WaterAid

Stages of hygiene monitoring

An operational experience from Nepal

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This retrospective operational experience paper reports on experiences from Nepal on monitoring of different stages of hygiene programme at various projects in the field during the period of January 2007 to March 2009.

WaterAid/ Marco Betti

Photo caption:
Boy, Ashok Kumar Sahani, washing hands with Sangita Sahani at Arunodaya Primary school on the outskirts of Biratnagar in the Terai region

Abstract

Hygiene promotion is fundamental to the success of Water, Sanitation and Hygiene (WASH) interventions. To maximize health benefits and produce evidence of the reduction of WASH associated diseases, an effective monitoring system and framework for the different WASH stages is crucial. This paper reports on operational experiences from monitoring of various projects in the field during the period of January 2007 to March 2009. **Rapid-assessment** provides for a quick appraisal of expected project areas and is also instrumental for gathering and identifying high-risk behaviours and areas. A **Baseline** is crucial for describing the status and trends of the existing situation, against which predicted changes can be compared and evaluated, and actual change can be realized by monitoring. **Progress Monitoring** is instrumental to tracking changes in people's knowledge, attitude, and behaviour after programme implementation, and helps to initiate necessary actions for further improvements using the **Rapid Convenient Survey** tool. The **Community based monitoring** system is used by the community members themselves to self-monitor their hygiene behaviour change. **Impact-assessment** is important for measuring the success of the hygiene

promotion against the baseline. Finally, **Long term sustainability monitoring** explores the potential of hygienic behaviour, institutional mechanisms and availability of water and sanitation facilities to sustain the outcomes and impact of hygiene programme. A systematic monitoring mechanism for the different stages is imperative, and monitoring indicators applied from baseline to impact assessment should be consistent and coherent. Full-phase monitoring of hygiene practices with backup by programme is the only evidence-based means to show the attributable contribution from WASH for reducing associated diseases and improving health status.

Background

Improvement of water, sanitation and hygiene promotion provides an array of benefits for people's well-being, particularly the poor and marginalized. Improved sanitation and promotion of hygienic behaviour reduce health risks, and eventually contribute to the socio-onomic development of the nation. The Government of Nepal has acknowledged the importance of the health and well-being of its people and has set a goal of providing access to safe drinking water and basic sanitation facilities for all by year 2017. Ninety percent of urban households and 80% of rural households have access to a source of drinking water, and 46% have access to improved sanitation facilities in Nepal (NDHS, 2006). The growth trend of water coverage (46% in 1990 and 82% in 2006) and the increase in sanitation achievements (6% in 1990 and 46% in 2006) indicate that Nepal is progressing toward its MDG target. Nonetheless, achievement of universal coverage is still in question. It is obvious that to reduce infant and child mortality, improve quality of life, and reduce poverty, greater efforts and investment are needed to increase safe water, affordable hygienic sanitation, and adequate hygiene promotion. Nepal has made significant progress in reducing the child mortality rate (162 in 1990 to 61 per 1,000 live births in 2006) as per NDHS, 2006; however, basic indicators of better health, such as hygiene and sanitation, are still in a critical state in Nepal. Among WASH associated diseases, skin diseases, Acute Respiratory Infections (ARI), and diarrhoeal diseases are the top three leading preventable diseases reported in Nepal. WaterAid in Nepal highlighted during the year 2009 through various reports that, ARI and diarrhoeal diseases remain the leading causes of child deaths (10,500 diarrhoeal deaths among children under 5 years of age and younger per year) in Nepal.

Hygiene promotion is widely acknowledged as one of the most cost-effective public health interventions. The investment in hygiene promotion, together with sanitation and water, increases health impact. A study by Curtis (2003) found that the simple act of hand washing with soap could reduce the risk of diarrhoeal disease by 42-45%, and interventions that promote hand washing 'might save a million lives'. Evidence is now also mounting that hand washing can significantly reduce the other 'major killer of the developing world' including ARI (Luby, 2002/03). Statistics from a national study indicate that in rural areas of Nepal, 37% of people wash their hands with water only, and only 12% use soap (Will, 2008). Research study findings from Nepal produced by Johns Hopkins Bloomberg

School of Public Health in 2008 indicate that hand washing also saves newborn lives; the study indicated a 19% lower risk of death among newborns at home in rural Nepal when birth attendants washed their hands before delivery and a 44% reduction in risk of death if mothers washed their hands prior to handling their newborn infant. Although hygiene promotion and its adoption by local people significantly improves human health, in contrast to water supply or sanitation, associated targets for addressing hygiene awareness have not been set at the national level in Nepal in the WASH sector (Taylor et al, 2005).

