

# From Data to Action: GIS Dashboards for Utility Operations and Real-Time Water Loss Monitoring in Ghana

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**Key words:** Capacity building; Cartography; Engineering survey; Geoinformation/GI; GNSS/GPS; Risk management; Spatial planning; Young surveyor; Water Loss; Real-Time Monitoring; Non-Revenue Water; Utility Management; Digital Tools; SDG 6; Ghana

## SUMMARY

Across Ghana, urban water utilities face growing pressure to reduce water losses, respond quickly to bursts, and improve overall service delivery. Ghana Water Company Limited (GWCL) has taken a bold step forward by using Geographic Information Systems (GIS) to track and manage these challenges in real time. This paper shares how GIS dashboards are being used to modernize utility operations and tackle water loss directly.

With the help of tools like ArcGIS Survey123, field teams now collect live data on leaks and bursts directly from the ground. These reports are automatically mapped and sent to an interactive dashboard that gives managers a clear picture of what is happening across the country. They can easily see where leaks are most common, track how long repairs take, and make faster, better-informed decisions.

The dashboard is not just about visuals. It allows users to sort by region, leak type, or repair status, and even download reports for audits or performance reviews. By bringing all this information together in one place, GWCL has improved transparency, shortened response times, and taken meaningful steps toward reducing non-revenue water.

More than just a technical solution, this system supports Ghana's broader goals under the Sustainable Development Goals, especially SDG 6 (Clean Water and Sanitation) and SDG 13 (Climate Action). It also reflects a growing shift toward data-driven decision-making within public utilities.

By sharing lessons from Ghana's journey, including staff training and scaling the platform across different regions, this paper offers a practical example of how digital tools can strengthen water

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infrastructure and improve public service. It is a story of how real-time data is turning into real-world impact.

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