



Food and Agriculture  
Organization of the  
United Nations



IUCN SSC  
Human-Wildlife  
Conflict & Coexistence  
SPECIALIST GROUP

HUMAN-WILDLIFE CONFLICT & COEXISTENCE  
/ CASE STUDIES

# BUILDING COMMUNITIES CAPACITIES TO COEXIST WITH WILDLIFE



© ECOSYSTEMS-INDIA



© ECOSYSTEMS-INDIA



## INTRODUCTION

In Assam, Northeast India, the Himalayan foothill forests provide essential habitat for the Asian elephant *Elephas maximus*. The natural vegetation in the region is moist deciduous forest, but this has mainly been transformed and now contains a mosaic of land uses and vegetation. These include rice cultivation, village settlements, commercial tea plantations and protected areas.

**THE STATE IS AMONG THE MOST SEVERE HOTSPOTS OF HUMAN-ELEPHANT CONFLICT IN THE WORLD. LOSS OF AGRICULTURAL CROPS, DAMAGE TO HOUSES AND LOSS OF HUMAN LIVES, AND RETALIATION AGAINST THE ANIMALS INVOLVED HAD BECOME AN ANNUAL OCCURRENCE IN THE REGION.**



# ASSAM

REGION



KEY INSIGHTS &  
LESSONS LEARNT  
ON PAGE 12



Source: UN, 2020

UN. 2020. Map of the World [online]. [Cited 1 January 2021].  
<https://geoservices.un.org/Html5Viewer/index.html?viewer=clearmap>





In 2004, a pilot project was established between Chester Zoo (then North of England Zoological Society), United Kingdom and EcoSystems - India, a regional non-governmental organization (NGO), to further learn about the conflict and determine the best way towards sustainable solutions with the impacted communities. This pilot phase became the catalyst for the Assam Haathi Project, which worked with local communities to understand the situation further and identify solutions for addressing the issue collaboratively. The project ran for 14 years, from 2004 to 2018, and conducted many activities to address the human-elephant conflict.

