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Monitoring and evaluation system for rural water supply

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TOWARDS THE MILLENNIUM DEVELOPMENT GOALS

Monitoring and evaluation system for rural water supply

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Introduction / Background

PERFORMANCE MONITORING IS a key aspect of Programme implementation and operation the world over. It reveals functionality status, problems for rectification and defines the nature of support needed by various actors such as the WATSAN Committees, Operators, communities and Programme Staff.

The Volta Region Community Water and Sanitation Programme (VR-CWSP) started in 1993. The Programme is in the last phase of its implementation and so far 88 pipe schemes and 1,200 hand pumps have been constructed serving over 400,000 people. The programme has established WATSAN committees who are responsible for the management of the facilities in all communities where facilities have been provided.

Various attempts were made by different Units of VR-CWSP to implement a Performance Monitoring system. Initially, three (3) different formats were used to monitor the performance of installed water facilities and institutions. These were: i. WATSAN Committee Performance monitoring, ii. Handpump performance monitoring and iii. Pipe Scheme Performance monitoring. The WATSAN Committee Performance monitoring focused on the frequency of meetings, records of meetings, gender composition of the WATSAN Committee and the amount of money at bank. If the WATSAN Committee had a number of female members, met regularly, wrote minutes of meetings and had money on their bank account, they were considered to be doing well. However, findings showed that other crucial issues like sufficient savings for expected future expenses (NB. systems are still new so O&M costs are low presently), revenue collection efficiency, careful and well documented utilisation of money, proper financial accounting and transparency towards the community rather did not come under the searchlight.

The Handpump and the Pipe Scheme Performance Monitoring Forms focused on technical issues to a much greater details leading to a rather huge quantity of data to be collected and analysed.

The three formats were not easy to link up due to the large number of facilities and also because different Units under the Programme were responsible for the different monitoring formats.

A Monitoring, Operation and Maintenance (MOM) Unit was established by the Programme to deal with O&M issues for continuous functioning of facilities and institutions and to also streamline the Monitoring and Evaluation system of the Programme.

The Paper therefore describes the processes leading to the development, management and use of a single integrated Monitoring and Evaluation system for the Programme.

Background to the Identification of Performance Indicators

In order to avoid the common mistake of focusing monitoring on constructed hardware and established procedures rather than on problems that may affect the sustainability of the facility the MOM Unit initially visited a large number of communities (more than 50 communities) analysing in detail all aspects of community management and O&M of the facilities. The findings from these visits showed that the majority (more than 80%) of the problems experienced by the communities are of managerial and financial nature, while less than 20 % of the problems are of technical nature. This distribution is likely to change over time whereby the managerial and financial problems may decrease when applied procedures become cemented in the communities while technical problems may increase when the facilities become older.

The main O&M problems or situations which informed the formulation of the questions were as follows:

- Lack of appropriate tariff mechanism
- Insufficient savings towards future repairs and replacements.
- Low tariff collection efficiency.
- Misguided utilization of WATSAN money
- Incorrect and inconsistent financial record keeping.
- Absence of transparent Accounts rendering to the community to prevent mistrust and unnecessary suspicions.
- Lack of routine preventive maintenance of valve chambers, valves etc.
- Inadequate operation and maintenance of HRF and SSF treatment plants due to the lack of know-how on the part of the Caretakers/Operators.
- Inadequate awareness on how to control erosion around standpost and reservoirs.
- Inadequate knowledge on maintenance of catchments and intakes of gravity schemes.
- Poor sanitation around water points and lack of maintenance of soakaways.
- Inadequate awareness on the proper use of water facility by the beneficiary communities.

- Inaction on the part of WATSAN Committees with regards to broken down handpumps.
- Preventive maintenance schedule not adequately complied with by the caretakers especially on handpumps.

Based on the above understanding, relevant major performance indicators were defined. These were again sub-divided into sub-indicators as appropriate.

Performance Indicators

The basis of the monitoring is to estimate a community's overall O&M performance of a water facility. For this the following 4 main performance indicators are needed:

1. Management Performance
2. Operational Performance
3. Maintenance Performance
4. Hygienic Operation Performance

For each of these main indicators a number of sub-indicators were identified as follows:

For Management performance:

1. WATSAN meetings
2. Financial management
3. Revenue collection efficiency
4. Financial accounting
5. Transparency of the Committee to the community.

For Operational performance:

1. Quantity of water sufficient?
2. Use of alternative sources
3. Quality of water acceptable?

For Maintenance performance:

1. Platform maintenance
2. Valve/Meter maintenance
3. Handpump maintenance

Development of Monitoring Forms

For each sub performance indicator simple and unequivocal questions were carefully designed that would accurately capture or contribute to the capturing of the community's performance in regard to the said indicator

Most of the specific questions in the monitoring forms are yes/no questions that are easy to fill in by the monitoring person and limit the subjectivity of the answer. Further, most of the questions must be answered by the person who administer the form based on what he/she observes rather than from the answer given by the WATSAN members that are interviewed (e.g. "Are account book up to date?" must be answered based on a review of existing books).

