भारतीय वन्यजीव संस्थान
Wildlife Institute of India

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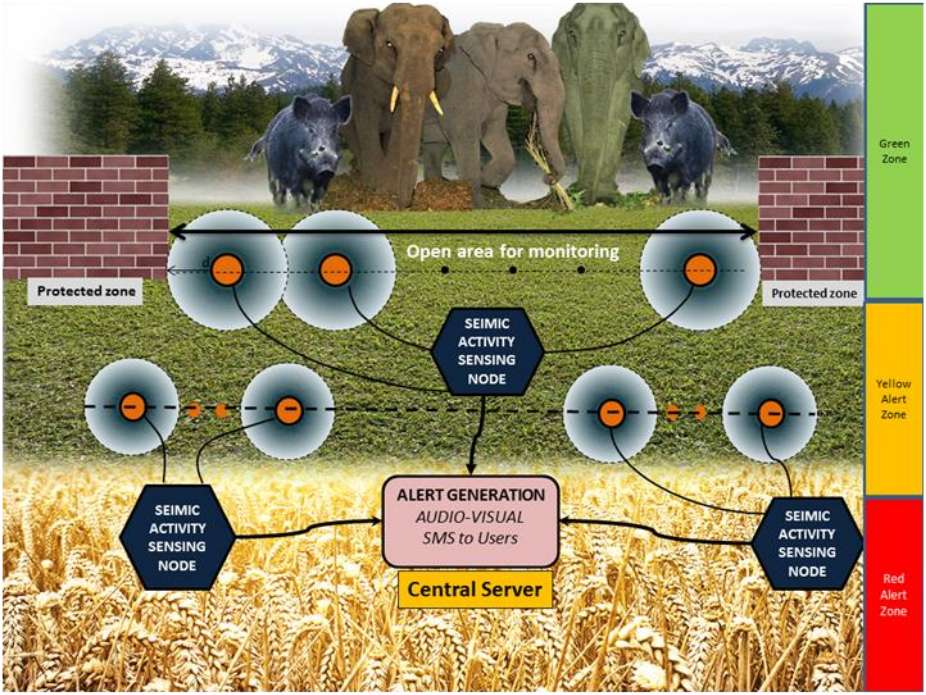
WWF

AI based Crop Raiding and Agrobiodiversity Conflict Alert System using Seismic Sensing

'Bringing together Conservation and Development through Innovation'

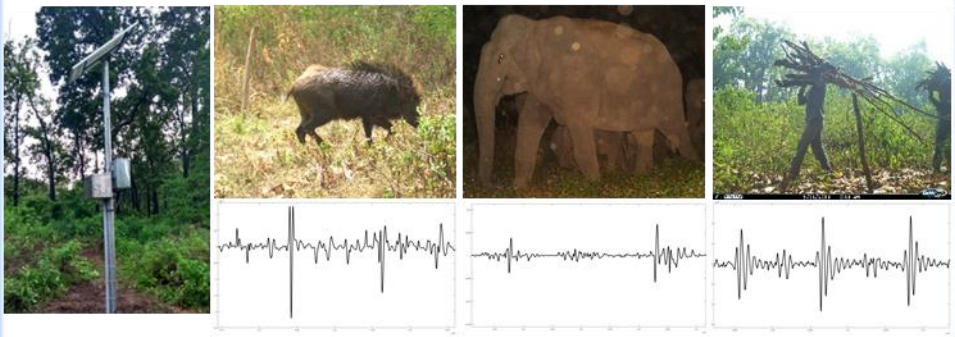


AI based Seismic Sensing is an innovative comprehensive technological solution , from CSIR-CSIO, Chandigarh, for early detection of crop raiding animals and subsequent alert generation to the concern users and farmers to avoid human-wildlife conflict.

AI based Crop Raiding and Agrobiodiversity Conflict Alert System using Seismic Sensing

The Himalayan landscapes offer home for a number of wild animals which has co-sustenance with human habitats for a long time. But in recent times this relationship has been transformed more into 'conflicts' rather than co-existence. This is mainly due to expansion of agriculture fields adjoining the forest area which eventually has increased crop raiding considerably. Besides, dependency for grasses, fuelwood, livestock grazing etc., makes local inhabitants vulnerable to human-wildlife conflict. Among all the species wild boar, Deer, apes, monkeys and elephants are the most threatening ones when it comes to crop raiding, As a result a number of crops such as *Echinochloa frumentacea* (madira), black sesame (black til) have faced a serious declined in production as lesser farmers are growing these crops.

While many preventive measures have been taken, but no significant improvements have been made so far. To deal with the situation AI based Seismic Activity Sensing Node (SASN) can be used. SASN is effective in providing alert to the authorized persons or the forest department regarding the presence of wild animals in and around the protected area, especially in crop field and village nearby regions to detect an early threat and take necessary measurement to prevent crop raid beforehand and avoid human-wildlife conflict.



SASN is susceptive to the vibrations generated on the ground due to footsteps. As each animal has unique gait (walking pattern), for any movement on the ground, it can detect and classify the type of animal present in the SASN zone. SASN can also be adapted to be deployed along different terrain with tuned parameters (as per the geology and ecology) to match the requirements of the user. The system is currently in pilot testing phase deployed at Kansrao range, Rajaji Tiger Reserve in collaboration with WII, WWF-India and Uttarakhand forest department.

Designed and Developed by

CSIR- Central Scientific Instruments Organisation (CSIR-CSIO), Chandigarh

Collaborating Domain and Funding Partners

Wildlife Institute of India (WII), World-wide Fund for nature (WWF-India)

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