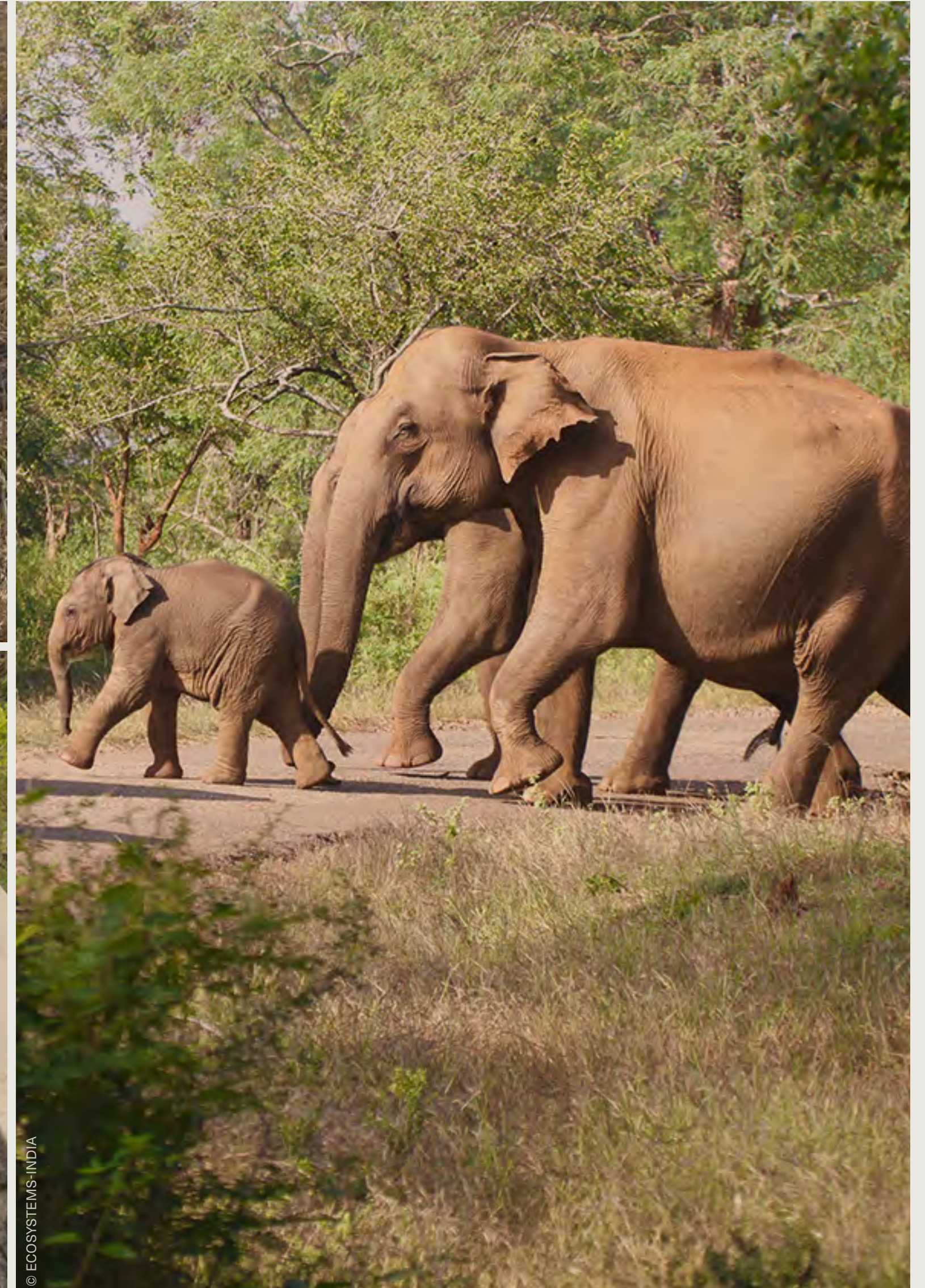
This case study highlights a subset of activities that have been conducted by the Assam Haathi Project (hereafter “the project”).



## PROCESS OF INITIAL ENGAGEMENTS

During initial discussions with local government authorities, Sonitpur district in Assam was identified as an area with frequent conflict and severe impacts between people and elephants, and a priority area for action as the state Forest Department struggled to deal with the situation. Although the Goalpara district was not at the time facing the same level of impacts, the project identified that human-elephant conflict was emerging as an area that could reach the same status as Sonitpur. For these reasons, the project initially focused its work on these two districts.

In consultation with district administrations, local civil society organizations and NGOs, the Forest Department, village elders and the communities in the region, potential project villages were identified in the Sonitpur and Goalpara districts, avoiding villages where other NGOs were already working. Short presentations were developed in the local languages about elephants, their behaviour, the impacts, and how the project hoped to assist the villages, without blaming the elephants or villages for the current situation.





Having presented its goals, the project solicited the active participation of villages in fulfilling its mission. The villages were not expected to respond straight away and were given adequate time to discuss whether they wanted to be involved in the project. It was acknowledged that this type of project could take a while to develop, and therefore, each village was requested to commit to being involved for at least three years. The communities were informed that they could withdraw at any point, and any issues could be raised and discussed.

**IT WAS MADE CLEAR THAT THE VILLAGE WOULD PARTICIPATE IN PILOT ACTIVITIES OF THE PROJECT TO SEE WHAT MAY OR MAY NOT WORK AND TRY TO UNDERSTAND THE SITUATION FURTHER.**

Rather than focusing on a broad landscape level, the project decided to work at micro-level with four villages in Sonitpur (Haleshwar, Devalaya, Udhmari Borjhar and Saikia Suburi Borjhar) and one village in Goalpara (Nichinta), which agreed to participate in the project actively.

