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Akvo FLOW in Nepal: real time monitoring of WASH services

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Service delivery in sanitation has been accelerated with the formulation of National Sanitation and Hygiene Master Plan, 2011 by Government of Nepal that aims to achieve universal coverage by 2017. Functionality and sustainability are prime issues that emerge with a question mark in the sanitation promotion and also sprout issues of behaviour change of communities that have already been declared as Open Defecation Free (ODF) areas. The conventional paper based monitoring is sure to fail in coming up with real time data collection, hence leaving flaws for actual analysis and plans for ways forward. In such situation, mobile based data collection has come up as better option, which gives real time monitoring with Global Positioning System (GPS) reference, provides visualisation of collected data (see Photograph 1 on page 4). This helps in making real time decisions through intelligent analysis of data, which can be also viewed in the maps plotted through use of internet.

Background

Since the formulation of National Sanitation and Hygiene Master Plan, 2011 by Government of Nepal (GoN), there has been an overwhelming progress in the sanitation sector mainly, construction of sanitation facilities and declaration of Open Defecation Free (ODF) zones. This movement has brought every stakeholder working in the sector of sanitation into close coordination from the local level to regional and in the national level as well. Formation of coordination committees at different levels, linkage to other WASH actors in accelerating the sanitation movement and mobilization of communities following the ground of equity and inclusion has come into the picture of national WASH scenario. There are total 12 ODF Districts, out of 75 that include 1,111 Village Development Committees (VDCs) and Municipalities all around Nepal out of 3,915 VDCS and 58 municipalities.

Putting these achievements aside, it has also been important to take a pause and ponder upon actual impact and change in behaviour of the communities where these services have been delivered. The nation-wide approach of universal coverage in access to sanitation has somewhere left issues of functionality and sustainability unanswered. To check upon this, there is an urgent need of monitoring and analysis of how the services are being used by the communities. It is also necessary to check what changes the service delivery has brought in the community with respect to their socio-economic status. To monitor the quality and impact of service deliveries made in WASH, there has been no robust mechanism adopted. Since the coverage has gone nation-wide, there should be good monitoring in both output and outcome level. The output based monitoring has to focus on the increased access to water and sanitation facilities for each household level. It is also important to monitor whether technology are locally acceptable, affordable and user-friendly and should also ensure the quality of health and hygiene. The outcome monitoring has a longer span of focus in which the priority should shift from access to use of water and sanitation facilities by the communities. The use of water and sanitation facilities along with options for repair and maintenance, in case of breakdown of the facilities and change in the behaviour towards health and hygiene should be an integral part of outcome monitoring. The outcome monitoring should very well look into the functionality of services delivered to the communities during the time of intervention and also should bring out the measures that has been tried to ensure the sustainability of service deliveries. This makes the task even tedious demanding enormous human

resources and logistics. The paper based monitoring that has been used as the only tool till date will surely not bring up quality data leaving the analysis vague and difficulty in making decisions to plan way forward. Here comes in the introduction of Akvo FLOW, a mobile and web-based data collection and analytical tool that uses a mobile phone and an interactive dashboard in presence of internet service.

Akvo FLOW: a mobile application

Akvo FLOW (Field Level Operation Watch) is a tool built specially for development organizations to monitor and evaluate their project activities while working in diverse locations that are often remote or lacking reliable basic infrastructure. It is reliable technology that can be used to collect, manage, analyse and display geographically-referenced monitoring and evaluation data through the use of mobile phones and internet connectivity. It offers fast data collection, survey flexibility and analytical tools so that decisions can be made on good data and visual evidence.

FLOW works in a synchronized manner between a web based FLOW database server known as dashboard and an android based mobile phone with basic facilities of camera and smart GPS application. A survey with set of quantitative analytical questions is prepared in the dashboard, whose responses can be text, number, options with single or multiple choices, photograph, GPS location or even a bar code. After a survey is prepared in the dashboard (see Photograph 2 on page 4), the FLOW application known as field survey can be downloaded in the mobile phone, which is distributed by Akvo. The application in the mobile phone can fetch desired survey from the dashboard, which is distinguished by a unique survey ID. After the survey is downloaded in the mobile phone, data collection can be started and through its one click mechanism, all the data are transferred into the dashboard for report generation and analysis.

Akvo FLOW in Nepal

Taking a big leap from the conventional paper-based monitoring, Biogas Sector Partnership-Nepal (BSP-Nepal) first piloted FLOW in May 2012 to monitor technical and socio-economic impact of rainwater harvesting projects in Pachkhal VDC of Kavrepalanchowk district, Nepal. The process was supported by Akvo and RAIN Foundation – an International NGO from Netherlands.