The hygiene component is barely visible within WASH initiatives in the sector. It is often suppressed by technology and finance driven approaches. Involvement and investment in hygiene is significantly low due to its low priority as a sector. Hygiene investments are perceived to be risky because hygiene depends on what local people know, do and want to change in personal behaviour, which is often considered to be beyond the control of service providers. To remedy this situation, WaterAid Nepal (WAN) is increasingly prioritizing hygiene promotion together with water and sanitation in its overall WASH sector development initiatives. Hygiene encompasses personal, domestic, and environmental hygiene practices and any action or initiative taken to erect barriers to disease. Hygiene promotion includes strategies that encourage or facilitate a process whereby people assess, make considered choices, demand, effect, and sustain hygienic and healthy behaviours. Ultimately, behaviour change is the major focus of hygiene promotion. WaterAid Nepal and its partners promote hygiene interventions focusing on high-risk behaviour and the prevalence of WASH related diseases as identified through different assessments. Hygiene issues are addressed through a wide range of promotional activities, tools and methods including cluster education, hygiene promotion campaigns, focus group discussions, community health awareness and camps, information, education and communication (IEC) materials distributions, wall painting, tole rally, video-show, street drama, school health education programme, child health clubs and mothers group mobilization, household health and hygiene education and counselling. All hygiene promotion elements need to be monitored and should be in line with the expected outcomes of the hygiene promotion initiatives. Similarly, hygiene promotion is fundamental to the successful impact of WASH interventions. In order to maximize the health benefits and produce evidence of the reduction of WASH associated diseases, an effective monitoring and framework for the different stages is crucial.

Since the hygiene programme is being implemented through partners in different geographical locations, the procedures adopted by the partners and how they relate to WAN's broader policy and approaches on hygiene promotion need to be monitored. Although the procedures adopted for implementing the activities will necessarily vary from project to project and area to area depending upon local circumstances and need, all procedures need to be guided by certain principles, strategies and tools. In order to show the operational progress as well as the hygiene programme impact on people's

behaviours, WAN initiated consolidated hygiene monitoring tools based on the operational learning from the field. This will guide WAN, its partners and wider stakeholders in monitoring hygiene promotion programmes. Monitoring hygiene promotion initiatives ranges from planning through outcome, impact, and sustainability measurement. It is more complex than simply monitoring water and sanitation facilities, and it usually requires multiple approaches, techniques, methods, and tools, including triangulation to assure the results. Monitoring can be done at various levels including inputs, outputs, outcomes, and impact levels. In light of these complexities, WaterAid Nepal, tried to gather the operational experiences from various projects in the field to frame the different stages of hygiene monitoring in a way that reflects the visible impact of the hygiene programme.

Objectives

The overall objective of this paper is to share operational experiences related to the use of different levels of consistent and coherent monitoring tools for hygiene promotion. The specific objectives are as follows:

- to consolidate the overall hygiene monitoring tools and define different stages of monitoring
- to draw operational learning from each stage while monitoring hygiene
- to promote consistent and coherent hygiene monitoring tools in WASH sector.

Methodologies

WAN has been implementing a water, sanitation and hygiene improvement programme in both rural and urban Nepal. The WASH related programme activities in rural and urban areas are being implemented through its five implementing partners, Nepal Water for Health (NEWAH), Lumanti (support Group for Shelter), Environment and Public Health Organization (ENPHO), Urban Environment and Management Society (UEMS) and the Centre for Integrated Urban Development (CIUD), as one of the major components of their programme. WAN has produced this paper in order to establish effective hygiene monitoring mechanisms among the partners and to use defined and comprehensive tools,. This is a practice paper from the country WASH programme of Nepal for the period of January 2007 to March 2009. It reflects the practical experiences of hygiene monitoring both in implementation of the hygiene promotion programme, as well as its outcomes and impact monitoring at different stages. A retrospective analysis was done to draw out the lessons. The methodology adopted to produce this paper varies across the different stages of hygiene monitoring. Learning was drawn from the various projects; hence a brief methodology is included in each of the following hygiene monitoring stages. Stage 1 and 2 are considered prerequisites for situation monitoring that occurs in stages 3 to 6 and are essential to the monitoring of any change as follows:

- Stage-1: Rapid assessment,
- Stage-2: Baseline monitoring,
- Stage-3: Progress monitoring using different tools including Rapid Convenient Survey (RCS),
- Stage-4: Community based monitoring,
- Stage-5: Impact monitoring, and
- Stage-6: Long term sustainability monitoring.

The process of developing the data collection tools and comparing different aspects of hygiene against baseline data has yielded several lessons. Some indicators have been defined based on our knowledge of hygiene and some indicators have been added based on field learning. Generally, indicators were used to measure whether or not a project achieved defined objectives. Both qualitative and quantitative indicators were used to ensure the relevancy of the monitoring tools. Table 1 below identifies indicators used to ensure consistent hygiene monitoring at different stages (stage 2 to 6).

Table 1. Monitoring key indicators (Essential indicators for monitoring hygiene promotion)

Hygiene Areas	Key indicators (Outcomes and Impact level)
Personal hygiene	▪ % of respondents (especially women and children) who can communicate the critical times for hand washing when asked ▪ % of respondents practiced washing hands with soap or ash by all family members of household in at least three critical times. ▪ % of children (< 5yrs) whose faeces are disposed in a hygienic manner ▪ % of adolescent girls practicing appropriate menstrual hygiene
Domestic Hygiene	▪ % of households that reported adoption of at least three key hygiene measures. ▪ % of households (HH) with knowledge and practice of proper food hygiene ▪ % of households that reported hygienic handling and consumption of safe water ▪ % of households that reported hygienic use and maintenance of latrines by all
Community hygiene	▪ % of HH with either an appropriate solid waste disposal or waste water disposal system ▪ % of HH that actively participated in community cleaning campaign ▪ % of households that adequately demonstrated the process of preparing Oral Re-hydrations Solution (ORS) ▪ Proportion of households / institutions that participated in hygiene protion weekly campaigns / events (community cleaning, quiz, weekly campaign).
Visible impact of hygiene promotion	▪ % of households that reported reduction in the point prevalence rate of diarrhoea, skin diseases, trachoma, typhoid diseases in the targeted areas by XX% respectively with respect to the baseline status as appropriate. ▪ % of trained hygiene promoters that remained active in the Village Dev. Committee /Municipality ▪ % of trained hygiene volunteers that remained active in the Village Dev. Committee/Municipality ▪ % of projects with established coordination with local health institutions for hygiene promotion