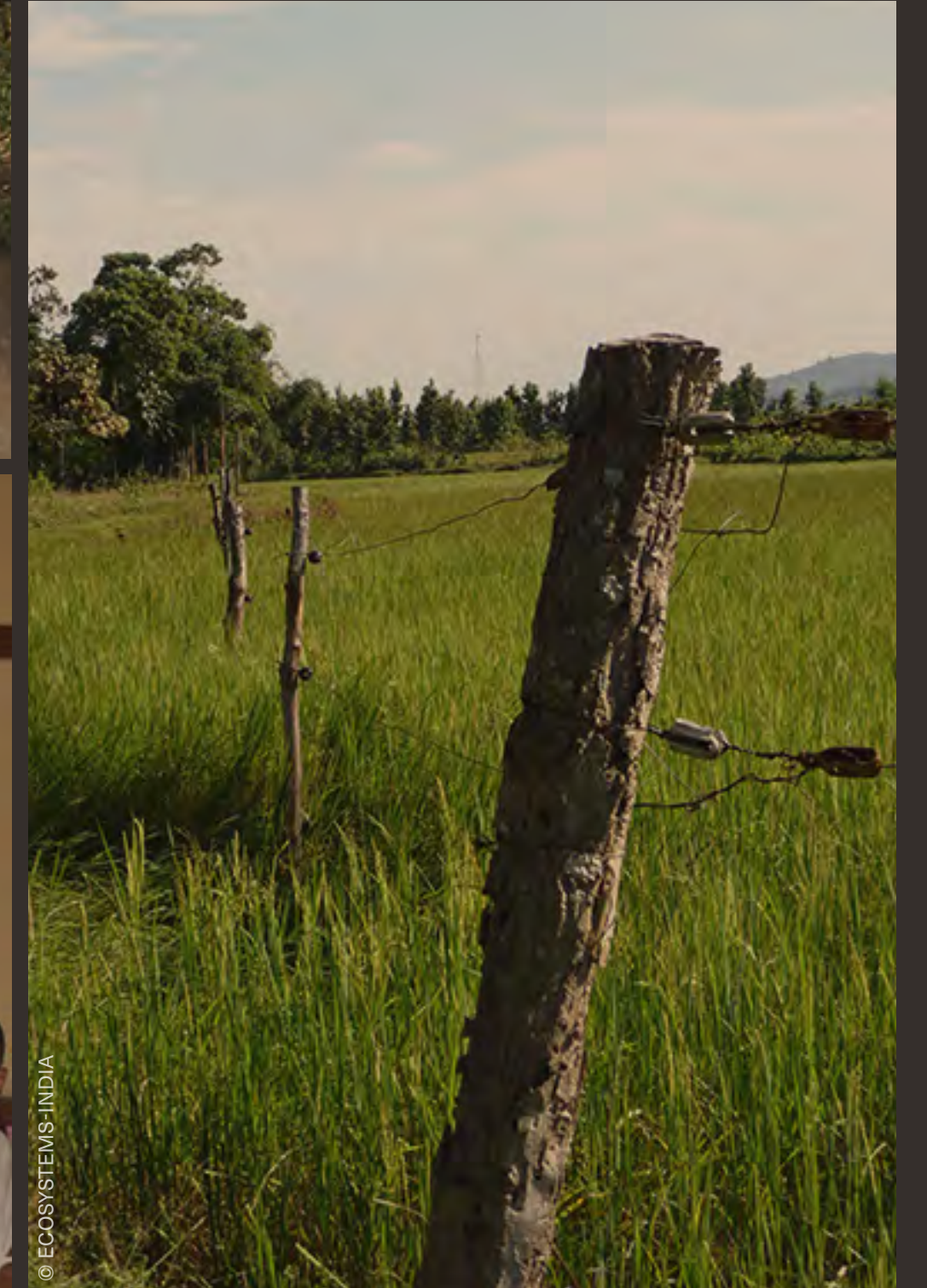


© ECOSYSTEMS-INDIA



© ECOSYSTEMS-INDIA







## PROBLEM ANALYSIS

To understand the site-specific prevailing physical (in particular the elephant entry and exit paths), socio-economic and cultural conditions, Participatory Rural Appraisal was conducted in all the participating villages. This exercise entailed mapping of physical and social resources, historical timeline of events especially pertaining to human-elephant conflict, and collection of information on livelihoods, attitude towards wildlife, etc. as well as stakeholder analysis.

