**Islamic Republic of Afghanistan**

**Ministry of Rural Rehabilitation**

**and Development**

**RURAL WATER, SANITATION**

**AND**

**HYGIENE (WASH)**

**IMPLEMENTATION**

**MANUAL Version 2**

**VOLUME I Narrative**

**Kabul, September 2010**

**Prepared by: Version 1 Project Implementation Unit, ARTF RWSSP**

**Version 2 by: Water, Sanitation Irrigation Department, MRRD and WASH Sector Partners**

**RURAL WATER, SANITATION**

**AND**

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**WSG Manual**

**IMPLEMENTATION**

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***Rural Water, Sanitation and Irrigation Department***

***Ministry of Rural Rehabilitation and Development***

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***Kabul***

# Foreword

The initial document was written in 2006 through an interactive process with the various members of the Water and Sanitation Group (WSG) associated organizations. The WSG was previously chaired by UNICEF but the chair went to RuWatSIP MRRD in around 2004. RuWatSIP maintained the leadership over the years and through the formulation of a new WASH policy 2010 until 2014 has reinforced its vision, but required the review of the Implementation Manual to bring it in line with the present WASH policy and to update other aspects as according to experience and new views in the WASH sector.

The review of the chapters was done within RuWatSIP but expert advice was requested from the various organizations active in the WASH sector for peer review and inputs that will rejuvenate and bring the manual in-line with present knowledge acquired in the region and more specifically for Afghanistan.

The first version was produced for the ARTF Water Project in RuWatSIP and had some specific outputs that were build into the first version for the ARTF project, but have been removed from this version. This particular version is from RuWatSIP for the WSG sector with inputs from the WSG sector stakeholders.

The manual is being extended with additional materials to reflect the WASH Policy 2010 and the insights over the years in the Rural WatSan Sector of Afghanistan and appropriate experience from elsewhere incorporated as seen as fitting for Afghanistan.

The department would like to thank the following persons for their contribution to this version of the manual: Geeta Kuttiparambil for the section on gender, Azeem Barat for checking the forms, the training section and adding a part on biosand filters. Eng Mohammad Naeem on checking all the drawings in Annex 15, Dr. Shir Ahmad and Dr. Naqibullah Taib for checking and correcting the hygiene and sanitation components, Gerry for looking through the whole manual and detecting real bad English. Adane Bakele for the item on the hygiene ladder and Leendert Vijselaar for the overall checking and putting the document together as a whole.

The Implementation Manual is not perfect and the WSG members and others interested in the WASH subject are requested to forward any noted mistakes, errors in the material or additions that could be made to forward to the Director of RuWatSID.

The various forms and other materials should be adapted as according to the situation and requirements of information for planning, dissemination of the information to others, government and the donors.

Volume II contain all the annexes to Volume I and are reviewed to ensure consistency and a number of annexes are added as developments have taken place in the WASH sector that require a reference in the manual.

# Abbreviations

|  |  |
| --- | --- |
| ARTF | Afghanistan Reconstruction Trust Fund |
| BPHS | Basic Package of Health Services |
| CAP | Community Action Plan |
| CDC | Community Development Council |
| CHW | Community Health Worker |
| CLTS | Community-Led Total Sanitation |
| CP | Construction Partner |
| DACAAR | Danish Committee for Aid to Afghan Refugees |
| DALY | Disability Adjusted Life Years |
| GIS | Geographic Information Systems |
| GPS | Global Position System |
| HE | Hygiene Education |
| HEWG | Hygiene Education Working Group |
| HHV | House to House Visit |
| KAP | Knowledge, Attitude and Practice |
| MAIL | Ministry of Agriculture, Irrigation and Livestock |
| MoE | Ministry of Education |
| MoF | Ministry of Finance |
| MoHaj | Ministry of Haj |
| MoPH | Ministry of Health |
| MoWA | Ministry of Women’s Affair |
| NGO | Non-Governmental Organization |
| NSP | National Solidarity Program |
| ODF | Open Defecation Free |
| O&M | Operation and Maintenance |
| PIU | Project Implementation Unit |
| PSC | Project Steering Committee |
| PCM | Project Cycle Management |
| RRD | Provincial Rural Rehabilitation and Development |
| RuWatSIP | Rural Water, Sanitation and Irrigation Program |
| RWSSP | Rural Water Supply and Sanitation Project |
| ToP | Training of Promoters |
| ToT | Training of Trainers |
| UNHCR | United Nations High Commissioners for Refugees |
| UNICEF | United Nations’ Children’s Fund |
| USAID | United States Agency for International Development |
| RuWatSIP | Water, Sanitation and Irrigation Program |
| WASH | Water, Sanitation and Hygiene |
| WHO | World Health Organization |
| WSG | Water and Sanitation Group |
| WSUC | Water and Sanitation Users’ Committee |
| WSUG | Water and Sanitation Users’ Group |
| WUA | Water User Association |