WAN takes primary steps to monitor the hygiene behaviour status within the country and to broadly understand the effectiveness and efficacy of the hygiene programme. Table 2 identifies the different stages of WAN's hygiene monitoring using various tools.

Table 2. Monitoring stages and tools

Monitoring stages	Tools
Stage-1: Rapid Assessment	Field observation and assessment checklist, key stakeholders assessment checklist
Stage-2: Baseline Monitoring	Household questionnaires survey, key informant checklist, secondary information collection checklist, community mapping, checklist to conduct focus group discussions (FGDs) and observations.
Stage-3: Progress Monitoring	Pre test and post test for immediate progress monitoring, review of documents, monitoring checklist, Rapid Convenient Survey (RCS), Checklist to conduct focus group discussions (FGDs) and observations.
Stage-4: Community based monitoring	Field observations and or observation checklist, household interview checklist, focus group discussions, use of symbols
Stage-5: Impact monitoring	Questionnaires survey in the form of exploratory study / operational study / impact study, key informants checklist, field observation and or observation checklist, secondary information collection checklist
Stage-6: Sustainability monitoring	Sustainability monitoring procedures and tools, criteria and factors, sustainability ranking.

Operational experiences from each monitoring stage

1. Rapid assessment

Before selection of the project sites, an identifie d team including a health and hygiene focal person visits the project site to observe the location and to understand the general health and hygiene situation of the community. This assessment is done in a holistic manner that includes consideration of hygiene, water and sanitation. The rapid assessment visit ensures the feasibility of the programme in the project area. Coordination with different key community stakeholders is an essential part of this visit, which certainly helps to build rapport with them. During the assessment different formal and informal meetings are held with government and non-governmental organizations working in the field of health, including local health institutions, VDCs and municipalities, the district (public) health office, the district development coordination office, community based organizations, and non-governmental organizations. These meetings help to establish linkages and identify areas for future collaboration to implement the programme. Rapid assessment is instrumental to setting some of the preliminary key objectives and indicators. Findings obtained from the assessment are the basis upon which the project concept is drafted and developed. This assessment allows partners to identify and prioritize the high-risk diseases associated with WASH from secondary information obtained from health institutions. For the most part, rapid assessment is conducted using a defined and valid checklist, which ensures that all relevant information is gathered and analyzed effectively. Before producing detailed project plans, all WAN service delivery partner organizations perform a rapid assessment. The key hygiene related elements that are monitored while doing rapid assessments using various tools and methods are:

- epidemic of WASH associated diseases (diarrhoea / cholera, typhoid, hepatitis, scabies, trachoma etc),
- open defecation close to unprotected water sources or in the surrounding environment,
- excreta and sewage in open drainage, uncollected garbage, etc.,
- information on other social determinants from secondary sources,
- personal hygiene practice through observation and secondary information,
- presence of sector and cross-sector stakeholders to promote hygiene education.

Table 3 identifies the tools used while collecting the above information during rapid assessment.

Table 3. Rapid assessment tools and methods / process

Tools	Methods / Process
Field observation	Walk through, random sampling of targeted areas, purposive inspections of the most vulnerable areas and a few households too
Assessment checklist	Standard checklist to collect health and hygiene information (through secondary information source), questionnaires of an open ended nature, formal and informal discussions, documents, reports, chart reviews
Key stakeholders assessment checklist	Purposive sampling, group and or individual discussions among sector and cross sector stakeholders using guiding checklist

Based upon experiences gained, the following are the key findings related to Rapid Assessment:

- The assessment checklist and or guiding checklist need to be more concise and specific in order to capture the essential information within limited time period.
- Rapid Assessment provides the appropriate basis to design projects, and to formulate and design hygiene education and promotion programmes and activities.
- Rapid Assessment provides in-depth information on sector and cross-sector stakeholders working in the field of hygiene promotion.
- Rapid Assessment provides a general overview of disease patterns, ideas about the hygienic environment of the working areas, and initial insight into the personal hygiene of the people in the community.
- Based on the secondary information on disease patterns, if proper mapping is done, rapid assessment can be instrumental to identifying high risk areas.