**FOLLOWING THE PARTICIPATORY RURAL APPRAISAL EXERCISE, FIELD ASSISTANTS FROM EACH OF THE PARTICIPATING VILLAGES WERE EMPLOYED.**



© ECOSYSTEMS-INDIA



© ECOSYSTEMS-INDIA

Their role was to monitor the occurrence, frequency, type and location of elephant crop-raiding, property damage and human deaths. Training was imparted to the field assistants on identifying and tracking the elephants that moved into the communal areas. Each field assistant would cover a specific area, and when the elephant(s) moved into a new area, the field assistant from that area would be notified. A large-scale mapping activity was undertaken. The collected information included the village boundaries, location of natural resources and entry and exit pathways of elephants moving through villages, alongside household and village level socio-economic data. Over time, an extended network of field assistants was established.

The data thus collected allowed spatial and temporal patterns of the impacts to be identified in each village. Crop depredation and property damage were shown to follow defined seasonal trends.

**MOST INCIDENCES OCCURRED IN THE EVENING (FROM 18.00 TO 22.00), AND VILLAGES WITHIN 700M OF A FOREST PATCH WERE MOST VULNERABLE.**

These findings helped to identify precisely where support should be directed in the villages.

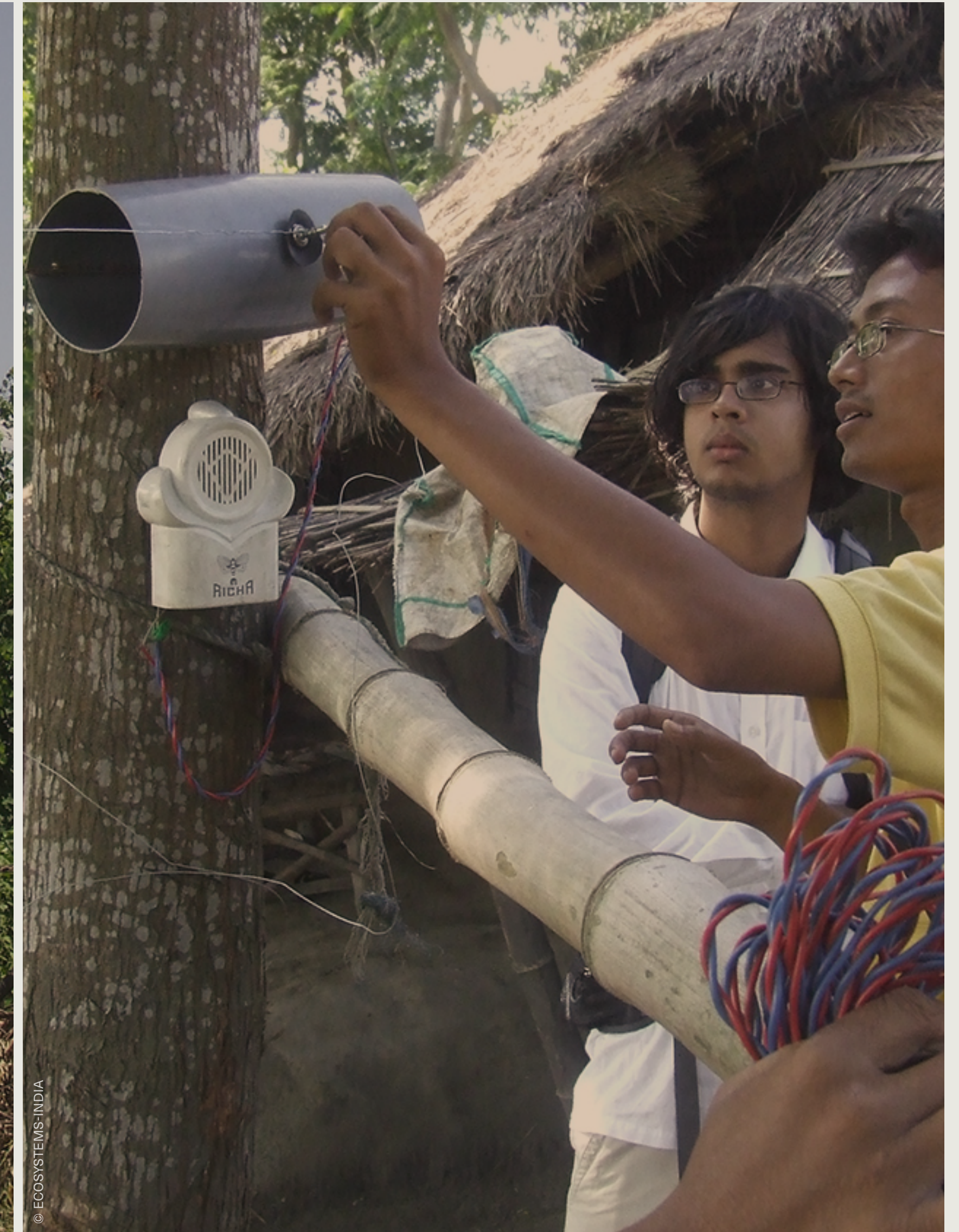


In other regions of Assam, expensive state-supported interventions were being used to deter elephants. However, the project felt that it was essential to trial non-lethal interventions that were low cost, with low technology requirements and could be constructed and maintained using local material in the initial phase. The project researched interventions implemented in other areas of Asia and Africa to deter elephants. In some cases, the staff visited the sites, initially selecting trip-wires as an early-warning