

# NbS Integrated Building on Bazaleti Lake, Georgia

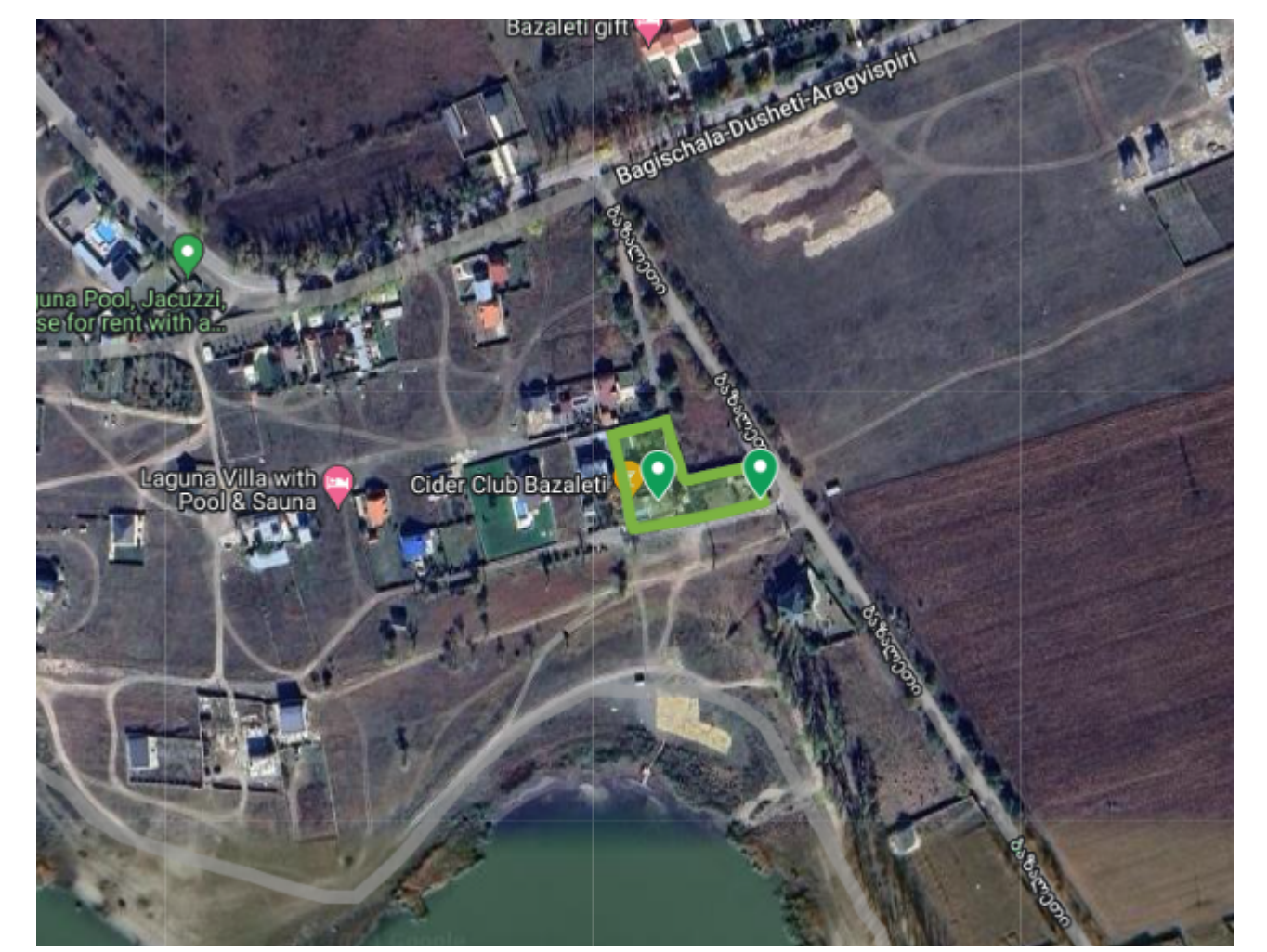
**Location:**  
Bazaleti Lake  
Dusheti Municipality, Georgia

