

HAITI

RESPONSE PREPAREDNESS AND BUILDING RESILIENCE

December 2019

The screenshot shows the app's interface. At the top left is the USAID logo. A search bar for 'Building ID...' and a 'DOWNLOAD CSV' button are at the top right. The main area features a map of Haiti with departmental boundaries and names like Cap-Haitien, Ouanaminthe, and Port-au-Prince. To the right of the map are two toggle switches for 'Earthquake' and 'Hurricane'. Below these are three hazard level categories: 'No Restricted Hazards' (green house icon), 'Restricted Use' (yellow house icon), and 'Unsafe' (red house icon). Further right is a list of assessment criteria with checkboxes: Soil Description, Site/Slope Description, Type of Construction, Type of Roof, Primary Occupancy, Building Shape, and Building Type. At the bottom, a table titled 'Overall' shows damage assessment results for 'Off Foundation', 'Building Leaning', and 'Collapse' across three levels: 'None / Minor' (green), 'Moderate' (yellow), and 'Severe' (red).

Disaster Response App Launched in Haiti to Rapidly Assess Building Damage

After nearly a decade of lengthy damage assessment processes and relentless disasters, the *College National des Ingenieurs et Architectes d’Haiti* (CNAIH)* now has a mobile phone app that allows a growing number of certified engineers to rapidly assess structural damage and make life-saving decisions backed by data.

Following the 2010 earthquake, disaster authorities and first responders had very limited capacity to manage or execute much-needed damage assessments for hundreds of thousands of buildings.

Hurricane Matthew in 2016 and then another earthquake in 2018 devastated Haiti again and left many more structures damaged.

With funding from the U.S. Agency for International Development’s Office of U.S. Foreign Disaster Assistance, Miyamoto International certified 117 engineers in rapid damage assessment (RDA) methodology. All certified engineers can mobilize with short notice to conduct assessments following a disaster. These assessments help communicate the structural safety of buildings (at the time of

*Board of National Haitian Engineers and Architects (in English)



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assessment) to help people to return to “safe” or Green-tagged buildings and warn them about Red- and Yellow-tagged buildings. Access to this real-time data can transform how humanitarian aid and government resources are used after disasters.

How does the mobile app work?

Engineers that attend the training curriculum and pass the exam can use their smartphones to access the app in impacted areas – particularly remote, vulnerable and otherwise difficult to reach communities. In just about 20 minutes, an engineer can observe and categorize a building by color – “Red” means do not enter, “Yellow” means repairs may be needed, and “Green” means that the structure is safe for families to return home or for businesses to continue operation.

Real-time data saves lives

This mobile RDA method can be implemented within hours of a disaster, well before humanitarian aid reaches the country. It provides early rapid damage assessment results that can serve as a preliminary data source for both immediate and long-term humanitarian needs. All data is automatically synced and stored to a cloud platform with a user-friendly dashboard, where it can be evaluated and disseminated to authorities and other stakeholders who need to make quick decisions on where to send resources. The results of the RDA, for example,

can tell local authorities how many families are displaced within a certain area. This not only improves immediate response by targeting assistance where it is needed most, but it also helps inform long-term recovery and rebuilding efforts.

A rise in Haiti's home-grown experts

This training spurred a remarkable growth in CNIAH's membership and increased awareness about their role as a legal authority. With growing capacity and government recognition, this expert network is central to Haiti's disaster resilience. CNIAH now has the skills and tools to continue training additional members and will begin technical workshops on more detailed damage assessment methods in 2020.

"I believe that the more we train municipal engineers and give them the tools to uphold their responsibilities, the more Haiti as a nation will be able to reduce some of the risks," said Guilaine Victor, Haiti Country Manager for Miyamoto International. "Respecting codes, using good materials, training the entire construction chain - from architects, to engineers and masons - this education and transfer of knowledge is the only way to do the right thing."

Notably, CNIAH is comprised of active members from throughout Haiti, including both public and private engineers. Members retain access to the app regardless of transitions in politics or company affiliation, ensuring that Haiti has a reliable and sustainable pool of specialists ready for mobilization post-disaster.



Engineers attend a rapid damage assessment training in Port-au-Prince

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