device and chilli based deterrents, watchtowers and torches to deter elephants from fields that could be trialled in the region. As the project recognised that they needed to build rapport and trust with the villages, they only used interventions that were proven successful at the site.

**FOLLOWING INITIAL TRIALS,  
SUCCESSFUL INTERVENTIONS  
WERE ADAPTED THROUGH A  
COLLABORATIVE PROCESS WITH  
THE VILLAGE, BUILDING ON  
THEIR EXPERIENCE AND  
KNOWLEDGE OF CROP-RAIDING.**



© ECOSYSTEMS-INDIA



© ECOSYSTEMS-INDIA



## ACTIVITIES

Having identified which villagers and areas of the village were vulnerable to elephants and those interventions which showed efficacy in the project sites, individual villagers could now seek support from the project and respective plans were developed with the entire village on deterring elephants from the area. At the villagers' request, interventions applied by the project in the villages included torches, spotlights, early-warning systems, electric fences, watchtowers, and chilli deterrents. All the interventions had been adapted to the local context through discussions with the community during the trial stages.

### THE PROJECT DECIDED EARLY ON THAT ASSISTANCE IN THE FORM OF INTERVENTIONS WOULD NOT BE PROVIDED FOR FREE.

Communities could either make small financial contributions, or if they did not have the finances, they could contribute in-kind by providing labour, equipment or support when installing the intervention. This ensured that the beneficiaries had a stake in the intervention and helped to transfer ownership.



To ensure village-level interventions remained functional such as electric fences, village committees were established to manage any intervention's operation and maintenance.

### THE VILLAGES DECIDED THE RULES FOR MAINTAINING THE INTERVENTION, CREATING ROSTERS AND ROLES FOR BENEFITING HOUSEHOLDS.

