Mapping the Way: Testing Methods to Map Water Points in Developing Countries

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WATER POINT MAPPING: AN IMPORTANT MONITORING TOOL

It has grown increasingly obvious that one of the major challenges with providing clean and sustainable drinking water to the developing world is not necessarily a question of the quality of the technology used to implement these improved water points, but the lack of successful long-term operations and maintenance. Water Point Mapping (WPM) is hailed for its ability to provide water point information, as well as improve efficiency and accountability in terms of water management.

PURPOSE

The purpose of this study is to provide a side-by-side comparison of existing mobile device applications in their uses as water mapping technologies. In order to achieve this, a customizable evaluation rubric was developed, which will allow organizations to make an informed decision on which technology best fits their needs.

TECHNOLOGIES TESTED: DataTap, Device Magic, Episurveyor, FLOW, openXdata

METHODOLOGY

70 water points in rural Nicaragua were surveyed over the course of 9 days. These points were chosen indiscriminately and included hand dug and drilled wells with both hand and automatic pumps, as well as spring catchments and electric, solar-electric, and gravity flow distribution systems.

RESULTS: EVALUATION RUBRIC

The purpose of the evaluation rubric is to:
1. Provide a comparison of existing mobile WPM technologies
2. Aid organizations in making a decision on which technology best fits their needs
3. Establish a set of parameters for developing and evaluating future technologies

EVALUATION RUBRIC: WEIGHTING AND CUSTOMIZABILITY

The following can be ranked from 1-5 based on its importance to the implementer:
1. Categories within a phase — these weights factor into the phase averages
2. Phases — these weights factor into the overall technology averages

DISCUSSION

The following obstacles were encountered frequently during the usage of the mobile phone technologies. The suggested solutions can be taken into account when developing future technologies.

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“An appalling 35-50% of [improved water and sanitation] systems in developing countries become inoperable five years after installation”

- USAID