps. Poacher's guns disturb the elephants and cause the herds to change their habitat, which increases the chance of HEC. We also found there were

extensive logging activities in the elephant habitat which is causing considerable disturbance to elephant populations.

Preliminary information that has been sourced through villagers' estimates suggests that the population size of the majority of elephant herds in southern Lao PDR is not viable for the long-term. Most elephant herds are small and dispersed, which makes conservation activities challenging. Eleven locations estimated 100 individuals, of which the two largest known elephant herds of 15 individuals each should be targeted for conservation. It should be noted that elephant data obtained to date has been collected by interviewing villagers and the Champasak Conservation Unit. This information should now be verified through direct observation in the field.

HEC is restricted to one site in Xekong Province only, and this project has effectively mitigated HEC in southern Lao PDR as part of this project.

Author's e-mail: [khamkhoun.khounboline@wwfgreatermekong.org](mailto:khamkhoun.khounboline@wwfgreatermekong.org)