**RURAL WATER SUPPLY AND SANITATION PROGRAM**

**IMPLEMENTATION MANUAL**

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# Executive Summary

1. The Ministry of Rural Rehabilitation and Development (MRRD), responsible for the Rural Water Supply and Sanitation Sector, has given strong leadership in coordinating the sector stakeholders and streamlining the various approaches for the past five years. The Ministry developed a new Rural Water Supply and Sanitation Policy/ Strategy for Afghanistan (2010) through the participation of sector stakeholders.
2. This implementation manual is prepared to operationalize the Government’s Rural Water Supply and Sanitation Sector Policy and Strategy. The manual will be a vehicle to coordinate the demand driven and participatory approach in the sector as envisaged by the policy and bring about consistency towards achieving sustainable services.
3. It is expected that the Manual will be used in the implementation of projects/ programs under the MRRD and by other stakeholders in the sector. Based on their experience and lessons learnt with using the Manual, it will have to be modified and revised as improved solutions are found and developed. RuWatSIP will fulfil the role of researcher for improvement of implementation modalities with the support of the Afghanistan Institute of Rural Development (AIRD) to update the manual in coordination and consultation with other stakeholders using the manual in the sector.
4. The policy emphasizes basic service for all, improved health through integration of health and hygiene education with water supply and sanitation, Community-Led Total Sanitation (CLTS), community cost sharing, ownership and management including operation and maintenance (O&M). The role of the Government is specified as policy development, national planning, coordination, monitoring and evaluation, and collection of data while direct service delivery will be out sourced eventually to the CDCs, private and NGO sectors. The thrust is to carry out demand driven water supply and sanitation services with emphasis on empowering the community who will be responsible for planning, designing, implementing, with the assistance of partner organizations and subsequent operation and maintenance.
5. The overall goal of the Rural Water and Sanitation sector is: Improvement in the quality of life of people through their improved access to safe, convenient, sustainable water and sanitation services, and increased adoption of hygienic practices at the personal, household and community levels, resulting in (i) reduced morbidity and mortality rates (particularly under-five child mortality) and (ii) enhanced people’s productivity and well-being.. To achieve the overall goal, the Rural Water Supply and Sanitation Program consist of components viz. (a) Water Supply, (b) Sanitation, (c) Hygiene Education, (d) Community mobilization and organization, (e) Operation and Maintenance, (f) Data collection, and (g) Capacity Building of community, private sector and government.
6. The above program components of the Rural Water Supply and Sanitation are divided into two distinct activities under (a) Software Activities and (b) Hardware Activities. Hardware activities are related with construction of water supply system. Other activities are defined as software activities.
7. It is envisaged that the un-served rural households will be provided improved water supply facilities with basic service level. The basic service level is defined as follows:
   1. Basic water supply service level facilities
      1. Quantity: 25 litres per capita per day (lpcd)
      2. Quality: safe (clear, odourless and acceptable to the community, and meets WHO guidelines in physical, chemical and bacteriological parameters, in due course the Afghan Government will formulate the standards that can be achieved country wide).
      3. Access : Public water points each for maximum 20 families.
   2. Basic sanitation service level facilities
      1. Access : Access to sanitary latrines that can contain human waste in a hygienic manner before final disposal.
      2. Knowledge: Knowledge through Hygiene and Sanitation Education leading to clear understanding of good hygiene practice and changes in hygiene behaviour.
8. The basic water supply are subsidized with some community contribution requirements, while the sanitation activity is a burden that the community members will have to resolve. The communities are free to choose higher service level facilities if they are willing to pay all the additional cost beyond the basic service level in the water supply.
9. RuWatSIP starts implementation in areas where NSP at present has not as yet implemented projects or in areas that have finished the NSP and will make use of the CDC model of approach in the communities. RuWatSIP will basically leave implementation with the private sector and NGOs (NGOs cannot construct because of the NGO law unless getting clearance from the Ministry of Economics), but the organizations making the interventions must inform the MRRD and have a Memorandum of Understanding and make use of the Provincial RRD. The organizations must give full information about the activities, the information required is outlined in the forms as provided in Volume II. The RuWatSIP might execute projects when the level of delivery of services in particular areas is none existing or lower then in comparison to other Districts/Provinces.
10. Sector co-ordination is important. MRRD will work closely cooperate with the established Water and Sanitation Group (WSG) and its sub-committees/ working committees on Hygiene education, Sanitation, and Water Quality, in order to harmonize and rationalize sector development and implementation of Government policies. Further, a sub-committee to focus on operation and maintenance has been proposed to be established under the WSG. MRRD will promote further the co-ordination at provincial levels so as to strengthen and harmonize activities at that level. The co-ordination framework is envisaged to institute joint national planning and sector evaluation.