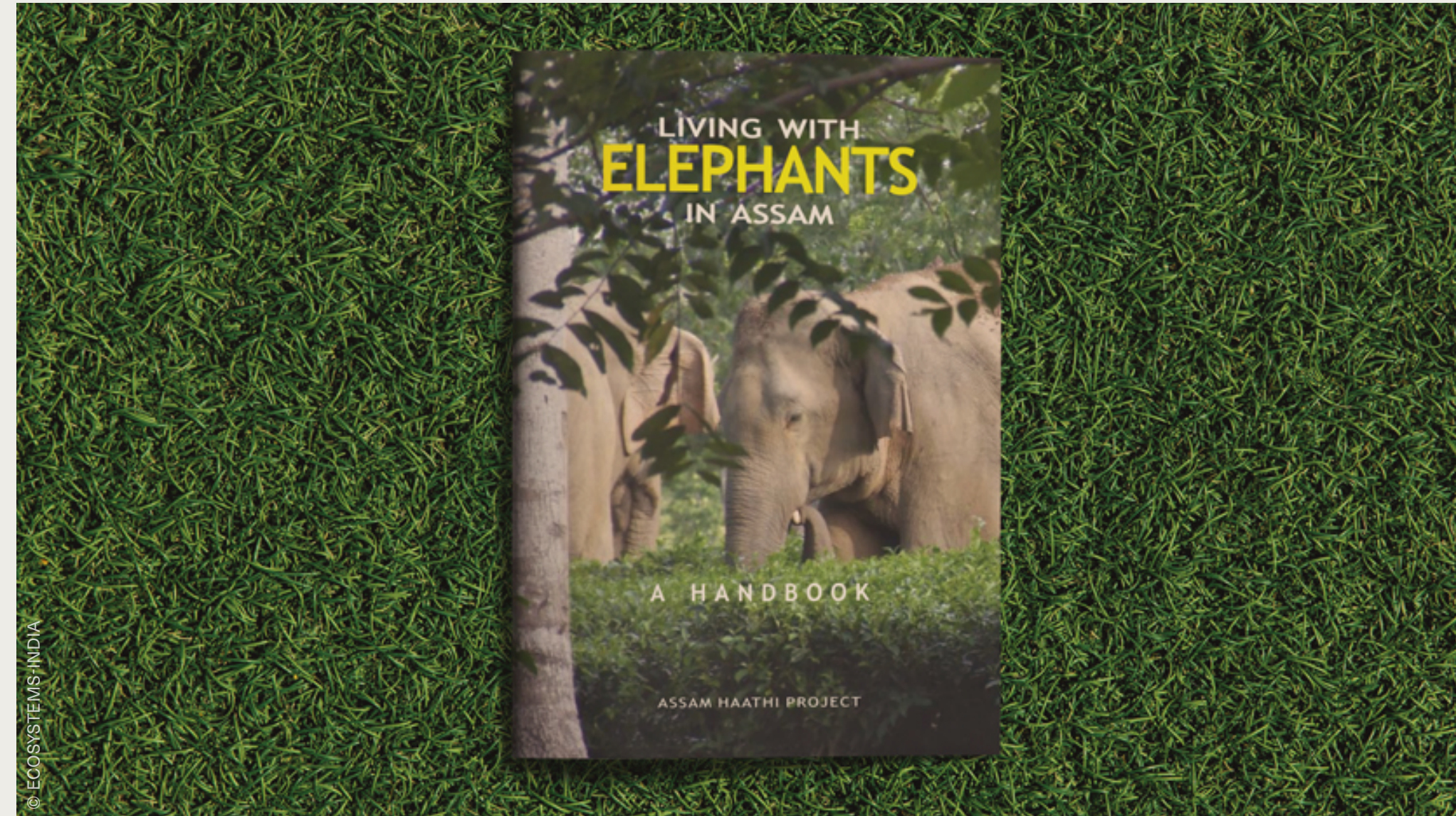
Some villages decided penalties for households if they did not conduct their role which could be financial in nature, or requiring households to contribute additional hours of monitoring or clearing vegetation etc. Each village was supported in opening a bank account wherein the villagers made contributions for the upkeep and maintenance of the interventions. They were appraised of the life of equipment so as to plan for the contributions required for the upkeep of the intervention.