**Length:**  
Entire site is about 50 m x 70 m

**Duration:**  
90 Minutes

**Number of visitors:**  
8

**Type of visitors:**  
**NGO representative**  
Private sector  
Research and academia  
Locals



The purpose of the visit to the Bazaleti Green Engineering Center was to explore and learn about the innovative Nature-Based Solutions (NbS) implemented here. Key features of the NbS include a green roof for energy efficiency and rainwater harvesting, and a constructed wetland for wastewater treatment. NbS site visit and follow up discussion session, considering among other matters, plans for initiating a national NbS Hub in Georgia, was broadcast via Zoom/Facebook live with over 100 attendees during and viewers after the event, video stream is accessible via this link <https://fb.watch/shzc0h9dyP> or the QR code.



**< Green Roof**  
The Bazaleti Green Engineering Center incorporates a green roof that merges seamlessly with the natural surroundings, significantly reducing energy usage and providing a habitat for local flora and fauna, especially insects. The roof also facilitates rainwater collection and treatment, emphasizing sustainability and resource efficiency.

**> Constructed Wetland Wastewater Treatment**  
The Center features an advanced wastewater treatment system using septic and gravel filtering systems and constructed wetland as the final stage of the wastewater treatment. The treated water is repurposed for irrigation in edible gardens as well as for toilet flushing, showcasing a holistic and circular approach to water management.



Deciduous plants are strategically planted to shade the southern facade of the building. This natural shading system reduces the need for air conditioning in the summer and supports heating in the winter, enhancing energy efficiency.

Everything with purpose – A pilot planting bed featuring exclusively Georgian endangered endemic crops. The harvested crops are used for catering purposes during the training sessions.



“Low-tech nature-based solutions in sustainable building systems are easy to implement and often cost little to nothing”



Levan Natadze  
CEO of Green Building Council Georgia

“In the absence of public funding, we have to find ways of engaging private businesses, communities, and individuals to make NbS a reality.”



Mamuka Gvilava  
Environmental sustainability expert at GeoGraphic LLC, Caucasus NbS Hub representative from Georgia

“There was a stimulating discussion on how to maintain momentum with the Caucasus NbS Hub and how best to proceed with the national NbS Hub in Georgia. This site visit and meeting discussion indeed contributed to maintaining interest for the future.”



Gvantsa Kheladze  
Associated professor of Caucasus University / Co-Founder of 'ES-CO-S' LLC

“The site visit has demonstrated the harmony between economy and nature, showing that NbS can be very feasible economically as well.”

“Increasing awareness of NbS among stakeholders, especially decision-makers like city planners, local authorities, and construction companies, is crucial for promoting NbS.”

“Creating and offering an NbS catalogue to the private sector and investors, encouraging them to integrate at least one among hundreds of potential solutions into their projects, could drive widespread adoption. This could be a requirement of the permitting process for renovations or new developments.”

“Caucasus University will support involving students in NbS workshops and conferences. While our syllabus includes some NbS topics, additional events can help deepen their knowledge.”

“From our experience, green competitions for media representatives can significantly promote Nature-Based Solutions.”



Zaal Kheladze  
Entrepreneur (Founder of Bazaleti green engineering centre – 'ESCO-S' LLC)

“When we first initiated the septic system in 2010, we invited Dutch experts to design it. Now, we are competent enough to offer the solution to our clients”

“Using permaculture building systems and green roofs in modern construction is a perfect example of innovative traditions which were always part of the Georgian building heritage”



Nino Chkhobadze  
Chairperson of the Greens Movement of Georgia/ Friends of the Earth – Georgia

“Wetland-based water treatment facilities offer great opportunities for Georgia. However, we need to research and propagate the proper endemic species to promote biodiversity as well.”