

Living with elephants in Assam

Chester Zoo has nine major field conservation programmes around the world focusing on different regions or species, one of which is the Assam Haathi Project (Haathi is Hindi for elephant), which was created in 2004 in collaboration with EcoSystems-India, an Assamese NGO, and received a Darwin Initiative grant in 2007.

Human-elephant conflict (HEC) is a complex problem that occurs wherever elephants and people share the same habitat and compete for resources. Assam has a growing human population with increasing demands for land. As a result of increasing agriculture and settlements within the elephant range, more people are coming into conflict with elephants. Elephants raid crops and occasionally damage buildings and injure people. This threatens farmers' livelihoods and personal safety, and in turn creates anger towards elephants from the communities which live with them. In extreme cases this leads to farmers killing elephants. Ultimately HEC undermines support for elephant conservation and threatens the survival of elephants outside protected areas; tackling this conflict is therefore a conservation priority.

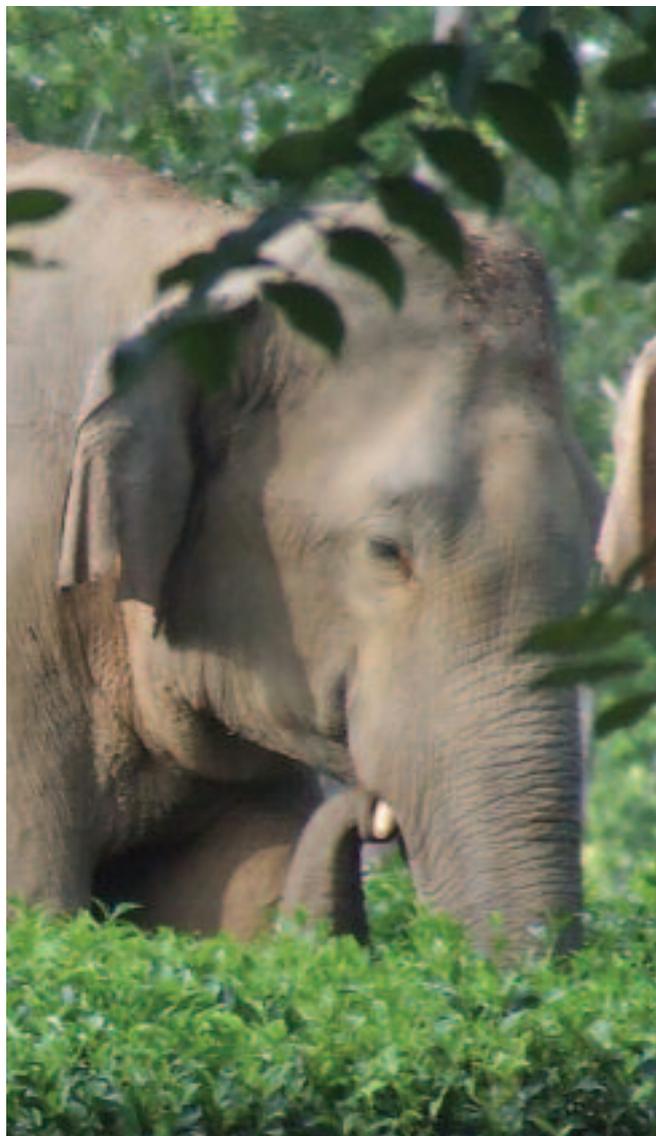
The Assam Haathi Project's primary focus is mitigating human-elephant conflict in Assam, by increasing the capacity of local communities to protect their property and crops. Alongside this we conduct research on elephant spatial needs to complement our conflict mitigation work and to help develop solutions for long-term land-use strategies.