11. There are different donors involved in the provision of safe and sustainable water supply and sanitation facilities to rural communities in Afghanistan. RuWatSIP will: (i) help streamline the appropriate approach to scale up service delivery in the sector, (ii) initiate partnership between NGO/private sector and the Government; (iii) will support the Government’s effort to take a more programmatic approach to sector development so as to eventually lead to a sector wide approach. The capacity of MRRD and Water and Sanitation Department at head quarters, province and district level will be enhanced to be able to implement streamlined consistent approaches throughout the sector; assume a greater role and eventually do away with separate PIUs for implementing projects funded by different donors.
12. A community is the main recipient of WASH projects. Communities will be identified on the basis of existing local settlement and social patterns. Where Community Development Councils (CDC) do not exist, Water and Sanitation Users’ Group/ Committee should be formed with wide participation of water users. Where Community Development Council (CDC) exist, CDCs will be used as community-based decision making body for the implementation of WASH projects. Community will be supported by the WASH sector financially and technically to plan and implement demand driven water supply and sanitation schemes. A key characteristic of this approach is that it promotes a high level of community participation and ownership during all phases of the project cycle.
13. Communities will be supported by Implementation Partners: Support Organizations (SOs) i.e. primarily Non-Governmental Organizations (NGOs: International NGOs and local NGOs with extensive WASH Expertise) who will be responsible for software aspects of projects and the Construction Partners (CPs) which are primarily private sector firms will be responsible for hardware aspects.
14. The provincial water and sanitation staff (3 technical officers and 1 hygiene officer) in the RRD office of the MRRD will work with Organizations to carry out the activities: (a) Select Districts and Villages as per the set criteria in consultation with Governor’s Office (b) Prepare provincial priority WASH project activity plans in consultation and endorsement of Governor's Office, (c) Appraise Community Action Plan (CAP) for implementation of project (d) Prepare Water and Sanitation Sub-Project and documents for procuring Construction Partners (CPs), (e) Provide technical backstopping to the CP and the community, (f) Monitoring Progress of project activities including works of CP and report to RuWatSIP Department. Further it carries activities: to monitor the performance of the organizations and report to RuWatSIP Department, recommend Payments (if applicable), assist community for major repair of the water supply facilities. In future, when the expertise and capacity at the provincial level is adequate, the provincial RRD will assume contracting responsibility. The Districts will be increasingly involved as capacity increases.
15. In each region, a Technical Support Unit (TSU) staffed by O&M advisors and , at least, one inspection team for a province (comprising of Water Engineer and Support Officer) to visit and inspect existing and new water facilities at least once a year. The main function of the Technical Support Unit (TSU) is to visit and inspect water facilities, update information on the water supply situation, and enhance sustainability.
16. All projects will be coordinated by the RuWatSIP through a Joint Project Management Committee (JPMC) comprising of respective Project Managers and advisors of different projects. It co-ordinate different projects supported by UNHCR, USAID, UNICEF and others through a JPMC for respective projects headed by the Director of RuWatSIP. The aim is to enhance the capacity of MRRD, Water and Sanitation Department to be able to implement streamlined approaches; assume greater role and eventually do away with separate PIUs for implementing projects funded by different donors.
17. The overall oversight of WASH Projects will be the responsibility of Water, Sanitation and Irrigation Department in Ministry of Rural Rehabilitation and Development (MRRD), headed by the National RuWatSIP Program Director.
18. A RuWatSIP Project Steering Committee (RuWatSIP PSC) will act in an advisory capacity to the RuWatSIP Department, MRRD on overall implementation policy formulation and direction, and oversee program implementation. The RuWatSIP Project Steering Committee members comprising of representatives of MRRD, Ministry of Finance (MoF), Ministry of Health (MoH), Ministry of Women’s Affairs (MoWA), donors such as UNICEF, UNHCR, USAID and others and the Water and Sanitation Group (WSG). The Deputy Minister Programs, RuWatSIP, MRRD will lead the RuWatSIP Project Steering Committee.
19. The MRRD, if acting as an Executing Agency, will deliver projects through the CDC model as set-up by NSP and leave it to the CDCs to select partners. Accept with hygiene education a suitable partner will be located and used in the respective provinces.
20. Data collection will be channelled through the P-RRD offices and the most suitable manner will be done through district representatives as well as with villages and provincial staff in proposing provincial, district and village priorities. The district and villages will be selected in consultation with provincial governors by applying district eligibility criteria (see criteria for district selection).
21. During Community Organization and Planning Phase, Community Organization such as CDC and/or WSUC will be established, baseline information collected, Hygiene and Sanitation Education Started, Community Action Plan for Implementation of RuWatSIP along with engineering design estimate will be prepared.
22. The Community Action Plan for Implementation of the project along with engineering design estimate will be submitted to Provincial RRD. MRRD will appraise the project along with Provincial RRD (see community/scheme eligibility criteria). Upon endorsement of project by MRRD, before start of the work, an agreement will be signed between Community and the District Authority.
23. In the implementation phase, the construction of water supply system will be the responsibility of the CDC and the P-RRD (on request technical support can be provided). The hygiene education will be carried out through trained community workers or health workers. The functional Operation and maintenance system will also be established. Before the start of this phase, an agreement will be signed between the implementation, Community and District Authority.