2. Baseline monitoring

Baseline refers to the collection of background information on hygienic practices and socio-demographic settings of proposed project areas. Determination of a baseline allows for detection of actual change once a project has been initiated. It provides a description of the status and trends of existing situations against which predicted changes can be compared, monitored and evaluated in terms of importance. In many cases, baseline information for hygiene promotion is gathered together with information on water and sanitation, and an identified focal person from health and hygiene promotion and sanitation is responsible for gathering and compiling the information related to hygiene. In the collection of baseline information, community involvement has been found to be crucial. It empowers and facilitates community members to identify their own problems and needs, to find out the solutions for meeting them, and to capture the real background information. Through various methods and procedures, information is gathered related to the following: existing health; hygiene practices (personal, domestic & community hygiene); problems related to WASH including associated diseases and their mitigation practices; community people's level of awareness and understanding; socio-demographic and economic factors and status; and factors influencing behaviour change. All baseline information requires segregation by social characteristics including socio-economic, geography, gender, education, occupation, ethnicity, illness, disability and relevant excluded groups. The baseline findings are a monitoring tool to support future assessments of the impact of the project activities in the selected areas. The baseline findings are also a programme planning and resource allocation tool.

WaterAid Nepal regularly emphasizes to its partners the need to gather and monitor baseline information. NEWAH, a rural partner NGO of WaterAid Nepal, has long standing experience in gathering baseline information. The urban partners (Lomenta, ENPHO, UMES, CIUD) gradually started gathering baseline information for health and hygiene. Once gathered baseline information is transferred in the form of different analytical reports. Table 4 presents recommended tools and methods for gathering baseline information.

Table 4. Baseline monitoring tools and methods / process

Tools	Methods / Process
Household questionnaire survey	Random sampling/stratified sampling/other sampling as appropriate; use of closed and open ended questionnaires; interview with household head, preferably women
Key informant checklist	Purposive sampling, guiding checklist to collect relevant information
Secondary information collection checklist	Purposive sampling, guiding checklist to collect other relevant information from reports, guidelines from any other organizations etc.
Community mapping	Mapping based on high risk behaviours and burden of diseases
Checklist to conduct focus group discussions (Fads) and observations	Purposive sampling for certain group's for focus group discussions, checklist for field verifications and household observations

The reflections of baseline information in the form of documents/reports vary across the WAN partners in Nepal. For water, sanitation, hygiene and other information, few WAN partners make baseline information in the form of a "Water, Environmental Sanitation Improvement Plan (WESI)" and "Water Use Master Plan (WUMP)", and most have yet to produce baseline reports. Within the assessment period, this report analyzed the various baseline information collection system tools and procedures adopted by partners with the assistance of WaterAid Nepal. Since the baseline is one of the crucial elements of a project or programme, a systematic approach to conducting baselines is needed. In order to accomplish this, the baseline is designed in four phases including I) designing phase, ii) implementation phase, iii) data entry and analysis phase, and, iv) report writing phase. A phased approach to the baseline information collection system itself allows partners to monitor progress against each phase, and to complete the task on time in a systematic manner.

Each phase has value. The **designing phase** is comprised of identification of hygiene problems; decisions on use of tools/methods; identification of major variables or indicators; decision on instruments (questionnaires or checklist etc); decision on timing, sampling strategy, finalization of the instruments, and field test; and training of data collectors. The **implementation phase** includes interviews

and/or discussions with individuals, group or focus group discussions, discussions with stakeholders, field visits, observations, and mapping along with photographs/videos, case studies, and review and/or assessment of secondary information (reports, cards, guidelines etc). The next important phase is **data entry and analysis**, which includes checking for consistency and validity and scientific storage of the data. Most of the WaterAid Nepal partners analyzed data either in Microsoft Access and or in Excel based data sheet. After proper entry, data was transformed into information in the form of tables, charts, and graphs as per defined variables or indicators. The **report** stage is the last stage, during which the data is represented in the form of a report that describes the overall hygiene scenario of the project / programme areas. The suggested outline of the report is: background, methodology and sample used, instruments used, implementation procedures, data analysis, and analytical report based on defined variables and indicators. The key lessons derived from the experiences and retrospective analysis related to baseline are:

- Baseline is instrumental to showing progress against the actual scenario at the beginning, particularly with regard to the behaviour change aspect. It helps demonstrate the change effects.
- Identification of key variables or indicators is essential to development of the baseline. Similarly, monitoring selected indicators provides directives for the design of the hygiene programme.
- While conducting the baseline, the temptation is to measure / collect a variety of interesting information, but large scale baseline ends up being very expensive and generates unnecessary information. Small scale baseline is similarly problematic because, though very cost effective, the small scope of information gathered ends up being insufficient to support comparisons of the result in later stages. To be effective, the baseline should be kept simple yet informative.
- Unlike water and sanitation, hygiene practices are very difficult to measure, and multiple instrumental tools are needed to capture relevant information.
- Within the project areas, it is ideal to collect information from each household. This is often impossible due to cost and resource issues, so scientific sampling methods need to be applied.
- Proper recording of baseline information and its interpretation is very essential.
- The baseline report needs to be simple, clear and relevant. The report should include both quantitative and qualitative information. Although analyzing and documenting qualitative information presents challenges, it is worthwhile because it demonstrates the emic (inside view of respective personnel) view of respondents as well as the project as a whole.

3. Progress monitoring

Progress monitoring of the hygiene promotion programme is essential to improve ongoing performance. Monitoring hygiene promotion interventions and their outcome is a difficult job, which requires multiple techniques, methods, and tools. WAN started hygiene progress monitoring since its inception when it recognized the need for comprehensive hygiene monitoring initiatives. WAN

developed various monitoring tools. and health and sanitation staff or independent practitioners from the central, regional and local level are responsible for monitoring hygiene on a weekly, monthly, quarterly and annual basis as appropriate.