Later in June 2013, the Akvo Asia Hub organized intensive 3 days' training to Nepal WASH Alliance (NWA) members on FLOW that proved to be the turning point for establishing FLOW as a data collection and monitoring tool in the sector of water, sanitation and hygiene. This training also had the representatives of Sector Efficiency Improvement Unit (SEIU) under the Ministry of Physical Planning & Works and Department of Water Supply & Sewerage (DWSS) from the government sector and HELVITAS from International Non-Government sector as an observer participant. Soon after this training, a FLOW task force was formed by Nepal WASH Alliance, which had representatives from Lumanti Support Group for Shelter (Lumanti), Environment and Public Health Organization (ENPHO), Nepal Water of Health (NEWAH), Bio-gas Sector Partnership–Nepal (BSP-N), and Sector Efficiency Improvement Unit (SEIU). This task force was given the responsibility of conducting trainings to their field level staffs about the use of FLOW in mobile phones and developing a field level user guide, which would explain the use of FLOW in mobile phones. In addition to this, the task force also is in charge of designing common survey forms for the Nepal WASH Alliance and providing support to each other whenever required.

The real time use of FLOW was conducted within the Nepal WASH Alliance in its outcome monitoring in November 2013 for the interventional projects of 2011-2012 and for and baseline data collection. Over 2800 household surveys were done by five different organizations of Nepal WASH Alliance and the effectiveness of FLOW was well tested during this period.

Table 1. Organisations using FLOW in Nepal			
Name of Organisation	**Used FLOW for**	**Municipality/VDC**	**Total Households**
LUMANTI	Outcome Monitoring	Kohalpur	1007
ENPHO	Outcome Monitoring	Birendranagar	145
NEWAH	Outcome Monitoring	Taanglichowk/Jaljala	1420
BSP	Outcome Monitoring	Daiji/Nigal Chula/Kupinde Daha	38
CCDN	Baseline Data	Harnamadi	218

Nepal WASH Alliance (NWA)

The Nepal WASH Alliance is a consortium of NGOs working in Nepal to aid implementation of collaborative actions on WASH issues. This consortium was formed in the year 2010 after the initiation of Dutch WASH Alliance (DWA) with an objective to implement five-year long WASH programme in Nepal in selected intervention areas. The Nepalese NGOs that have a bilateral agreement with a consortium member of Dutch WASH Alliance for implementation of projects can be a member of the steering committee of Nepal WASH Alliance. The Nepal WASH Alliance has nine local NGO partners: CCDN, BSP, ENPHO, INF, Lumanti, LWF, NEWAH, Sahakarmi Samaj and WASH-RCNN. The Nepal WASH Alliance partners have been implementing WASH programme in ten districts viz. Baglung, Banke, Dailekh, Dang, Gorkha, Kanchanpur, Makwanpur, Mugu, Salyan and Surkhet under Nepal WASH Alliance project.

The Nepal WASH Alliance aims to reduce poverty and improve health, environmental and economic conditions by empowering people and creating an enabling environment, for increased access to and use of WASH services with a focus on women and marginalized groups. Additionally, it focuses on creating accessible financing, appropriate WASH technologies, economic and income generating opportunities and capacitating civil society organisations as main facilitators and change agents.

The alliance believes WASH services only endure on the long term when we take into account the five sustainability areas of "FIETS": financial sustainability, institutional sustainability, environmental sustainability, technical sustainability and social sustainability.