24. During Community Organization and Planning Phase, several planning activities will be carried out such as: Project Information sharing with Villagers/ communities, Community Social/ Resource Mapping, Baseline Hygiene KAP Survey, Assess water and sanitation situation and identify needs, Formation of WSUG.C or use existing CDC, Orient and Train WSSUG or CDC, Selection of Hygiene Promoter/ Educator, Training of Hygiene Promoter/ Educator, Prepare Hygiene Education Plan, Hygiene Education, Community Informed choice of technical options, site selection and lay out planning, Prepare community contribution plan, Technical Feasibility Study, Engineering Survey, Design, Estimate, Select caretaker and mechanic, Prepare Community Action Plan.
25. During implementation phase, mainly the community action plan will be implemented such as: Hygiene and Sanitation Education, Mobilize community contribution towards capital cost/ construction, and CLTS, and sanitation construction and ODF, Procurement of materials and construction of water supply system, Training of Pump/ Water Point Caretaker, Training of Area Pump Mechanics/ Valve Mechanic, Prepare Functional Operation and Maintenance System, Engage Water Point Care takers and Pump/ Valve Mechanic, Link with spare parts shopkeeper, Orient WSSUG/ CDC, Water Quality Sampling and Testing, Prepare Project Completion Report (PCR).
26. Community Action Planning is a process by which community will be involved in planning the scheme and in decision making. The community action plan contains: community Mapping and Baseline Situation Analysis, Hygiene education plan, Site selection and water supply scheme layout plan, CLTS and Sanitation plan, Community contribution plan (local labour, local materials, transportation and cash contribution plan for water supply and sanitation), Operation and Maintenance Plan, Monitoring and Evaluation Plan, Community Capacity Building Plan.
27. Along with the community map, village assessment form and hygiene KAP baseline data will be collected. Based on these data baseline situation will be analyzed participatory, community will map problems with diarrhoea and water borne diseases or problems of diseases from unsafe or bad water and solutions will be discussed with the community and CLTS will be conducted and ODF will be introduced. This will provide basis for planning for the community. This will then be taken as a basis to design/ choose hygiene and sanitation messages and target community groups. The modalities of hygiene sanitation education including training, advocacy, CLTS and strategy will also be determined. This includes how children and women groups will be mobilized.
28. Hygiene Promoters will be chosen from the village. However, it is important to liaise with Ministry of Public Health (MoPH) so as to assure that the approach is fully in line with the policy approach in MoPH. Male and female promoter is needed to work inside and outside household. It would be better if they are a couple (wife and husband, father and daughter, brother and sister).
29. In collaboration with the respective community the field engineer is responsible for the final site selection for each water point of the area. The CDC/Community has to provide possible site selection and should understand selection principles. Women should have the prime role in the selection of the site. The female Hygiene Educators should be used to ensure that women’s opinions are collected during the site-selection process. The CDC/Community must reach consensus on the site selected.
30. Different possible technical options and service level should be presented to the community with its merit and demerit to enable them to choose most appropriate technology. The project considers basic level services which provide subsidies with certain level of community contribution requirement. If community chooses higher service level, the additional cost beyond basic service level have to be borne by the community.
31. Sanitation will be promoted through the CLTS method and the ODF as a standard and focusing on the social benefits that a latrine can bring as well as the hygiene benefits. Different technical options in constructing the latrine will be presented so that community household can choose suitable option. Technical options should be provided with its merit and demerits and related cost.
32. Community should contribute at least 10% of the total capital cost of the water project. However, community should contribute as much as possible in the form of kind and cash contribution. The community should prepare plan in which items they contribute and how it will be done. The community with higher contribution will be given priority.
33. Communities are responsible for operation and maintenance of water supply system. The CDC or WSUG will be responsible for the management of the system. The community will select care taker for each water point, sign an agreement with a local area mechanic/ valve mechanic for regular mechanical maintenance and for repair of the pump/ water system, purchase spare parts for repair and maintenance, establish communication channels between women users and caretaker/ mechanic.
34. Community involves in monitoring management and supervision of a water supply project and its maintenance.
35. Community capacity building training and orientation in the areas such as leadership, management, community mobilization, hygiene education, bookkeeping, operation and maintenance etc. will be carried out.
36. Project will be implemented in participation and involvement of community. Community Action Plan (CAP) prepared by the community will be implemented with the leadership of community through CDC or WSUC.
37. Hygiene Education will be carried out taking the steps such as: Hygiene situational analysis, Set objectives, Select targeted audience, Find setting and sectors, Choose Approaches, Start actions, Monitoring and evaluation, Impact assessment, prepare community to execute CLTS with ultimate aim of making the village ODF.
