

TECHNOLOGY CAPACITY BUILDING

ADVOCACY AND DISASTER RESILIENCE PROGRAMME

CATANDUANES, THE PHILIPPINES, JANUARY 2024

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ABOUT THE PROGRAMME

The Technology Advocacy and Resilience Programme, collaboratively spearheaded by Help.NGO and Amazon Web Services (AWS), epitomizes our shared, steadfast dedication to enhancing the readiness and robustness of at-risk communities globally. Anchored in an acute awareness of the intensifying threats from natural disasters and environmental challenges, this endeavour emerges as a pivotal cornerstone and beacon of hope and assistance for communities across the world.

The inception of the programme is rooted in our shared obligation to alleviate the extensive effects of disasters, which exceed national borders and impact areas with escalating frequency and intensity. Acknowledging the necessity for preemptive measures, the programme aims to equip communities with the essential knowledge, skills, resources, and tools required to adeptly manage crises and cultivate lasting resilience.

Leveraging existing partnerships, specialized knowledge, and a widespread regional footprint, Help.NGO and AWS stand ready to tackle the dynamic challenges of disaster risk and response. By joining forces with a variety of stakeholders, such as governmental bodies, private sector firms, and civil society groups, the programme is designed to:

- Enhance community engagement through strategic dialogues aimed at bolstering disaster preparedness and mitigating risk factors.
- Forge partnerships with innovative entities to introduce cutting-edge solutions and technologies, notably AWS, to amplify emergency response effectiveness and fortify disaster resilience frameworks.
- Ensure the strategic pre-positioning of critical equipment and resources, facilitating their swift deployment in times of crisis, thereby reducing response times and potential impacts.
- Conduct capacity-building programs tailored to empower communities, enhancing their resilience and readiness to respond efficiently to emergencies.
- Facilitate the organization of forums and hackathons, leveraging these platforms to uncover innovative technological applications that address humanitarian challenges and bridge existing digital divides, fostering a more inclusive approach to disaster management.

The program's efficacy will be determined by its observable impact on communities, as demonstrated by improved preparedness, enhanced collaborations, and increased response capacities. Cultivating a culture of partnership, innovation, and resilience, the Advocacy and Resilience Programme aims to establish a more durable future for all, enabling communities to better withstand and rebound from the challenges posed by an ever-evolving global landscape.

CATANDUANES

Catanduanes, situated as an island province in the Philippines, encounters formidable challenges stemming from its geographical positioning and topographical features. Located on the eastern edge of the Philippine archipelago, it is particularly vulnerable to typhoons, facing an average of 20 such storms each year. The province's challenging landscape, characterized by steep terrain, dense vegetation, and sparse infrastructure, combined with its isolation from Luzon, the country's main island, magnifies the consequences of extreme weather phenomena. This not only leads to extensive destruction but also presents significant logistical hurdles in the aftermath, complicating efforts for effective response and recovery.

Despite facing numerous challenges, the inhabitants of Catanduanes hold a profound appreciation for their natural surroundings and are vigorously involved in efforts to protect the climate. Mangroves, playing a vital role as natural defenses against coastal erosion, and the indigenous abaca industry, contributing to slope stabilization to prevent landslides, are testament to the community's engagement in environmental stewardship. These elements also serve as pillars for livelihood and entrepreneurial ventures. The synergy among local communities, Catanduanes State University, and various organizations fosters a blend of economic advancement and environmental preservation. Through their collaborative efforts, Catanduanes aims to harmonize economic development with ecological sustainability, positioning itself to withstand the impacts of increasingly severe climate events.

The Technology Advocacy and Resilience Programme in Catanduanes addresses the urgent need for improved disaster readiness and resilience-building efforts. Dedicated to supporting vulnerable groups, it equips responders and communities with vital skills and resources. This programme enables communities to significantly mitigate the impact of natural disasters and encourages the adoption of sustainable development practices.



PROGRAMME OVERVIEW

The eight-day Help.NGO Technology Advocacy and Resilience Programme held in January 2024 in Catanduanes epitomizes an all-encompassing strategy dedicated to addressing the repercussions of natural disasters and bolstering community resilience.