As a result of operational experiences within this period, WAN realized that it is always wise to set progress monitoring objectives before starting monitoring visits. Before starting the progress monitoring, the responsible team or persons need to have a clear understanding of the objectives.

Progress monitoring is being practiced using participatory monitoring processes. This emphasizes the process of individual and collective learning and capacity development to increase awareness and consciousness about strengths, weaknesses, social realities, and varying degrees of participation from different types of stakeholders with a process of negotiation between people's different needs and expectations. It is adapted to the specific circumstances and needs of the local project, and provides immediate feedback for the improvement of the programme. Table 5 presents the tools used and recommended for progress monitoring.

Table 5. Progress monitoring tools and methods / process

Tools	Methods / Process
Pre test and post test for immediate monitoring	Questionnaires, case studies, pictures / photos
Review of documents	Purposive selection of planning documents to review the progress against plan (including MoU, project plan, WESI, WUMP etc). Random selection of IEC, guidelines, hygiene messages to identify the technical aspects of hygiene promotion
Monitoring checklist	Purposive sampling and or random sampling. Discussion with local partners and staffs, field & household visit, discussions with users committee, discussions with stakeholders, discussions with users, observations
Rapid Convenient Survey (RCS)	20 household surveys in clusters, random and or stratified sampling to select survey areas, use of defined checklist, data analysis in a defined Excel based data sheet.
Checklist to conduct focus group discussions (FGDs) and observations	Purposive sampling for certain group's for FGDs, checklist for field verifications and household observations

In hygiene progress monitoring two aspects were monitored – the immediate aspects of hygiene promotion efforts and their effectiveness in changing people's hygiene behaviours. Hygiene promotion efforts were assessed based on the following elements: whether hygiene education had been conducted, whether and how the education was tailored to needs and findings from baseline, the number of sessions/meetings held, the results of these sessions/meetings (pre

and post test), the number of people who attended the hygiene promotion awareness programme, demographic information on participants (male/female/girls/boys/disabled persons, marginalized people etc.) before starting the progress monitoring, distribution of educational materials (types, of materials, manner of distribution and recipients), number of hygiene promotional events organized, number of weekly events celebrated, etc. Since hygiene programmes are broadly designed to change human behaviours; progress monitoring was also designed to measure the progress in changing peoples' practices. In order to measure this progress, WaterAid Nepal designed the **Rapid Convenient Survey (RCS)** tool in late 2008. The RCS was piloted by all urban and rural service delivery partners. The RCS monitoring tool was used to monitor change in people's knowledge, practices and behaviour; and to identify reductions in disease prevalence rates. The RCS tool can be quickly deployed in 20 households of the project cluster by administering objective types of questions. Information obtained from the field can easily be entered in an RCS spreadsheet, which automatically generates results in graphic form. The overall outcomes of the hygiene programme's progress can be further mapped to see the high risk areas and prioritize areas for further hygiene promotion. As an example of the outcomes of the RCS, the findings from the ongoing project areas implemented by the WAN rural partner in Sirise, Udayapur and by the urban partner in Biratnagar Municipality are summarized as follows:

The overall hygiene performance of the targeted communities was 84% in rural areas and 66% in urban areas. The reported practice of hand washing with cleaning agents during critical times was 90% in rural areas and 87% in urban areas. The reported coverage of hygienic use of latrines by all in rural areas was 100% and was 74% in urban areas. The safe disposal practices of children's excreta were 60% in rural areas and 69% in urban areas. The adequate personal hygiene practice was 90% in rural areas and 73% in urban areas. The safe use of drinking water in was 57% in rural areas and 46% in urban areas. The proper management of solid and liquid waste was 92% in rural areas in contrast to 42% in urban areas. The reported practice of proper food hygiene in rural areas was 100%, and in urban areas the practice was 95%. The point prevalence rate of diarrhoea by HH was 10% in rural areas. In urban areas this rate was 28% (in reduction trend).

The key lessons to emerge from the retrospective analysis with regard to progress monitoring are:

- Progress monitoring is the cornerstone for deriving information about immediate progress against inputs provided and can provide immediate feedback for better programme management.
- The use of appropriate instruments and methods to monitor hygiene behaviour is important and requires development of a concise but informative monitoring checklist, For process monitoring, the activity outputs can be monitored, but an appropriate sampling is necessary to monitor outcomes.
- Hygiene practices are very difficult to measure; hence multiple tools are needed to capture all relevant information. RCS tools designed by WaterAid Nepal turned out to be

effective tools for monitoring hygiene behaviour.

- Proper recording of baseline information and its comparison with the existing performance is central to progress monitoring.
- The monitoring reports need to be brief, to the point, and supportive. Reports should include quantitative as well as qualitative information, including photos etc.

4. Community based monitoring

Community Based Monitoring (CBM) is focused on participatory monitoring, and this underpins the process of individual and collective learning. During the course of delivering hygiene promotion and education activities with the assistance from WAN, partner's organizations developed CBM for monitoring the effectiveness of the hygiene programme.