38. Based on health problems found in hygiene situational analysis phase, we will find its link with different targeted groups, such as: Mothers (caregivers), young girls at households, young boys in village, elder women in house hold, elder men in mosque and in village. children between 5 to 15 age in village, school children in school, fathers, grand father or mother, and etc.
39. The main hygiene education approaches to targeted population will be: (a) *House to house visit* by female educators and making groups among children including their mothers and other elders in the house to convey hygiene messages at household level for female beneficiaries (mothers, girls, elder women). (b) *Hygiene education by trained Mullahs/Imams* at mosques during pray time particularly Friday’s pray for at least 10 minutes for male (elder and young) targeted population and also for children over 5 years old getting religious knowledge or studying in the mosques during the implementation period or hygiene education process. (c) *Hygiene education by trained teachers* for students at schools for 10 minute in each class per week totally three times for each class during implementation period in all schools in the targeted area. (d) *Hygiene education by male promoters/educators* for male at fields, local bazaar, gathering places in the villages and for children in playgrounds in the village. Visiting each village and making groups among children age 5 to 15 including their Fathers and other elders in the area by male educators to convey hygiene messages in the village for male beneficiaries (fathers, boys, elder men). (e) Making CLTS possible with aim to make village ODF.
40. Training and CLTS will be used through hygiene and sanitation education to promote the sanitation program The approach to aware and generate demand on sanitation will be: Transect Walk to observe the current situation and build rapport with the community, Social Mapping to establish the number of households, population, water points, latrines and Hygiene Baseline KAP study to know the knowledge aptitude and practices on hygiene, Defecation site visits to observe the current situation with regards to faeces dispersal due to open defecation, Situation Analysis and cause and affect analysis to identify the current latrine use pattern.
41. School is the most important place of learning for children. School can influence families and communities with the help of outreach activities through their students. It is therefore important that schools must have effective and adequate sanitation facilities. The latrine needs to be hygienic and sufficient for the students and teachers. The latrines should be constructed considering the gender aspect such as the privacy needs of the girl students, selection of the place for the latrines should be left to the girls through facilitation.
42. A motivated community starts building toilets. The household may keep on improving standard latrine as per their demand and need. Hence, availability of options is very important.
43. Awareness alone may not ensure the installation of latrines. Local masons will be trained in different types of latrine construction and encouraged to establish shop with materials related to latrines. An effective mechanism will be established to record, monitor and evaluate the sanitation program along with monitoring water supply system.
44. The cleanliness of family members, sanitary practices, cleanliness of surrounding households, and use of latrines will be observed and monitored periodically by hygiene promoter and community members/ members with indicators set by the community. Feedback will be given to household and CDCs.
45. The tendency should be to encourage household to construct toilet on their own cost through awareness program.
46. A functional Operation and Maintenance System should be established to address the sustainability concerns.
47. The MRRD will support the provision of services, as well as conduct other activities aimed at improving the development capacities of the acting institutions i.e. the community, CP and MRRD. The primary thrust will be to orient and familiarize WASH Program concept, objectives, working procedures and its rationales to the organizations and CDCs through the orientation and training, which supports operations within the WASH cycle.
48. The environmental and social assessment will be carried out and ensured adequate measures are taken to mitigate adverse impacts, if any, through screening process during appraisal of community action plan before implementation of project.
49. Three types of M&E are conducted: *Implementation monitoring* of on-going subprojects focuses on measuring progress against work plans (outputs, preferably outcomes) and the quality of facilitation and community participation (processes). *Post-Implementation monitoring* of completed subprojects focuses on the quality of completed subprojects (how well they are designed and constructed) and sustainability (the community has adequate arrangements for operations and maintenance). *Program Evaluation* provides a more in-depth assessment of 1) development outcomes and impacts, and 2) the effectiveness and efficiency of implementation (institutional arrangements, policies, procedures, and management systems).
50. Procurement of goods, works and services will follow Government of Afghanistan based approved/standard documents, while other stakeholders ensure a transparent process but ensure to keep to accepted standards as set by WSG and ensure quality products are delivered to the communities.
51. Projects within MRRD will be executed by RuWatSIP. Projects will be set up and executed in an MRRD agreed manner with the WASH Policy (2010) and the Implementation Manual as a minimum standard. The other stakeholders in the WASH sector will follow the system (including WASH Policy (2010) and the Implementation Manual) as set by the donors but will have a MoU with MRRD and will deliver data and information that will be used for planning and O&M purpose for a country approach. The milestones will be set in advance in the MoU as an attachment.
52. RuWatSIP projects will follow standard Afghan Government financial management policies and procedures.
53. RuWatSIP accounts will be audited by the Auditor General for projects executed by RuWatSIP while the WASH partners follow donor procedures and internal systems that are transparent.