This initiative showcases a comprehensive array of activities, systematically categorized into educational training and resilience-building efforts, meticulously designed to empower local communities and elevate their disaster preparedness. Originating from the invaluable lessons learned through Help.NGO's pivotal responses to significant events such as Typhoon Haiyan (Yolanda) in 2013 and Typhoon Goni (Rolly) in 2020 in the Philippines, this programme was thoughtfully developed and localized. It was executed in intimate collaboration with an array of local stakeholders, including government officials, Catanduanes State University, community leaders, cooperatives, and local entrepreneurs, ensuring the long-term effectiveness and sustainability of the initiatives launched.



PROGRAMME OVERVIEW



DRONE OPERATIONS

Capacity-building workshops on various drone operations, complemented by the detailed monitoring of mangrove areas to assess post-typhoon recovery and detect unlawful activities.



DRONE MAPPING AND EMERGENCY DATA ANALYSIS

Sessions on drone mapping and the strategic use of data during emergencies, alongside the meticulous mapping of abaca plantations to evaluate plant health and growth for both commercial and research purposes.



LEO CONNECTIVITY FOR DISASTER RESPONSE

Training on Low Earth Orbit (LEO) connectivity solutions and their application in disaster management, complemented by the establishment of enhanced connectivity at key locations such as government offices, hospitals, community centers, and businesses.



CLOUD COMPUTING FOR ENHANCED DISASTER RESILIENCE

Cloud computing as a tool for disaster management and community strengthening, supported by cooperative endeavors with community leaders and partners to advance climate adaptation and resilience-building measures.

TRAINING

Led by Innovation Director Matthew Cua, specialists from Help.NGO facilitated a comprehensive three-day workshop titled "Literacy Training on Unmanned Aerial Systems (UAS), Low Earth Orbit (LEO) Connectivity, and Cloud Computing & Operation Support for Resilient Communities in Catanduanes."

This educational program was structured around four principal modules:

DRONE OPERATIONS CAPACITY-BUILDING WORKSHOPS

Attendees underwent detailed instruction on the intricacies of drone operations, encompassing flight dynamics, data gathering methodologies, and adherence to safety standards. The objective of these workshops was to furnish participants with the essential competencies and insights required for the proficient utilization of drones across a range of scenarios, including disaster readiness, aerial surveying, and academic research, achieved through practical drone flying exercises and application in mapping projects.

MAPPING AND DATA ANALYSIS FOR EMERGENCY RESPONSE

This segment of the training emphasized the practical application of mapping technologies and data analysis tools in emergency situations. Participants acquired skills in interpreting aerial imagery, conducting spatial data analysis, and deriving valuable insights to inform decision-making during crises.



TRAINING

UTILIZING LEO CONNECTIVITY SOLUTIONS FOR DISASTER MANAGEMENT

This training module offered participants comprehensive guidance on Low Earth Orbit (LEO) connectivity solutions, covering topics such as satellite communication fundamentals, network setup, and troubleshooting strategies. Attendees gained insights into the capabilities of LEO connectivity systems and their significance in addressing communication challenges in disaster-affected regions.

CLOUD COMPUTING APPLICATIONS IN DISASTER MANAGEMENT

This segment of the training delved into the deployment of AWS cloud computing solutions for disaster response initiatives. Participants were guided on harnessing cloud services for the storage, analysis, and sharing of data, facilitating efficient collaboration and decision-making during emergency situations.



To see more photos from the training, scan the QR code



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PROVIDING CONNECTIVITY IN STRATEGIC LOCATIONS

This programme initiated the deployment of sophisticated communication infrastructures at strategic locations, including governmental establishments, healthcare facilities, community hubs, and commercial entities, integrating forefront technologies such as Starlink. Engineered to ensure unwavering connectivity, particularly during critical emergency situations, this strategic undertaking significantly improved operational coordination and expedited the dissemination of vital information. By establishing robust communication networks, even within the most secluded regions, the initiative empowered communities to realize their utmost potential, thereby not only facilitating immediate emergency responses but also promoting enduring growth and development.

