

Narrative Report – GreenQuest

GreenQuest: Flood Resilience through Gamification and Community Action

GreenQuest: Flood Resilience through Gamification and Community Action was implemented to strengthen flood resilience among young people and vulnerable communities through climate education, Indigenous knowledge documentation, environmental action, community participation, and game-based learning. The project sought to transform community experiences and local knowledge into an engaging educational tool to increase awareness of flood preparedness and environmental stewardship among young people.

Project Objectives and Progress

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The GreenQuest project was implemented across selected communities and educational institutions in Lagos State. The original Letter of Agreement (LoA) identified Makoko, Bariga, and Iwaya as the primary target implementation communities. However, due to increasing security concerns, including cult-related violence, kidnapping risks, and difficulties obtaining approvals from government schools amid fears of area boy disruptions and protests, GreenQuest adjusted certain implementation locations following careful risk assessments and stakeholder consultations. All revised locations were selected to maintain full alignment with the project's flood resilience and community engagement objectives.

Activities originally planned for Makoko were successfully delivered through collaboration with Ken Ade Private Secondary School, which serves students from Makoko and other flood-prone, low-income communities. Activities planned for Bariga were implemented through outreach at Itolowo Primary and Secondary School in Ikorodu, engaging stakeholders with close ties to the Bariga community within a safer environment. Activities originally planned for Iwaya could not be fully implemented due to persistent security concerns and difficulties securing safe community access. In response, equivalent activities were conducted in Ebute Iga Community, a flood-prone area facing comparable environmental and drainage challenges, ensuring the project's community engagement objectives were maintained.

In addition to physical community and school-based activities, the project incorporated virtual testing sessions of GreenQuest: Rescue Tides, enabling additional participants across different locations to engage with and provide structured feedback on the flood resilience learning experience. Across all modalities, community consultations, school outreach, environmental campaigns, and digital testing, the project recorded

approximately 520 cumulative direct engagements, demonstrating strong reach and sustained community participation throughout implementation.

Objective 1: Community Vulnerability Assessments and Flood Education

The first objective was achieved through consultations conducted at Itolowo Primary and Secondary School, Ikorodu, and within Ebute Iga Community. At Itolowo, 20 students and 5 teachers participated in facilitated discussions on how flooding affects school attendance, student safety, sanitation, transportation, and learning outcomes. In Ebute Iga Community, approximately 15 residents participated in consultations alongside community elders, the community chancellor, religious leaders, and local stakeholders. Participants identified blocked drainage systems, poor waste disposal, inadequate flood awareness, and recurring environmental degradation as the primary drivers of flood vulnerability in their communities.

Objective 2: Documenting Lived Experiences and Indigenous Adaptation Practices

Approximately 8–10 elders contributed historical flood experiences and local adaptation knowledge through storytelling sessions, interviews, and stakeholder consultations. Participants described traditional flood warning indicators, including changes in rainfall intensity, river behaviour, and drainage overflow patterns observed over generations, as well as community-led practices such as clearing gutters, the use of a local town crier to announce storms, neighbourhood drainage clearing, and informal flood-alert and collective evacuation systems. These insights were documented and integrated into the educational narrative and decision-making mechanics of GreenQuest: Rescue Tides.

Objective 3: Development of GreenQuest: Rescue Tides

The Game Design Document, educational framework, environmental assets, and animation storyboard were completed during implementation. Three playable levels were developed, tested, and refined, covering themes of flood preparedness, environmental stewardship, and community resilience. The game achieved over 100 downloads through the Google Play Store and underwent multiple rounds of testing. Closed testing involved 12 participants, while open testing engaged approximately 50 additional users from schools, communities, and partner networks. Through a partnership with Peddle Innovation Labs, the game was installed on approximately 50 devices distributed to refugee youth, further expanding the testing pool. Based on feedback collected, the art style was refined for child-friendliness, and gameplay and interface adjustments were introduced to improve the overall user experience.