Demand for support far exceeded the resources available, especially as neighbouring villages began to learn about the project. To help disseminate information to a broader audience, a "Living with Elephants" handbook was produced in Assamese and English following consultation with villagers to identify what would be most helpful to include and determine how to improve the clarity of instructions.

## THE HANDBOOK AIMED TO HELP VILLAGERS UNDERSTAND ELEPHANTS, EXPLAIN WHY THEY CAN IMPACT PEOPLE AND WHY IT'S ESSENTIAL FOR PEOPLE AND ELEPHANTS TO LIVE TOGETHER, HIGHLIGHTING WAYS TO PROTECT CROPS, HOMES AND PEOPLE FROM ELEPHANTS.

The handbook provided step by step instructions and advice on how to protect crops and property using locally sourced material. This handbook was distributed to project villages, but also neighbouring villages where requested.



Compensation was available for damage through a government-run programme. However, the paperwork was often tedious and challenging for many of the affected villagers and photos would need to be submitted to verify the damage. Therefore, when the field assistants were attending crop-raiding incidences, the latest compensation guidelines would be distributed. They would help with the completion of the forms and take the pictures required to ensure that the villagers could receive compensation for the damage. Workshops were also provided on how to complete the forms.

To offset the economic losses and assist in generating new or additional income in the villages, training sessions on alternative livelihoods were provided throughout the project on a needs basis to villagers. The sessions were often led by resource persons from other NGOs or concerned government line departments. For example, the project partnered with the state Agriculture and Horticulture and Veterinary Departments, Spice Board and the Energy and Resources Institute to deliver training programmes on alternative cash crops and animal husbandry. The training was also provided on topics including bee keeping, agriculture, fish farming, poultry management, business management, etc.



## OUTCOMES

After the first phase of the project, from 2004 to 2010, the decision was made not to seek new villages actively. The project found that when villages heard about the success in the participating villages, they would request support from the project. By September 2012, the project had introduced or enhanced mitigation interventions in 19 villages across six districts of the Assam state. Less direct support was provided in 65 neighbouring villages where crop protection methods were adopted by having attended workshops.

**WHERE USED, THE INTERVENTIONS  
HAD RESULTED IN A 58 PERCENT  
REDUCTION IN CROP LOSSES AND  
53 PERCENT IN PROPERTY LOSSES.  
NO ELEPHANTS WERE REPORTED TO  
HAVE BEEN INJURED OR KILLED IN  
ANY OF THE PROJECT VILLAGES IN  
RETALIATION FOR DAMAGE.**

The project found that spotlights, torches and solar fencing were the most sought-after tools to deter elephants and were used successfully to reduce impacts in villages that received these tools.



The distribution of the *“Living with elephants”* handbook resulted in villagers increasing their knowledge about the status of elephants, and readers were able to understand why elephants crop-raid. Following the distribution of the handbook, the perception that elephants and forests should be protected increased, and villages were found to be more aware of mitigation methods having read the book. The handbook was complemented by a series of posters in Assamese for display in public events and places.

Although the supplementary income from the alternative livelihood operations was unlikely to elevate the beneficiaries from their poverty status, it did allow them to deal with impacts from elephants without depending on other parties.

**BY 2016, THE PROJECT WAS ACTIVELY  
WORKING WITH 20 PROJECT  
VILLAGES DIRECTLY, AND WITH 97  
NON-PROJECT VILLAGES USING  
INTERVENTIONS LEARNT THROUGH  
THE PROJECT'S ACTIVITIES.**



## KEY INSIGHTS & LESSONS LEARNT

### 01 | DEVELOPING OWNERSHIP

The project strived to empower the communities to have ownership of the project and activities. Field assistants from the participating villages were employed to collect data. The villages contributed to the purchase of tools, their set-up, maintenance, and management, ensuring that they no longer needed support from the project to deter elephants from their fields and property after the initial engagement.