Efforts were made to limit the number of questions and only to include questions that are needed for assessing the individual performance indicators. "Nice to know" questions were eliminated leaving only "Need to know" questions in the monitoring forms.

After the development of the Monitoring forms these were field-tested in two stages:

- First some key field staffs were invited to administer the monitoring forms in some communities, after which each question in the form was thoroughly discussed as to the understanding of the question both by the persons administering the forms and by the communities, and to the relevance and adequacy of the question. Based on this discussions changes in formulations and additions/ omissions of questions were agreed upon.
- Secondly, during a training of all of the Programme's 72 field workers the monitoring form was field tested in such a way that a number of communities were monitored using the monitoring form by different groups of field workers at different times. The answers were then compared and all questions that were answered differently by different groups were brought up for discussion. Formulations of the questions were again adjusted whereby a common understanding could be reached.

Administration of the Monitoring Form

The Monitoring form is designed in such a way that it can be applied to all the approximately 1,000 communities where the Programme has provided some kind of water facility (piped water or hand pump).

The monitoring form is administered in all the communities on a quarterly basis. Assuming that all our 72 field workers can share the communities equally, each field worker must administer the form in 14 communities once every quarter.

Due to the design of the monitoring form, where all the questions in reality originate from and are to reflect problems frequently occurring in the communities, the form can conveniently be used as a checklist for the fieldworkers wherefore they must educate the communities for better performance. From the beginning it was stressed to the field workers that they should not only fill in the monitoring form without reflecting on the answers obtained. Rather, they should apply a pro-active approach where during the administration of the monitoring form, they should discuss with the communities all areas where they are doing wrong and how they can improve on their performance for improved sustainability of their facilities.

This proactive approach turned out to be difficult for the field workers to adopt primarily because they are all health workers and thus have limited knowledge to community management and O&M of water facilities. For that reason an activity involving individual coaching of all field workers during the administration of the monitoring form in two of their communities, were carried out.

Data processing / Reporting

The data collected in the field based on the administration of the monitoring form are subsequently entered into a database system using the Microsoft Access platform.

The different indicators are given different weights depending on the estimated importance (e.g. the Management Performance is given significantly higher weight than the Hygienic Performance) and likewise the questions are given different weights for their contribution to the performance indicators. These weights are all programmed into the computer database for all communities out of which the machine will automatically calculate the Overall O&M Performance, the various Main Performance Indicators and the different Sub-Performance Indicators.

Based on the performance values of the individual communities, various report formats have been developed that can be printed out for any defined set of data. The following monitoring reports have been developed in graphical and table forms:

- Reports that illustrate and compare the different main performance indicators at District, zonal and community levels;
- Reports that illustrate and compare the different sub-performance indicators at District, zonal and community levels;
- Reports that compare the performance of communities that have been provided with different technology options;
- Reports that illustrate the development over time of the different performance indicators at District, zonal and community level;
- Reports that list data sets and individual data that have not been entered (QA purposes); and
- Reports that list data sets that have changed significantly since last monitoring round (QA purposes).

QA procedures

Different strategies and levels of Quality Assurance and Quality control are applied to the system. These are:

- District level QA. The formal QA Procedures outlining certain steps to be taken and forms to be filled at District level. These forms are kept in a QA folder in the District whereby a QA visit at any time can assess whether correct procedures have been applied. The steps include an assessment of datasets that have changed significantly since last monitoring round and additional check monitoring of randomly selected communities.
- Regional/National level QA. Every quarter, after data entry and data exchange, 3 communities are randomly selected from each District and the data from the last 4 monitoring round for the selected communities are abstracted from the database. All data that looks unrealistic or unreliable are highlighted and discussed with the District.
- Intensive QA activities. The coaching of the field workers (see section Administration of Monitoring Form), also represents an intensive QA activity. During the coaching the data from the last monitoring form administered in the community are compared with what is observed now.

Usefulness of the M&E System

District-based O&M Action Planning:

The monitoring reports provide a good basis for the development of O&M Action Plans in each of the twelve Districts in the Volta Region. This plan is drawn around the framework of Problem identification and grouping into focus areas, target setting for the various focus areas alongside specific activities that could be employed to achieve the defined targets.

More specifically, performance levels of various indicators and sub-indicators are contained in the monitoring reports. These are used in the planning session to set realistic and measurable targets for the next quarter. The subsequent quarters monitoring reports can then be used to assess whether the set targets have been achieved.

This Action Planning session is a more direct way of using the monitoring reports to focus the works of the Districts to improve the existing conditions of sustainability.

Programme Reports

With this comprehensive M&E system, it becomes easy to determine the functionality status of the water facilities and institutions established by the Programme. It gives a quick overview of the state of Programme facilities and institutions from the community, District and Regional perspectives. By this, different Performances can be compared among Districts or among communities. It can also tell which Field staffs are hard-working and which Districts are more receptive to change.

Above all the M&E system provides an objective measure of assessing the functionality of the systems at the communities and Districts.

SOLEY and THOGERSEN.