Community involvement is premised on participation of people for their ownership in the programme, and on community based activities that help people become aware of the need for sustained hygiene behaviour practices. Based on this principle, partners adopted different means to measure progress after the delivery of the hygiene education and promotion programme. This includes measuring levels of participation (in terms of population, ethnic groups, gender age etc.), understanding, and adoption (practicing). CBM was recently developed by WAN and its partners. It has been adopted gradually for monitoring the effectiveness of the programme by regularly assessing hygiene related behavioural practices. The monitoring focuses on the following key areas for reduction in the prevalence of the diseases related to water and sanitation: i) hand washing in critical times, ii) management of human excreta, iii) hygienic use of water through safe storage and practices of Point of Use (PoU) treatment options at HH level, iv) personal hygiene including safe food hygiene practices, and v) Household and environmental hygiene including solid waste management.

Table 6. Community based monitoring tools and methods / process

Tools	Methods / Process
Field observation and or observation checklist	Random sampling of targeted areas, walk through, inspection of most vulnerable areas
Household interview checklist	Random sampling of HHs, group as well as individual interview
Focus Group Discussion	Area/ward/cluster (community) group discussions and,key informant discussions
Use of Symbols	Tagging vulnerable area using warning boards for further improvement

While piloting the CBM concept, which places the community at the central thrust of the entire process, WAN's partners use CBM tools to collect information through the different means and tools presented in the table below. Partners have practiced CBM that is based upon the signs of well-being table, the activity monitoring table, and the output observation table for behaviour/practice change; and have included the following core set of tools at different points in time:

Partners who had adopted their own different means of community based monitoring before CBM was in place, now develop uniform and consistent CBM tools in urban and rural contexts with WAN's support. All of the WAN partners have piloted the CBM concept, and they have put these tools into use for monitoring hygiene education programmes. Partners' initial reflections on their field based observations and experiences, indicated that the use of these CBM concepts and the piloted tools helped them to initiate hygiene awareness and education programmes with relative ease when compared to their past experiences. The following are the key lessons from CBM:

- CBM helped the users committee and users themselves assess, measure and rank the outputs and outcomes of the hygiene education and promotion programme based on improvement and sustained practices of hygiene behaviour.
- CBM makes it possible to identify strengths and weaknesses that require further continuity and improvement to ensure improved hygiene behaviour practices and their sustainability.
- CBM, from its initial phase of piloting, helped to ensure transparency, accountability, responsiveness, ownership and competitiveness, as multiple actors are involved in this type of initiative at least at the community level.
- CBM provides the appropriate basis and evidences necessary to bring insights and issues for sustained and improved hygiene behavioural practices amongst the communities up for debate at the local and national levels.

5. Impact monitoring

Immediate evaluation of the programme upon completion does not allow sufficient time to measure impact. Therefore, it is necessary to carry out an impact study after a few (two-three) years when the follow-up phase is also completed. Impact assessment can be done based on the indicators set or agreed upon while designing the projects determined through baseline monitoring. Changes in people's behaviour impacts disease rates and the overall reduction in the prevalence rate of the WASH associated diseases (waterborne, water-washed and water-based diseases) can be measured during the impact study as compared to baseline study / findings, Concerned partner organizations or WaterAid Nepal itself independently conducted the impact assessment study in the areas where the project was implemented. While conducting the impact study, outcome level indicators were monitored and overall impact of the programme was assessed together with other Water and Sanitation related interventions. There may be many confounders in supporting the impact results; these need to be controlled while analyzing the data. Table 7 presents the tools , methods, and process used and recommended while conducting impact monitoring.

Table 7. Impact monitoring tools and methods / process

Tools	Methods / Process
Questionnaires, survey in the form of exploratory study, operational study, impact study	Simple random. systematic / stratified sampling/ and other methods as appropriate. Interview with individuals using close, open-ended questionnaires. In-depth interview.
Key informant checklist	Purposive sampling. Guiding checklist to collect relevant information.
Field observation and or observation checklist	Random sampling of targeted areas, walk through, inspection of most vulnerable areas
Secondary information collection checklist	Purposive sampling, guiding checklist to collect other relevant information from reports, guidelines, and any other organizations etc.

The following are the examples of recent impact studies conducted by WAN partners in both settings:

- an exploratory study (questionnaire survey) in Bharatpur Municipality among 309 households,
- an exploratory study (questionnaire survey) in Butwal Municipality among 141 households,
- an exploratory study (questionnaire survey) in 14 rural projects from 13 districts among 157 households.

All impact studies mentioned in the table above were exploratory in character. Primary and secondary data were the sources of the information for the assessment. The respondents were heads of households, and sample units (i.e. Households) were selected on a random sampling basis. For hygiene in particular, the data on the changes in improved hygiene behaviour practices was carried out to test the three elements of behaviour change (knowledge, skills and practices). Key indicators have been identified to measure the improvement in hygiene knowledge and practices. Despite encouraging results from these impact studies of the hygiene education and improvement programme integrated with Water and Sanitation services delivered by the partners, some grey areas remain. Partners and the project need to focus on and increase efforts to strengthen and institutionalize the system so as to improve future monitoring activities. This is particularly true with regard to hygiene discipline, as ensuring sustained hygiene behaviour practices would allow partners and communities to reap the benefits of hygiene interventions, which are more cost effective than water and sanitation delivery to the community. The following were visible qualitative outputs of the impact studies:

- Many people reported sustained practices of hand washing at critical times. Almost all study areas had made progress towards declaring themselves a “No Open Defecation Zone”.