# VOLUME – I MAIN MANUAL

# Section I How to Use the Manual

## Organization and use of Manual

The manual contains different sections. Each section can be used separately depending on the use and users. The manual is prepared in two volumes, Volume I: Main Volume with the narrative part and Volume II: Appendices with additional information.

Volume I, Section II gives summary on Government policy, strategy and program. The basic water and sanitation services, hardware and software aspects of the program and projects are also described in this section. This section is mainly to be used by the central and provincial authorities. The social mobilizer/ engineer also can use this section for conceptual aspects.

Section III to VIII describes how the program will be implemented. The institutional arrangements, implementation steps/ phases, procurement and financial aspects, environmental and social assessment, monitoring and evaluation are described. These sections are mainly to be used by the central and provincial authorities. The social mobilizer/ engineer also can use these sections specifically section IV on scheme cycle for implementation steps and Section VIII on monitoring and reporting requirements.

Section IX on Training describes training strategy, methodology and general guidance on different levels and types of training modules.

Section X to XII is mainly on implementation aspects at the field level. It is mainly intended to be used by social mobilizer/ hygiene supervisor. Section X on Community Mobilization Organization describes social mobilization, community organization, community planning and implementation process. Section XI and XII on Hygiene Education and Sanitation describes the implementation of hygiene education and sanitation component of the program.

Section XIII – XIV describes water supply and sanitation technology and contains engineering based information. Section XIV on Operation and Maintenance describes O&M principles, institutional arrangements and systems.

All the Appendices to the Main Volume are placed in Volume II: Appendices. The appendix contains forms and formats, technical details and standard designs.

## Development and Updating of Manual

The Ministry of Rural Rehabilitation and Development (MRRD), responsible for the Rural Water Supply and Sanitation Sector, has shown strong leadership in coordinating the sector stakeholders and streamlining the various approaches. As an important step in this direction, the Ministry developed a Rural Water Supply and Sanitation Policy/ Strategy (WASH Policy 2010) for Afghanistan through the participation of key sector stakeholders.

This implementation manual is prepared to operationalize the Government’s Rural Water Supply and Sanitation Sector Policy and Strategy. The manuals will be a vehicle to coordinate the demand driven and participatory approach in the sector as envisaged by the policy and bring about some consistency towards achieving sustainable services. The manual is expected to facilitate implementation so that the lofty target of 100% sustainable rural water supply and sanitation coverage is achieved as quickly as possible.

The manual was prepared based on existing manuals and procedures/ practices of the key stakeholders in the rural water supply and sanitation sector that best works in view of the Rural Water Supply and Sanitation Sector Policy and Strategy. It is expected to be a living document which will be continuously refined with the lessons of experience.

It is expected that the Manual will be used in the implementation of projects/ programs under the MRRD and by other stakeholders in the sector. Based on their experience and lessons learnt with using the Manual, it will have to be modified and revised as improved solutions are found and developed. RuWatSIP will particularly fulfil the role of researcher for improvement of implementation modalities and update the manual in coordination and consultation with other stakeholders using the manual in the sector.

RuWatSIP will help streamline the appropriate approach to scale up service delivery in the sector and support the Government’s effort to take a more programmatic approach to sector development so as to eventually lead to a sector wide consistent approach. RuWatSIP will also help to carry out studies on developing service delivery mechanism for pastoral communities (Kuchis) and “Rural Towns”, determining a strategy for a national health, hygiene and sanitation campaign, developing feasible sanitation strategy/ approaches and water quality monitoring and other studies leading to appropriate technology and sector development. Based on the learning and outcome of these studies, the manual will be further refined and developed in consultation and co-ordination with stakeholders.

As soon as a revision has been proposed, and the modification has been carried out and approved by the MRRD, then the revised Manual will be circulated. All WSG users of the Manual will be issued with a list of the latest revisions of all guidelines at defined intervals.

# Section II POLICY

## 1. Rural Water Supply, Sanitation and Hygiene Policy[[1]](#footnote-1)

### 1.1 Summary of RuWatSIP Policy Framework

The policy emphasizes basic service for all, improved health through integration of health and hygiene education with water supply and sanitation, community cost sharing, ownership and management including operation and maintenance (O&M). The role of the Government is specified as policy development, national planning, coordination and monitoring and evaluation while direct service delivery will be out sourced eventually to the private and NGO sectors. The thrust is to carry out demand driven water supply and sanitation services with emphasis on empowering the community through CDCs and DDAs who will be responsible for planning, designing, implementing, with the assistance of partner organizations and subsequent operation and maintenance.

### 1.2 Key Policy Principles

Afghanistan’s population is estimated to be 25 million people, of which 75% or thereabout live in rural areas. Surveys conducted by UNICEF in 2002 reveals that only 11% of the rural population are using improved drinking water and in a large proportion of households people typically walk 4 hours to these water points. Only 12% and 10% respectively of urban and rural populations use adequate sanitation facilities. It is therefore, no surprise that mortality rates for children (under-5) is as high as 25%, half of which is caused by preventable waterborne diseases. Household economy surveys (AREU 2004) indicate that spending on health care is second only to food – an indicator of levels of morbidity in rural households.