PANDAN MUNICIPALITY
NISOS VARIETY STORE



CABUYOAN FISHERFOLK
ASSOCIATION



CATANDUANES STATE
UNIVERSITY'S
DEMONSTRATION
CRAB AND FISH FARM



ABACA WEAVERS
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RESILIENCE AND CAPACITY BUILDING PROGRAMME

MAPPING OF ABACA FIELDS

A crucial facet of the programme entailed the systematic mapping of abaca fields in Catanduanes, a key economic pillar for the region. This effort was geared towards examining the health and growth rates of abaca plants, offering critical data for evaluating business prospects and research opportunities. Through a comprehensive analysis of abaca cultivation patterns, researchers from Catanduanes State University were equipped to make well-informed choices concerning resource allocation and the implementation of sustainable farming methods. Such strategic insights are vital for bolstering the local economy's resilience over the long term.

To learn more about
the importance of
abaca, scan the QR
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MAPPING OF MANGROVE FIELDS

Another pivotal element of the programme was the detailed mapping of mangrove ecosystems in Catanduanes. This endeavor sought to monitor the alterations in mangrove habitats in the aftermath of typhoon events and to identify instances of unlawful activities, including illegal logging and encroachment. The objective was to pinpoint critical areas requiring restoration and to enact strategies to curb coastal erosion. Through these efforts, the programme aimed to protect biodiversity and bolster the resilience of coastal communities, thereby fortifying their defenses against the ramifications of climate change.



COLLABORATIVE RESILIENCE-BUILDING INITIATIVES

The programme spearheaded concerted efforts in resilience enhancement, drawing on the active participation of local communities, organizations, and government entities.

By cultivating meaningful partnerships and exchanging expertise, participants were empowered to collectively identify vulnerabilities and implement strategies for climate adaptation and resilience at a grassroots level. These community-driven projects have been instrumental in not only strengthening resilience but also in promoting sustainable development and opening up new livelihood possibilities.

Stakeholders involved:



CONCLUSIONS

The Technology Advocacy and Resilience Programme in Catanduanes has realized substantial advancements in fortifying disaster preparedness, reinforcing community resilience, and nurturing sustainable development. Orchestrated through strategic interventions, this initiative has profoundly enabled local populations to withstand and transcend the tribulations presented by natural catastrophes and environmental perils.

Highlights of the programme's impact include enhanced connectivity in key locations, significantly improving readiness for future typhoons and natural disasters, a deeper insight into the dynamics of abaca and mangrove ecosystems, and the launch of community-driven resilience projects. These outcomes underscore the strong commitment and effective collaboration among all stakeholders involved, notably including AWS, Catanduanes State University, local governmental agencies, and community groups.

In concert, these accomplishments epitomize the efficacy of collective endeavor and ingenuity in surmounting complex challenges and engineering enduring solutions for at-risk communities. Looking ahead, the programme is unwavering in its commitment to intensify its impact and broaden its scope, persistently aiming to elevate resilience, diminish risks, and sculpt a brighter, more resilient future for all engaged.



NEXT STEPS

In our forward trajectory, we are committed to broadening the reach of the Technology Advocacy and Resilience Programme to encompass additional locales across the Philippines. Acknowledging the uniform challenges encountered by numerous island communities, we are poised to adeptly refine our programme, ensuring it is meticulously tailored to address their distinctive needs and conditions.

Our strategy involves forging robust partnerships with an array of critical stakeholders—including governmental authorities, academic circles, and grassroots organizations—to meticulously customize the programme's delivery. Drawing upon the profound insights and successes garnered from our pioneering efforts in Catanduanes, our objective is to craft and implement sophisticated strategies aimed at elevating disaster preparedness, bolstering resilience, and catalyzing sustainable advancement in these locales.

It is our overarching goal to empower communities throughout the Philippines, enabling them to navigate and triumph over challenges, thereby flourishing in the face of adversity. Through an unwavering commitment to collaboration and innovation, we are dedicated to sculpting a more resilient future, not only for the myriad island communities within the Philippines but also setting a precedent for resilience on a global scale.





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