**Human Elephant Conflict (HEC)**

**Rising Tensions**

Despite being revered as the living embodiment of Ganesh, tensions between humans and Asian elephants, Elephas maximus, have been on the rise over the past several decades. Assam is located in the North Bank of India and is home to one of the largest populations of Asian elephants in the world. About 10% of the species’ population lives here— as do 75 million people...

**What is Human Elephant Conflict? How Does it Occur?**

Human-Elephant Conflict (HEC) is a complex interaction between humans and elephants, and represents the detrimental impact both species have on one another. Since 1972, nearly 16% of Assam’s natural forest cover has been converted to agriculture. Elephants and humans mostly interact during crop-raiding incidents which can further lead to incidents of home destruction, injury and death to humans and/or elephants.

**Who is Affected?**

Rural and agricultural areas, along with surrounding communities, located adjacent to refuge areas are the most affected by HEC as they continue to expand and encroach on elephant territory. Populations of wide-ranging species, such as elephants, will continue to move through these landscapes because their migration patterns are often influenced by the spatial distribution and suitability of remaining refuge areas that are located within these fragmented regions.

**The Future of the Asian Elephant Population**

Mitigating HEC is a conservation priority and is crucial for the preservation and survival of wild elephant populations. A community-based approach presents an opportunity to reduce the number of wildlife-related losses, improve people’s attitudes towards elephants, and increase long-term conservation strategies. Researchers have found that spatial patterns of elephant movement and HEC are influenced by the time of day, community response to elephant behavior, and location of refuge areas. Seasonal patterns, however, are influenced by the agricultural calendar. Future research should focus on better understanding spatial and seasonal patterns of elephant behavior, restructuring refuge areas, creating more...

**Management Strategies**

**Warning Systems:** Before smartphones, villagers would use watchtowers to warn people that elephants were near. As smartphones become more prevalent, there are now several regions throughout India that use SMS test alerts, automated voice calls, TV alerts, digital signs and flashing LED lights along roads, and pole networks, that warn villagers of elephant activity nearby.

**Barriers:** In regions where people may not have access to smartphones, physical barriers can be used to prevent elephants from entering property to prevent elephants from entering a particular area (electric fence, chili fence).

**Deterrents:** Deterrents such as chili smoke, fire, loud noises (banging pots & pans), and flashing bright lights are last resort tactics villagers use if an elephant enters their property. These deterrents are only effective in the short-term and are not as effective as other long-term management strategies.

**Field Monitors:** Members of local communities can choose to undergo "field monitor training" if they want to become more involved in reducing HEC incidents. The Assam Haathi Project researchers trained 27 community members as "field monitors" to record elephant movements and details about conflict incidents. Field monitors visited crop-raiding and property damage incidents as they occurred, verified them, and recorded their location with a GPS Unit. Details including elephant group size, composition or herd identity, time of incident, damage to crops and/or property, and any human or elephant injuries were entered on a reporting form.

Researchers should use a combination of these management strategies listed above to target high-risk areas in Assam, as depicted in the final risk analysis.

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