Given the above context, fundamental guiding principles have shaped the development of this policy framework. These are:

1. Ensuring community participation in decision-making for women and men in planning, design and service delivery, ensuring ownership and sustainability at the community level.
2. Partial capital cost sharing and 100% operation and maintenance responsibility by the community for all water facilities.
3. Gender mainstreaming through women’s active involvement, particularly in S*hura*s, and in CDC decision-making to ensure social equity and justice.
4. Protecting the human rights (safety, security, privacy and dignity) of people, particularly of women, children, returnees, IDP, and physically and mentally challenged.
5. Protecting the environment by conserving water sources, adapting to climatic changes through the preservation and improvement of catchment areas, with a focus on recharging ground water.

### 1.3 Water, Sanitation and Hygiene (WASH) norms

#### 1.3.1 Water

The norms for water supply in rural areas of the country are:

1. Availability of 25 LPCD.
2. Maximum 20 households to be covered by one water point.
3. Safe access to water within 250 meters of residence and not take up more than 60 minutes per round trip.

#### 1.3.2 Sanitation

The norms for a sanitary latrine that safely confines human excreta and prevents faecal coliform from entering the wider environment including:

##### A hygienic latrine

* Is fly-proof (prevents flies from getting to the faecal deposits and back to the environment).
* Separates excreta from human contact.
* Eliminates odour.
* Does not contaminate ground and surface water.
* Ensures user privacy, especially for women and girls.

Achieving ODF status is extremely necessary and communities must use and maintain hygienic latrines on a long-term basis, the CLTS approach will be introduced so that the communities are responsible for their own development.

MRRD/RuWATSIP engineers, facilitating partners, support organisations and community facilitators need to help the rural communities innovate their own latrine designs, keeping in view the local conditions, community requirements (especially the most vulnerable groups such as the elderly and disabled) and resources, adhering to norms described above.

##### Follow-up for sustainable use of hygienic latrines

* Full pits are emptied and/or replaced in a safe manner.
* All newly constructed latrines are sanitary and hygienic, capable of safely confining human excreta.
* Breakages, pit collapses, and latrines damaged by natural disasters are repaired or replaced quickly.
* A fully sanitised village is ODF when all the households use and maintain hygienic latrines and safely dispose of solid and liquid waste.

#### 1.3.3 Hygiene

Policy norms for safe hygienic practices include:

Safe handling and use of drinking water by making sure the vessels for collecting and storing water are washed daily with water and disinfectants at least twice a week; water to be consumed by people is not touched by hands; water is boiled or filtered where the water quality is untested or known to be contaminated by bacteriological agents.

All infant excreta is safely disposed in sanitary latrines, followed by hand washing with water and soap.

Hand washing with soap is practiced by everybody at critical times: before cooking and eating, after defecation, and post defecation cleaning of infants and children.

All schools and health clinics have proper hand washing facilities with water and soap available at all times. Gender specific requirements in ensuring safe sanitation and hygiene practices, especially sanitary requirements of girls and women must be actively considered. Women and girls trained in the practice of safe use and disposal of sanitary materials.

#### 1.3.4 Special Norms

All water and sanitation facilities are resistant to natural disasters such as drought, floods, landslides, earthquakes, depending on recurrence of these disasters.

All water supply schemes including water points (based on dug wells, bore wells, tube wells, springs, motorised pumps, gravity flows) have a mandatory catchment protection component to ensure adequate water re-charge on a continuing basis.

All water and sanitation facilities are constructed in a manner that they do not damage or/and pollute the environment, particularly existing ground and surface water sources.

All hand-pumps to be used in Afghanistan in the rural areas should be based on the Afridev design so that Operation and Maintenance (M&E) is standardised and spares are universally available in Afghanistan.

### 1.4 Goal and Objectives

*The overall goal of the Rural Water and Sanitation sector is:* Improvement in the quality of life of people through their improved access to safe, convenient, sustainable water and sanitation services, and increased adoption of hygienic practices at the personal, household and community levels, resulting in (i) reduced morbidity and mortality rates (particularly under-five child mortality) and (ii) enhanced people’s productivity and well-being.

*The Objectives are:*

* Improve access of the rural population to 25 litres per capita per day (LPCD)from 27% to 50% in 2014, and 70% to 100% in 2016 and 2020 respectively and improve potable quality of drinking water (WHO standards).
* Make all villages/rural communities in the country 100% ODF free and fully sanitised by 2020; and 50% and 70% by 2014 and 2016 respectively by empowering communities to:
* Improve existing traditional latrines to become safe, hygienic and ensure user privacy;
* Make new latrines as models of safe sanitation in households, schools and clinics;
* Undertake the safe disposal of solid and liquid wastes.