### 02 | HETEROGENEOUS GROUPS

Although the project worked with individual villagers and entire villages, villages were not homogenous and comprised many different interest groups. For example, groups varied based on religion, economic prosperity or political affiliation. When delivering activities at the village level, this could sometimes cause conflict with some groups not willing to contribute, but still receiving benefits. Further, marginalised farmers or poorer households were more readily willing to cooperate with the project than those economically better off.

### 03 | COMPLACENCY

When there were no incidences due to successful intervention use, some villages got complacent, and interventions would not be used or maintained. Equipment such as electric fence batteries would be diverted for other purposes, or chilli fencing discontinued making the village vulnerable if elephants came back.

### 04 | FIREFIGHTING

Despite working to reduce the impacts between humans and elephants, the project was unable to address the drivers of the situation, such as human encroachment and habitat fragmentation.

### 05 | IMPORTANCE OF PARTNERSHIPS

The project would often ask the villages what capacity building would be of interest to them. On many occasions, the project team did not have the knowledge or skills to deliver the specific training, so they would partner with other NGOs or government departments to provide the training programmes. The project often coordinated with local, state, national, and international partners to deliver training programmes.

### 06 | CLEAR PARTNER ROLES

At the outset of the project, clear roles were identified for each partner organisation to ensure they delivered on components of the project that they were best suited to. In this case, Chester Zoo conducted the project's research and financial component, and EcoSystems-India delivered the administration and community engagement.

### 07 | LONG TERM VISION

Although the project was funded through multiple short term (3-4 year) funding cycles, the project was planned in the long term beyond the funding cycles to ensure success.



## FURTHER INFORMATION

- A handbook on living with elephants in Assam
- Effectiveness of intervention methods against crop-raiding elephants. Conservation Letters. 2011
- Understanding spatial and temporal patterns of human-elephant conflict in Assam, India. Oryx. 2013
- Community-based human-elephant conflict management in Assam. Gajah, 2009

## DISCLAIMERS

*The views expressed in this information product are those of the author(s) and do not necessarily reflect the views or policies of FAO. The boundaries and names shown and the designations used on this/these map(s) do not imply the expression of any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers and boundaries. Dashed lines on maps represent approximate border lines for which there may not yet be full agreement.*

## ACKNOWLEDGEMENTS

With thanks to Nandita Hazarika for the vital contribution to this case study, and to James Stevens (Programme Officer, IUCN SSC Human-Wildlife Conflict & Coexistence Specialist Group) for writing the case study, with support provided by Paromita Basak (Wildlife Intern, FAO). The author would also like to acknowledge the valuable and constructive feedback provided by Alexandra Zimmermann (Chair, IUCN SSC Human-Wildlife Conflict & Coexistence Specialist Group) and Kristina Rodina (Forestry Officer, FAO). PRVRT Creative Studio took care of the graphic design and layout.

## ABOUT THE CASE STUDIES

The **Food and Agriculture Organisation (FAO)** of the United Nations and the **IUCN SSC Human-Wildlife Conflict & Coexistence Specialist Group** have jointly developed a set of case studies with the aim of covering the process projects have taken to manage various aspects of a human-wildlife conflict & coexistence situation. This case study is one of many that will be used to illustrate key components of the **IUCN SSC Guidelines on Human-Wildlife Conflict & Coexistence**. The published case studies can be found in the **Human-Wildlife Conflict & Coexistence Library**.

Required citation: FAO and IUCN SSC HWCCSG. 2022. *Building communities capacities to coexist with wildlife*. Rome, FAO





Contact:  
Forestry Division – Wildlife and Protected Areas Management  
<http://www.fao.org/forestry/wildlife>  
**Food and Agriculture Organization of the United Nations**  
Rome, Italy



Some rights reserved. This work is available under a CC BY-NC-SA 3.0 IGO licence