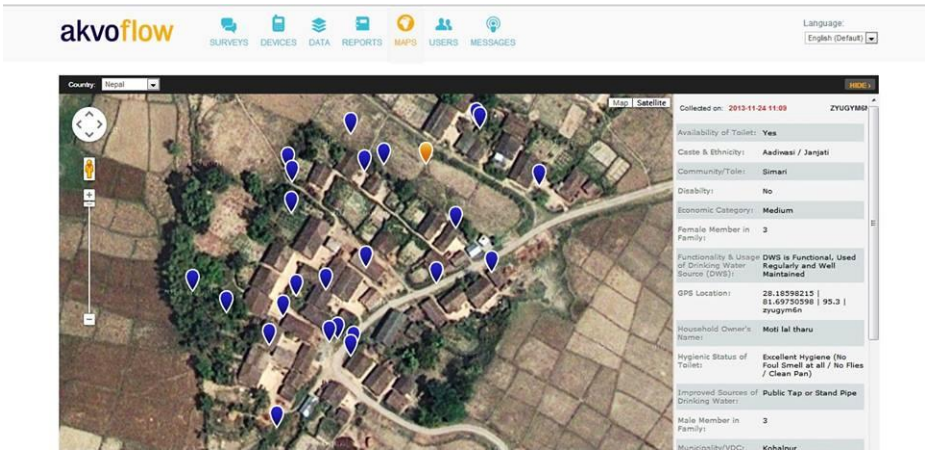
Scaling Up for FLOW in Nepal

Making a shift change from the conventional way of paper based data collection and monitoring system, 5 organizations from the Nepal WASH Alliance (NWA) viz. Lumanti Support Group for Shelter (Lumanti), Environmental and Public Health Organization (ENPHO), Nepal Water of Health (NEWAH), Bio-gas Sector Partnership–Nepal (BSP-N) and Centre for Community Development Nepal (CCDN) have used FLOW in the outcome monitoring and baseline collection of WASH projects supported by Dutch WASH Alliance. The outcome monitoring of household access to water and sanitation facilities along with their improvement in livelihood and baseline data collection of newly implemented projects was done using FLOW technology in the intervention areas of five members of Nepal WASH Alliance, which covered 2828 households. The total duration for this process took less than 2 weeks mobilising maximum of 4 enumerators from each organisation. Each enumerator was assigned with an android mobile phone through which the data collection was done and sent to the dashboard using internet connection (Wi-Fi or 3G) from the mobile phone. The data collection was real time in a way that at the end of each day collecting data, the details could be visualized in the google map along with the GPS location of each household. With the exciting results of data collection using FLOW in the monitoring, it has been taken ahead for the collection of baseline data by the Nepal WASH Alliance partner in their new project implementation areas.

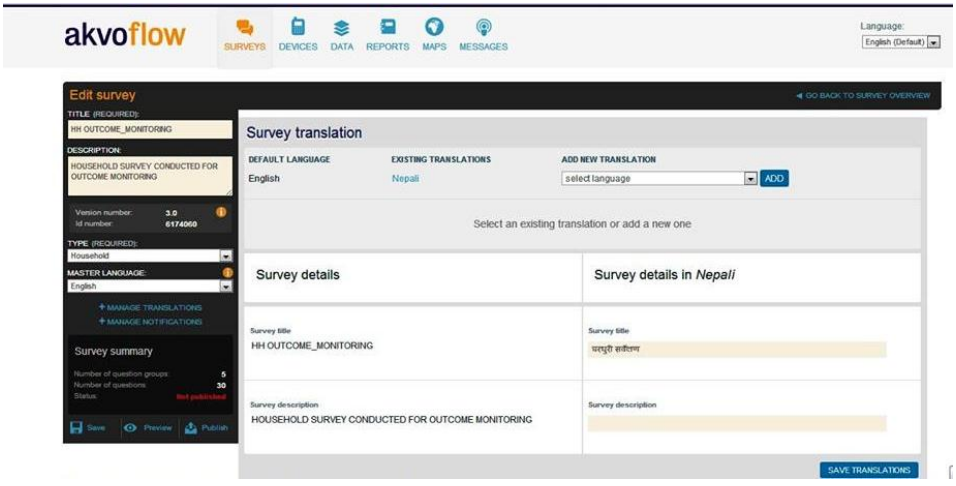
Besides, the Department of Water Supply and Sewerage (DWSS), Nepal has signed a Memorandum of Understanding with Akvo to use FLOW in monitoring its service and is planning to use it for the initial monitoring of 25 water facilities. When successful, this could be further up-scaled in 200 municipalities for monitoring. Similarly, the international non-government organisations are showing their keen interest to use FLOW in monitoring their services in regard to functionality and sustainability. Such news has surely increased hope of FLOW being institutionalised in Nepal for water, sanitation and hygiene programme.

Conclusion

With the advent of FLOW in the development sector of Nepal, now focused in the Water, Sanitation and Hygiene (WASH) sector, has possibilities of expanding into other sectors as well where a quality monitoring and evaluation can assist in planning better aspects of services to the community. This technology is modern, easy to use and marks accuracy and most importantly provides with real time data making the planners analyse and decide best options for the future. Interest being shown by the government and other development organisations in using FLOW as a monitoring tool has shown that it has been warmly welcomed in Nepal. This application can also be used for water and sanitation point mapping and to access the functionality of water supply and sanitation with limited resource and time. The application of this tool for the monitoring of WASH programme is really give meaningful and visible practical results within short time and resources.



Photograph 1. Google Map screen shot of data visualised in map with details



Photograph 2. Screen shot of a survey designed in flow dashboard

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Note

This paper is written to share the new online mobile application tool for monitoring and mapping of water and sanitation projects. This is a briefing paper based on the practical working experiences in Nepal for WASH programme monitoring and baseline study under Nepal WASH Alliance project. The co-author of this paper (Giri Raj Khatri) is currently working with SNV Netherlands Development Organisation based in Cambodia.

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