- A large proportion of respondents knew about the household level water treatment (PoU) options and reported practicing them. Similarly, most of them also appeared to be using their own toilets properly.
- A majority of the people were aware of water borne diseases, vector borne diseases, and orally transmitted diseases, and were able to communicate the key hygiene messages.
- Findings show that providing access to water and sanitation are not sufficient to bring about changes in hygiene behaviour and should be integrated with hygie ne education, awareness and capacity development to ensure the changes in the behaviour practices are sustained.
- All impact studies reported reduction in the prevalence rate of diarrhoea.
- The studies revealed that the people of the community constructed their latrines to ensure the safety and cleanliness of their household and neighbourhood environment, so that they could lead healthy and dignified lives.

From the three impact studies mentioned above, we have learned the following:

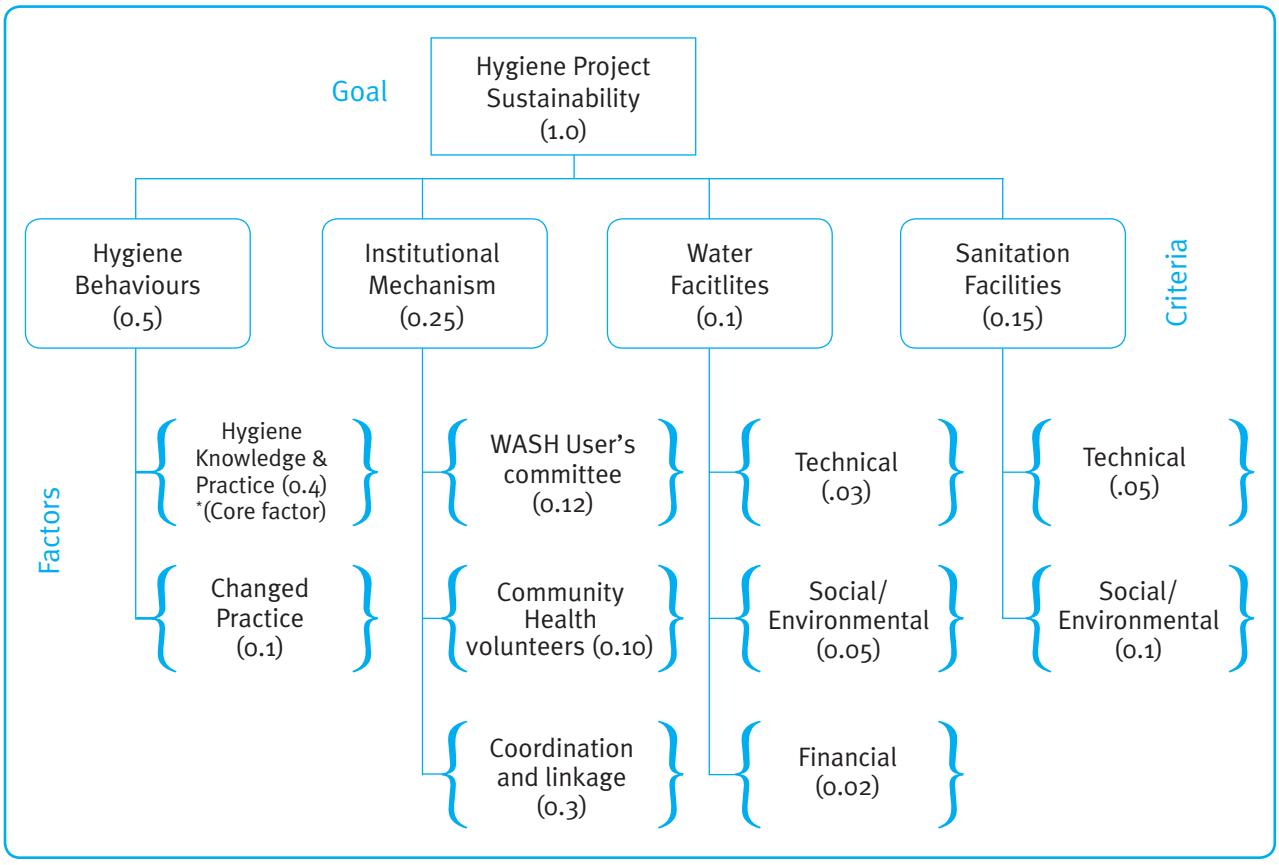
- Improper documentation of baseline data/information hindered the proper analysis of project impact on the health and hygiene of the community beneficiaries. This made it difficult to assess the impact of the project compared to the past. Ultimately, this has hindered understanding of health impact and hygiene behaviour practices within the communities.
- It is essential to have representative samples in the study, while conducting the impact study.
- Only impact studies can measure the attributable contribution of hygiene promotion in terms of disease reduction and changes in social life.
- Impact study also reveals the outcomes based on social determinants, thereby providing further inputs about project inclusiveness.

