

# GOAL PROGRAMME INNOVATION FUND

Innovating for a World Beyond Humanitarian Crisis

**Harnessing new technologies for better and more informed  
land and risks governance in Haiti**



## State of innovation

-  Ideation and piloting ✓
-  Validation
-  Scaling



Since 2018, GOAL has been implementing urban resilience projects, through the Urbayiti programme, in areas where rapid and uncontrolled urbanisation is creating ever-changing land use and risks. These projects aim to improve the emergency response and preparedness against disaster risks using urban planning and risk-mapping. Furthermore, these maps are disseminated to stakeholders and communities for a capital appropriation.

Since the start of GOAL Haiti in 2010, the development of partnerships has been a pillar for the development of our interventions, particularly in the sectors of urban resilience and disaster risk management. These collaborations have expanded between the Directorate of Civil Protection and GOAL in Port au Prince and in the Grand Anse since 2018 for disaster preparedness and response. GOAL is working with DPC, CNIGS, and SEMANAH to establish an early warning and response system. In Jérémie, some areas are difficult to access, thus GOAL integrated drones into preparedness and response and increased the collaboration between CNIGS and DPC for an effective response.

This is the first time that the CNIGS is equipped with drones, thanks to the support of the Programme Innovation Lab.



The intervention is set to be implemented in **Jérémie Grand Anse department in South of Haiti.**



## What is the innovation about?

The objective of the innovation is to facilitate the integration of risk mapping and satellite imagery into rapid response management. The innovation aims to utilise the technology brought by drones at the communal and departmental level, to inform key systems (EWRS, land management, infrastructure, etc.). The proposed innovation aims to leverage the linkages between CNIGS and GOAL (initiated under Urbayiti) to improve the information and maps available from the EU, CNIGS, to inform local authorities, decision makers, and community leaders about risks, vulnerabilities, trends, and how to plan accordingly.



## Why is it an innovation?

In Haiti, DPC is the leader in disaster risk management and CNIGS is the leader in mapping, which brought in the drone technology supported by GOAL. Drones were previously used primarily for agricultural purposes. GOAL intends to link these two entities and facilitate the use of drones in SIMEX to foster collaboration that could be replicated around the country to make preparedness and response more effective. These newly created maps will be more accurate and will allow for the updating of expired contingency plans. Moreover, with the effects of climate change in this region of the world, technology allows for much faster advances in monitoring, data collection, updating, and consequently a more adapted response.



## What is expected benefit of this innovation?

The action will focus on the Grand'Anse department and will aim to improve risk awareness, risk management, planning, and preparedness in the commune of Jérémie. If successful, the action may be extended to Haiti's most vulnerable communes, particularly in urban areas, and will also contribute to improving the EWRS and the resilience of coastal communities in Jérémie. The EWRS (funded by the EU) is the cornerstone of GOAL's risk management intervention in the country, being able to demonstrate a capacity for innovation can enable replication of methodologies (EWRS and proposed innovation).

The partnership between GOAL and CNIGS will contribute to GOAL's influence at the national level, and distinguish GOAL from other NGOs, by demonstrating its ability to work with national institutions, to propose technical inputs and relevant actions, and to reach the community level. Lessons learned from the action will be shared between GOAL and the ERU to improve the performance of the organization.

This innovation aims to improve emergency response and disaster risk preparedness through urban planning and risk mapping. In addition, these maps will be disseminated to stakeholders and communities for capital ownership. This innovation highlights a strong potential for new technologies to enable accurate and rapid mapping to guide governance and emergency response.

*The acquisition of drones by CNIGS, along with satellite imagery and GIS software, will strengthen and develop rapid and effective emergency response approaches, supported by the creation of communication tools for smoother information sharing between national and local government entities and the public.*

- Departmental level: Most of the benefits at this level will go to departmental coordination and capacity building of departmental DPC structures.
- National Level: Support for a pilot intervention would prove the added value of drone imagery and its integration into the broader emergency response mechanisms and the revision of expired contingency plans in many geographic areas of the country. Monitoring of various movements (terrain, infrastructure) would allow to take into account the effects of climate change, one of the major stressors in Haiti.



## **Potential to Scale**

In its first phase, the Innovation Fund project granted to Haiti made it possible to develop the risk and disaster response preparedness steps by integrating the newly created drone imagery department of the CNIGS into emergency response preparedness and by initiating a first simulation exercise (SIMEX).

Due to the insecurity and the “Country Lock” from September to November 2022, it was not possible to plan the functional SIMEX, a crucial step for disaster response preparedness, which would have also allowed the deployment of new maps, such as a crowd movement map, studying community behaviors, and following an analysis and adaptation of procedures. The scale up of a phase two would involve strengthening phase one to solidify the foundation and collaborations with all actors in Grande Anse and the use of drones in remote areas. Also, to develop a more global vision that would also extend to the Metropolitan Area of Port-au-Prince, it is necessary to develop partnerships with the university and scientific sector and to implement the first steps already started at the end of the year with the Institute for International Urban Development and the CNIGS.

This collaboration an area for exploration with DPC and CNIGS might be the potential for establishing relationship(s) with universities, particularly geography or land studies departments, on GIS/imaging issues. To cite a recent example, GOAL-Honduras worked with the Hydrological Research Center in San Diego, CA on development of a methodology for modeling urban micro watersheds, a priority for Honduras’ DPC equivalent. One of the key elements of sustainability is the fact that the modeling tools were taught to students at the national university and the software was installed in that institution’s land studies department. The result is that students are utilizing a system that is part of Honduras’ emergency response agency’s toolkit, which means they are able to contribute directly to preparedness and risk reduction efforts in their academic work and are well-positioned to be the next generation of emergency response/DRR professionals.



## Innovating to Overcome Humanitarian Crisis

The GOAL Programme Innovation Lab is a dynamic and collaborative unit established by GOAL to foster innovation within GOAL's programmes and to promote this work both internally and externally with the wider development and humanitarian community.

To get involved or find ways to support our innovations, visit our website at [goalglobal.org/innovation](http://goalglobal.org/innovation) or contact us at: [resilience@goal.ie](mailto:resilience@goal.ie)



Scan to visit our website

**The GOAL Humanitarian Innovation Fund** is designed as dynamic collaborative process through which strategic partners can engage and provide support to foster innovations which have the potential to enable marginalised populations overcome humanitarian crisis.

The Innovation Fund is a vehicle for strategic partners who are passionate about innovation and how innovation can be applied to overcome humanitarian crisis to support efforts to maximise the potential of innovation to transform Crisis to Resilience. Partners from across the full spectrum of society are invited to engage including from the private sector business, philanthropists, trusts and foundations, civil society organisations, academic institutions and government organisations.

For more updates and stories from our work supporting communities around the world, please visit our [Stories Archive](#) and follow us on social media:



### GOAL Ireland

Carnegie House, Library Road, Dun Laoghaire Co. Dublin

**GOAL Country Programme**  
Haiti

**Contact**  
Paul D'Anglejan

**Email**  
[pdanglejan@ht.goal.ie](mailto:pdanglejan@ht.goal.ie)