Objective 4: Large-Scale Youth Engagement and Climate Education

Through school outreach, environmental campaigns, game demonstrations, innovation activities, community consultations, and partner-supported programmes, the project recorded approximately 520 cumulative direct engagements. Of these, approximately 347 were students and young people; the remainder comprised teachers, community elders, religious leaders, volunteers, and other adult stakeholders. The breakdown of engagements is as follows:

- Approximately 250 students at Ken Ade Private Secondary School (climate education sessions, game demonstrations, environmental activities, and the Flood Innovation Challenge)
- Approximately 50 refugee youth engaged through Peddle Innovation Labs
- Approximately 25 participants from Itolowo Primary and Secondary School
- Approximately 45 participants in the Flood Innovation Challenge
- Approximately 35–40 participants across two cleanup campaigns
- Additional community stakeholders, educators, elders, volunteers, and follow-up session participants

Objective 5: Environmental Action and Sustainability

Two major cleanup campaigns were successfully implemented. The first was conducted within the Ikorodu community axis and engaged approximately 20 volunteers and community members in waste management awareness, flood prevention education, and drainage protection activities. The second was held at Ken Ade Private Secondary School and engaged approximately 15–20 students and volunteers. Participants received practical demonstrations on environmental stewardship, waste segregation, drainage maintenance, and flood prevention. A third cleanup originally planned could not be implemented due to escalating security concerns and restricted access, with resources redirected toward expanded educational outreach and game-testing activities.

Beyond environmental action, the project secured a key sustainability outcome: Ken Ade Private Secondary School agreed to adopt GreenQuest: Rescue Tides within its planned climate and environmental volunteer programme, ensuring that climate resilience education continues beyond the project implementation period.

Data Collection and Community Engagement

Qualitative flood impact data was collected through storytelling sessions, open discussions, direct observation, and semi-structured interviews with children, youth, community leaders, and residents. Participants shared firsthand experiences of recurring floods, drainage challenges, limited early warning systems, evacuation practices, and community-led response mechanisms during flood events.

One of the most moving accounts came from **Yusuf (11 years old)**, who recounted witnessing a tragic flood incident in his community:

"I saw a boy die at the dam when the flood came. The water became very strong, and nobody could save him. Since then, whenever it rains heavily, I become scared." —

Yusuf, 11

Yusuf's testimony highlights the emotional and psychological impact that flooding has on children, reinforcing the importance of equipping young people with practical flood-risk awareness and preparedness skills.

Community Chancellor **Jessica** emphasized that flooding in the area is intensified by poor waste disposal practices and blocked drainage systems. She noted that while heavy rainfall is unavoidable, many of the community's flood impacts are worsened by preventable human activities.

"Plastic waste blocks our drainage channels, and when the rains come, the water has nowhere to go. We need to educate young people so they understand that proper waste disposal is also flood prevention. Programmes like GreenQuest: Rescue Tides can make learning about waste management engaging while helping children and youths become part of the solution." — **Jessica, Community Chancellor**

Long-term resident **Ibrahim** reflected on the persistent nature of flooding in the community, explaining that it has become an accepted part of daily life for many residents.

"I have experienced flooding here since I was a child. Every rainy season we expect it, so people have simply adapted. But adapting is not enough anymore—we need better awareness, better drainage, and for everyone to take responsibility for keeping our environment clean." — **Ibrahim, Community Resident**

Community elders also documented Indigenous flood warning indicators, including changes in rainfall intensity, river behaviour, drainage overflow patterns, and other

environmental signals observed over generations. They shared traditional flood-management practices that have been passed down through the community, including routine clearing of drainage channels before major rains and the use of local town criers to warn residents of approaching storms. Participants further described community-led coping strategies such as neighbourhood drainage clearing, informal early warning networks, collective evacuation support, and local flood-response practices. These findings are documented in the accompanying **WMO Youth Project Report**.

