



## Piloting Innovation for Pasig River Cleanup: Insights from the 6-month Clearbot Pilot Study in the Philippines

January 28, 2026 (KHub and MS Teams)

### Summary of Open Forum / Question and Answer

The Q&A and open forum discussion focused on the practical implications of the ClearBot pilot, particularly around scalability, institutionalization, financing, policy alignment, and community engagement. Participants from national agencies, local governments, development partners, and the private sector generally agreed that the pilot demonstrated clear operational benefits, while also surfacing constraints that must be addressed before wider deployment.

Several LGU and national agency representatives emphasized that ClearBot should be viewed as a **complement to, rather than a replacement for, manual cleanup and existing river management programs**. While the AI-enabled vessels improved safety by reducing direct human exposure to polluted waterways and increased efficiency in collecting floating waste and water hyacinth, manual cleanup remains necessary for embedded, submerged, or entangled waste. LGUs highlighted that river conditions vary significantly across Metro Manila—particularly in terms of depth, width, obstructions, and access points—requiring further adaptation of vessel design and deployment approaches.

A recurring theme was the **value of real-time, geo-tagged data** generated by the ClearBot. Participants noted that traditional cleanup approaches do not provide consistent information on waste volumes, types, or accumulation patterns. In contrast, data from the pilot was seen as enabling a shift from reactive cleanup toward **more preventive and predictive river management**, including identifying pollution hotspots,

informing enforcement actions, planning infrastructure interventions, and supporting flood-risk mitigation. Integration of operational data into broader tools such as the Pasig River Digital Twin was cited as a key advantage for long-term planning and interagency coordination.

Institutional and financial considerations featured prominently in the discussion. LGUs noted that before adopting or scaling the technology, they would require clearer information on capital costs, operating and maintenance requirements, staffing needs, and technical specifications. Several LGUs emphasized that any scale-up would need to be incorporated into annual investment plans and aligned with existing environmental and solid waste management programs. ADB clarified that the six-month pilot was funded through ADB technical assistance and did not involve co-financing from LGUs or other partners, underscoring that future expansion would require deliberate financing and ownership arrangements.

Policy and governance issues were also raised, particularly by DENR and development partners. Speakers highlighted the importance of a **whole-of-government approach** to solid waste management, including coordination across LGUs, alignment with national mandates such as RA 9003, and the role of Extended Producer Responsibility in reducing upstream waste leakage. The discussion also touched on the potential of treating recovered materials—especially water hyacinth—not only as waste but as a resource for circular-economy applications such as waste-to-energy. However, participants noted that this would require clarity on ownership, long-term feedstock supply, and supporting policy frameworks to attract private investment.

Community engagement emerged as a critical enabler for sustainability. Several panelists cautioned against over-reliance on technology, stressing that **behavioral change, public education, and community ownership of waterways** remain essential. Participants emphasized that without changes in waste disposal practices, even advanced technologies would be overwhelmed by continuous pollution. LGUs shared ongoing efforts to strengthen barangay-level waste segregation, IEC campaigns, and community-based river stewardship as part of a broader solution.

Overall, the Q&A reinforced that while the ClearBot pilot delivered tangible operational and data benefits, its long-term value lies in how it is embedded within existing institutional frameworks, supported by policy reform, sustained financing, and active community participation. The discussion concluded with consensus that innovation pilots are most effective when used as learning platforms to inform scalable, integrated approaches to Pasig River rehabilitation rather than as standalone technical fixes.