6. Long term sustainability monitoring

WAN has supported a range of projects in the past, including stand alone projects or different combinations of water, sanitation, and hygiene components in a single project. The WASH related activities are usually implemented together in a project; however, their technical and management aspects are quite different than those of water and sanitation. Therefore, assessments of the Long Term Sustainability (LTSM) of these facilities need to deal with each component separately, even though they have more impact on people's health and livelihoods when used collectively. In this light, the LTSM tool adopts a multi criteria based framework for sustainability analysis and management decision support. For water supply and sanitation facilities, technical, socio-environmental, financial and institutional monitoring criteria are used. In the case of hygiene, however, water, sanitation facility, hygiene behaviour and institutional aspects are taken as the key sustainability criteria. These key criteria are further segregated into many contributing factors and sub-factors with certain values. As per the principles of multi criteria approaches, each set of criteria is rated depending upon its potential contribution, or its significance

in making the case sustainable. The comparative weights given to criteria, factors and sub factors were determined through participatory methods involving sector professionals and field workers. Figure 1 presents the weight-age (importance) given to criteria and factors (sub factors not shown).

Figure 1. Weighted importance of hygiene criteria and factors



**Core factor- All family members always wash hands using cleaning agent after defecation and before eating.*

WAN and partners use a specially designed field visit checklist to collect the information. Information is collected at sub-factor level, which is also considered as the lower level indicators or, the lowest level contributors. Sub-factors are the contributing elements for factors; for instance if hygiene behaviour is a factor, the hygiene practices for hand washing, food hygiene, menstrual hygiene etc. are sub-factors. Therefore, classification, measurement and ranking system is done manually at this level. Depending upon the definition of the particular sub-factor, it is measured through a measurement system of grade points as shown in Table

8 below. Using different tools, guidelines and judgments, the enumerator classifies each and every sub-factor in the field in terms of excellent (E), very good (VG), good (G), fair (F) and poor (P). For the analysis, this information is fed into the WAN long-term sustainability monitoring tool, which is excel based software. The sustainability ranking is made using the following definitions.

- **Sustained project:** The project obtains 70% score (or more) in core factor and in all 4 sustainability dimensions.
- **Sustained but at risk project:** The project obtains 70% score (or more) in core factor, but fails to obtain 70% score in any one of the sustainability dimensions.
- **Not sustained project:** The project fails to obtain a 70% score in core factor/s

Table 8. Sustainability ranking

Classification of sub-factor	Range for measurement			Sustainability ranking of sub-factor
	Five points	Four points	Three points	
Excellent	80-100%	70-100%	70-100%	Sustained (s)
Very good	70-79%	70-79%		
Good	50-69%	50-69%	30-69%	Not sustained (ns)
Fair	30-49%	30-49%		
Poor	< 30%	< 30%	< 30%	

Out of 26 WASH projects monitored thus far, none were found to be fully sustained, 85% were found to be sustained but at risk, and 15% were found to be projects that were not sustained from the perspective of hygiene. The factors found to be affecting the sustainability of hygiene projects were the poor institutional mechanism (96% of projects), improper sanitation facilities (50% of projects), improper hygiene practices (19% of projects), and improper water facility (15% of projects). The sustainability status of hill projects (S-0%, SR-89%, NS- 11%) was found to be slightly better than that of Terai (low land areas) projects (S- 0%, SR- 75%, NS- 25%).

The projects monitored and the operational experiences yielded the following lessons on sustainability monitoring:

- An important outcome of sustainability monitoring is that it helped rank the sustainability status of previous projects (conducted by ecological regions, service types, settlement types, etc.) into a single framework.
- The multiple criteria participatory framework for sustainability monitoring was found to be instrumental in identifying areas of project strength and weakness, which is significant in terms of project sustainability status.

- The pilot work developed a framework for sustainability monitoring of existing projects into the future. The LTSM tool proved helpful in identifying to the community areas in which long and short term supports were needed .
- Long term monitoring provides a basis on which to judge 'value for money' of the past investment, and formulate appropriate programme implementation approaches and evidence to bring sustainability monitoring issues up for debate at national and international level.
- Although it was piloted in a considerable number of projects, the system needs further improvement in terms of technical, intellectual, contextual and methodological aspects in the future.

Conclusion

A systematic monitoring mechanism for the different stages of a hygiene promotion programme is imperative to monitor the programme's effectiveness. Tools, methods and processes that are applied to monitor indicators from baseline to impact assessment should be consistent and coherent. Full-phase monitoring of hygiene with backup by programme is the only evidence-based means to show the attributable contribution from WASH for reducing associated diseases and improving health status. Operational lessons from different stages of hygiene monitoring can be replicated, but they need to take the local context into account when selecting tools and instruments and designing the framework. As the tools and instruments are contextualized, the local cultural and social values, rooted practices, and power relations among different groups need to be kept in mind. Some of the tools used for hygiene monitoring adopted by WAN and its partners, including CBM, RCS and long-term sustainability are still new. While time is still required to consolidate, fully replicate and generalize the findings, the preliminary results seem very encouraging and significant. Despite encouraging results from use of these monitoring tools, the partners and the project still need to focus on some areas. Much more effort is needed to strengthen and institutionalize the system so as to improve future monitoring activities, particularly in hygiene discipline. This will help ensure that the benefits of this hygiene intervention are fully realized in the form of sustained hygiene behaviour practices Further improvements also require comprehensive operational learning from the programmes of other countries.

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