Engagement levels remained high throughout the activities, with younger participants responding particularly well to storytelling, interactive learning, and opportunities to share their personal experiences. These qualitative insights not only enriched the project's understanding of local flood risks but also demonstrated the value of participatory education approaches in strengthening community resilience.

These Interactive learning was delivered through a highly participatory, rotation-based model that engaged approximately 250 students in hands-on climate education and community action activities at Ken Ade School. Rather than traditional classroom lectures, students learned through practical demonstrations, environmental simulations, teamwork, and real-world problem-solving exercises focused on flood resilience and environmental sustainability.

Key interactive learning activities included:

1. GreenQuest: Rescue Tides Game-Based Learning
 - a. Students participated in guided gameplay sessions using GreenQuest: Rescue Tides, an educational game designed to teach flood preparedness, disaster response, and environmental decision-making.
 - b. Facilitators connected in-game scenarios to real-life flooding challenges experienced in local communities, helping students understand the causes and impacts of floods as well as effective mitigation strategies.
 - c. Interactive discussions and feedback sessions encouraged students to reflect on the choices they made during gameplay and how these lessons could be applied in their daily lives.
2. DIY Flood Management Workshop
 - a. Students participated in a practical flood management workshop where they learned low-cost, community-based flood mitigation techniques.
 - b. A major component of the session involved teaching participants how to create and properly position sandbags as an emergency flood-control measure to reduce water intrusion and protect homes and community infrastructure during flood events.
 - c. Students worked in groups to discuss flood risks in their neighborhoods and identify actions that could improve local resilience.

3. Flood Innovation Challenge

- a. Working in teams, students brainstormed and designed simple flood-management solutions for their communities.
- b. Participants developed sketches and models addressing challenges such as blocked drainage systems, waste disposal, and water diversion.
- c. Each team presented its solution, fostering critical thinking, creativity, communication skills, and peer learning.

4. Environmental Stewardship and Community Action Activities

- a. Students participated in environmental awareness discussions focused on pollution, waste management, and ecosystem protection.
- b. Practical demonstrations showed participants how proper waste disposal and environmental conservation contribute to reducing flood risks and improving community resilience.
- c. Students were encouraged to develop personal and collective environmental action commitments that could be implemented within their schools and communities.

To maintain engagement, the programme incorporated small-group learning, hands-on demonstrations, team challenges, question-and-answer sessions, peer presentations, and recognition for active participation. This approach ensured that all 250 students were actively involved in the learning process while gaining practical knowledge and skills related to climate adaptation, flood preparedness, and environmental sustainability.

Integration into Game Development

Insights gathered from community engagements and closed testing, which included 12 participants, and open testing, which included 50 participants, are currently being integrated into the GreenQuest game prototype. As of May 23rd 2026, the development team completed Levels 1, 2, and 3 of the game. These levels focus on flood awareness, environmental action, and community resilience through interactive storytelling and gameplay.

The project also entered an active testing phase through close testing on the Google Play Store. Feedback was collected from children and youths across different communities who participated in gameplay sessions. Where Over 100 people have installed the game: https://play.google.com/store/apps/details?id=com.GREENQUEST.GreenQuest_RescueTide&hl=en

This feedback focused on gameplay clarity, difficulty level, educational value, visual appeal, and user engagement.

Based on the testing feedback received, several improvements are being implemented within the game. The art style was refined to make the game more child-friendly, visually engaging, and accessible for younger audiences. Additional gameplay adjustments and interface improvements were also introduced to improve the overall player experience.

The project further expanded its testing and stakeholder engagement through partnerships with Peddle iLabs (Peddle Innovation Labs), an organization that distributes mobile devices to refugee communities. Through this collaboration, the GreenQuest game was installed on 50 of their systems, enabling testing and feedback collection from beneficiaries using the devices.

In addition, GreenQuest established a collaboration with Ken Ade Private Secondary School where we engaged with .

Here are the details of the Activities that occurred for the Flood innovation challenge;

- Small teams brainstorm simple flood management ideas and are given 5 Minutes to research
- Students discuss among themselves on drainage systems, flood barriers, and waste blockage.
- Teams present a 1-minute idea.

