

## CLIMATE INNOVATION CHALLENGE

### Monthly Progress Update

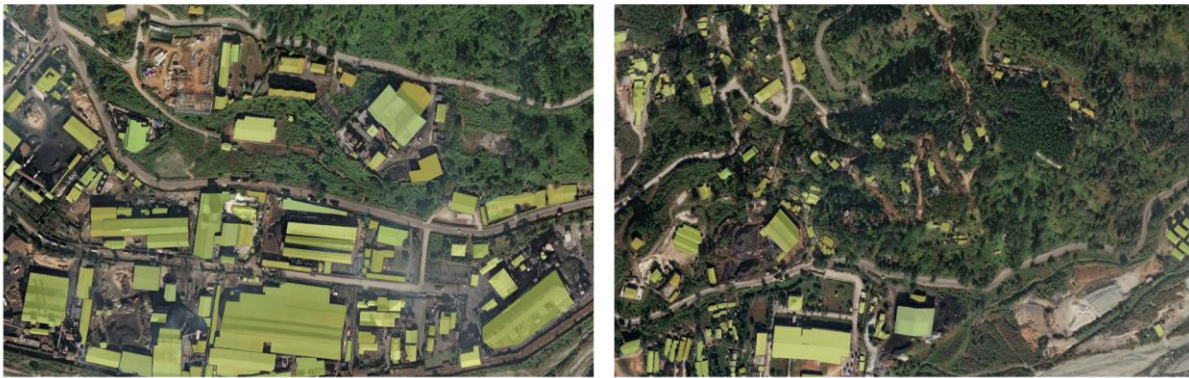
<b>Reporting Period (Month)</b>	February
<b>Grantee Name</b>	Geoneon
<b>Project Title</b>	Infrastructure Vulnerability to Slope Instabilities and Floods in Phuentsholing, Pasakha, and Gelephug (Bhutan)
<p>1. List the key activities undertaken during this month</p> <ul style="list-style-type: none"> <li>• Sourcing information and data from stakeholders.</li> <li>• Sourcing publicly available information and data.</li> <li>• Preparing maps with satellite data.</li> <li>• Training deep learning model to map all buildings.</li> </ul>	
<p>2. List the key beneficiaries /stakeholders consulted during this month</p> <ul style="list-style-type: none"> <li>• Department of Disaster Management, Bhutan.</li> </ul>	
<p>3. Summarize key achievements and milestones of this month</p> <ul style="list-style-type: none"> <li>• Delivered Milestone 1, high-resolution satellite data.</li> </ul>	
<p>4. List key issues to be resolved</p> <ul style="list-style-type: none"> <li>• Did not receive required data from Bhutan causing small delay in preparing the infrastructure model.</li> </ul>	
<p>5. Any additional issues (observations/learning in terms of the applicability, scalability, and sustainability)</p> <ul style="list-style-type: none"> <li>• Nothing to report.</li> </ul>	



*Figure 1 Example of high-resolution satellite data.*



*Figure 2 Two examples of the twelve representative areas selected for the labelling and to prepare the training dataset.*



*Figure 3 Buildings are labelled manually on selected representative areas (~2-3% of the total area) and used to train the deep learning model that will enable the automated segmentation of all the buildings on the satellite data.*