Empowering local communities to take responsibility for the conflict problem is generally considered the most sustainable approach to mitigating HEC. We work with selected communities to develop intervention methods that enable them to protect their property, crops and family through non-lethal, low-cost and locally available means. There are different types of interventions, passive and active, that can be grouped into three main categories:

- 1) Early warning systems: alert villagers in advance that elephants are approaching, e.g. trip wire; watchtower
- 2) Barriers: prevent elephants from entering a particular area, e.g. trench; electric fence; chilli fence; buffer zone
- 3) Deterrents: discourage elephants from entering an area and can also be used to chase elephants away, e.g. chilli smoke; spotlights

The losses incurred due to elephants can be vast; the total losses of crops and property from 2005-2008 in our study areas amounted to almost £98,000, with a total of 367ha of crops and 837 buildings damaged. Since we began working with the communities, we have observed a reduction in the amount of crop damage caused by elephants from 113ha in 2006 to 26ha for 2008 in one of our study sites. From this proven success, the project is becoming demand-driven, with communities approaching the project and requesting support. In order to meet this need and increase the scope of the project, we have produced a practical handbook which explains how to assemble and use the various crop protection measures promoted by the project. So far, 1500 copies of the handbook have been distributed to villagers, schools and libraries in Assam (and a PDF is available to download from the project's website).

The success of our community-focused approach can be seen in the communities themselves: in one village within our study area,



Learning how to make a 'chilli fence'

LIFE GUARD



Small scale deforestation



Using GPS

women and children used to sleep on platforms built in the trees, while the men would remain awake throughout the night to defend their homes. Our project helped these villagers to install a solar-powered electric fence which was paid for jointly by the community, a local tea-estate and the AHP. Since the installation of the fence, families have been able to sleep safely in their homes. In another village, numerous families were forced to leave their homes because they were unable to earn a living due to elephants frequently damaging their crops, but since the intervention of the AHP many have returned to farm their fields again.

We also work with local communities to gather data on elephant movements and conflict incidents. A team of 33 community members are employed and have been trained by the project to catalogue HEC incidents. They visit all areas where elephants have been reported, recording the GPS location and verifying any conflict reports. These data are used to identify 'hotspots' of conflict which helps us prioritize intervention work and understand patterns for long-term planning. Developing crop-raiding mitigation is a fire-fighting solution, an essential first step in managing conflict across the landscape. It does not, however, address the root cause of the problem: the increasing of settlement and cultivation in areas that were until recently elephant forest habitat. Therefore, once crop loss mitigation methods have been established and community tolerance levels have stabilized, the real challenge

begins: how to secure the long-term survival of elephants on a landscape scale.

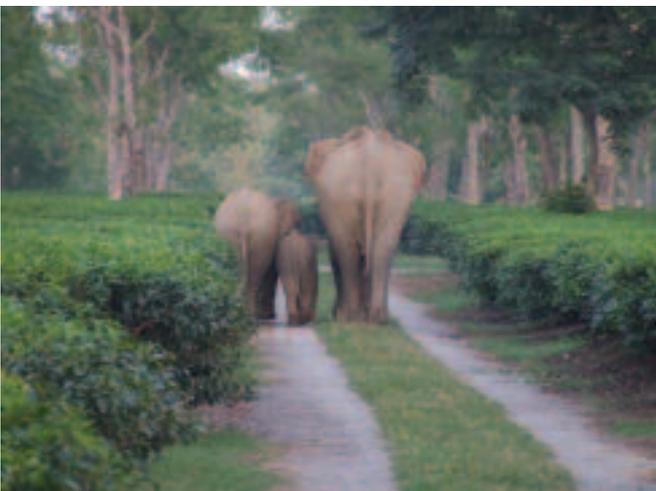
Conserving the Asian elephant is important, not only to enable the survival of ancient traditions and beliefs embedded in Asian culture, but also to maintain ecosystem function. Ensuring there is adequate habitat conserved for elephants by halting the fragmentation and destruction of forests is a priority. However, adequately protecting land requires legislation, enforcement and funds, which are often lacking in developing countries. It is unlikely there will be a panacea for HEC, and as long as people continue to practice agriculture in areas shared with elephants the conflicts will never be eliminated, but their impact on local livelihoods can be reduced through education on humane mitigation measures. For more information on the project please visit www.assamhaathiproject.com or email ahp@chesterzoo.org

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Elephants crossing a tea-estate



Rapujuli HEC damage