The goal was to make it competitive and give the “Best Innovation” recognition, which encourages practical community solutions.

After the presentations, we taught the students how to make sandbags using Cement bags, soil, and duck tap, which the children found very exciting as seen in our t testimonial video: https://drive.google.com/file/d/1dB8e60qxiT9xby9Qh5QZTFziBP-yvF8k/view?usp=drive_link

Stakeholders and Innovation

The success of the project depended on collaboration among diverse stakeholder groups, each contributing unique expertise, experiences, and resources.

Youth participants served as the primary beneficiaries, learners, testers, and co-creators of the project. Approximately 347 students and young people participated through school sessions, innovation activities, environmental campaigns, gameplay testing, and community engagement activities. Their feedback directly influenced the refinement of GreenQuest: Rescue Tides and helped ensure that educational content remained relevant and engaging.

Teachers and school administrators from Itolowo Primary and Secondary School and Ken Ade Private Secondary School played important facilitation roles. Approximately 10

educators supported participant mobilisation, climate education sessions, educational discussions, logistics coordination, and institutional engagement.

Community elders, traditional leaders, and respected local stakeholders contributed Indigenous knowledge, historical experiences, and local adaptation practices. Approximately 8 to 10 elders and community leaders participated in consultations and storytelling sessions that informed the educational narrative of the game.

Religious leaders, including the local Imam, contributed to community mobilisation and stakeholder engagement efforts. Their involvement increased trust, legitimacy, and participation within community consultations.

Local residents served as direct beneficiaries and knowledge contributors. Approximately 15 community members shared household-level experiences relating to flood impacts, waste management, sanitation challenges, drainage issues, and community resilience practices.

Ken Ade Private Secondary School emerged as a key sustainability partner during implementation. Approximately 250 students participated in climate education sessions, gameplay demonstrations, environmental awareness activities, innovation exercises, and project presentations. The school's decision to adopt GreenQuest: Rescue Tides within its climate and environmental volunteer programme represents one of the most significant long-term outcomes of the project.

Buy scrap Nigeria and Peddle Innovation Labs served as an important implementation partner by facilitating game testing among refugee youth populations. Approximately 50 refugee youth users accessed the game through devices supported by the organisation, enabling broader participation and strengthening digital inclusion objectives.

Innovation throughout the project centred on combining climate education, Indigenous knowledge, environmental action, and digital learning into a single integrated resilience-building approach. The use of gamification transformed traditional climate education into an interactive experience that encouraged learning through exploration, decision-making, and problem-solving.

Project Management and Lessons Learned

Project implementation was coordinated by GreenQuest Innovations through a small multidisciplinary team responsible for stakeholder engagement, data collection, documentation, facilitation, software development, testing, partnership management, and reporting.

Overall implementation remained aligned with the approved project budget and timeline. However, several implementation challenges required adaptive management. The most significant challenge involved security concerns affecting access to some

originally proposed project locations. Following risk assessments and stakeholder consultations, implementation activities were relocated to safer environments while maintaining alignment with project objectives and expected outcomes.

Conclusion

GreenQuest: Flood Resilience through Gamification and Community Action successfully achieved its core objectives by combining community engagement, Indigenous knowledge documentation, environmental action, climate education, and digital innovation.

The project completed vulnerability assessments, documented local adaptation practices, developed and tested GreenQuest: Rescue Tides, engaged approximately 520 cumulative participants, implemented environmental cleanup activities, conducted a youth-focused innovation challenge, and established a pathway for continued climate education through school adoption.

Despite security-related implementation challenges that required adjustments to some planned activities and locations, the project delivered meaningful outcomes and demonstrated the potential of game-based learning as a tool for climate resilience education. Through its partnerships, educational resources, and community-centred approach, GreenQuest has established a strong foundation for future expansion and continued impact beyond the project implementation period.