### 1.5 Implementation Principles

The policy framework will form the basis for implementation of all sectoral projects. For a short interim period, until the start of 2014, the Government through MRRD, will implement some water supply schemes as much as its capacity would allow, but in the long-term

1. Direct service delivery will be outsourced to facilitating partners through CDCs – NGOs and private sector - who will assist the communities in implementation.
2. MRRD will assume an overall facilitation and coordination role, including policy, planning and development, resource mobilization and allocation, monitoring and evaluation, and information management. The main tasks will be to:
   * 1. co-ordinate countrywide sector coverage through dissemination and information sharing of project implementation and resource allocation for underrepresented areas;
     2. prepare implementation guidelines for a coherent development approach through stakeholder consultancies;
     3. strengthen and further develop effective and viable facilitating partners; and
     4. establish an effective monitoring and evaluation system that will direct sector-wide implementation.
3. MRRD will also focus on developing and strengthening a strong private sector (NGOs and for profit construction companies) that can serve rural areas and peri-urban areas. Related tasks will be:
   * 1. Evaluate the private sector on a national and regional basis to identify capacity gaps that need to be addressed in relation to the policy framework for the sector.
     2. Provide technical capacity in project proposal preparation, planning, surveys, construction supervision and quality control.
     3. Facilitate the development of cadre of well-trained and motivated community development and health & hygiene education workers.
     4. Mainstream projects and project modalities as used by the RuWatSID(Minor modifications may be used for projects where the agreement between the government and donors demand a modified approach).

MRRD will be the Lead Ministry that will ensure the policies and plans in this framework are implemented in a timely manner. Close, collaborative links will be forged with other line ministries such as the Ministries of Health, Women’s Affairs, Education, Hajj, Urban Development, Energy and Water, Agriculture Irrigation and Livestock, Housing and Mines, Minerals and Industries to maximize accelerated coverage, cost-effectiveness and efficiency in delivery of services.

## 2.0 Rural Water Supply and Sanitation Program

### 2.1 Rural Water Supply and Sanitation Program Objectives[[2]](#footnote-2)

*The overall goal of the Rural Water and Sanitation sector is:*

To improve health by reducing infant[[3]](#footnote-3)and adult morbidity[[4]](#footnote-4) and mortality caused by preventable waterborne diseases by increasing access to safe and reliable water points and hygienic sanitation facilities.

#### 2.1.1 Long Term Objectives

To enable the fulfilment of this goal, the long-term objectives for the rural water and sanitation sector are:

* To facilitate improved access and proximity to safe drinking water for all rural households.
* To improve access to household sanitation facilities in all rural households.
* To promote a clear understanding of the importance of personal hygiene and household sanitary practices in all rural households.
* To ensure sustainability of services through community ownership and empowerment.

#### 2.1.2 Short Term Objectives

In order to facilitate the delivery of the basic services package[[5]](#footnote-5) to all rural households in the long-term, the current 5-year (2010-2014) targets are:

* + Safe drinking water supply access for 50% of the population. This requires creation of 32,000 new water points and rehabilitation of 16,000 dysfunctional water points; and creating 3,600 schools with new water points and 1,100 hand-pumps on existing wells in 1,100 schools resulting in covering 80% of schools with safe drinking water.
  + Safe sanitation access for 50% of the population. This requires creating 19,425 villages ODF and fully sanitised by creating 520,000 new household toilets and rehabilitation of 700,000 traditional household toilets into safe ones; and rehabilitating 3,500 old toilets in schools and creating 23,000 new ones in schools which will provide safe sanitation in 80% of schools.

### 2.2 Rural Water Supply and Sanitation Program Components

#### 2.2.1 Program Components

The Rural Water Supply and Sanitation Program consist of following Components:

a. Water Supply

b. Sanitation

c. Hygiene Education

d. Community Mobilization and Organization

e. Operation and Maintenance

f. Capacity Building of community, private sector and government

#### 2.2.2 Software and Hardware Activities

The above program components of the Rural Water Supply and Sanitation are divided into two distinct activities under (a) Software Activities and (b) Hardware Activities. The sub-activities under the software and hardware are defined as follows:

**(a) Software Activities**

The software consists of following activities:

(i) Planning

(ii) Community Mobilization

(iii Surveying and Sitting of water facilities

(iv) Hygiene Education

(v) Sanitation: Organizing procurement and distribution of hardware for Household latrine construction (such as slabs, vent pipes) and supervising construction of facilities by the community

(vi) Training of: communities generally and CLTS, pump caretakers, pump mechanics, Hygiene Educator, Community Development

(vii) Project Supervision

1. Establishment of O&M system
2. Project supervision and reporting

**(b) Hardware Activities**

The hardware consists of following activities:

(i) Drilling of boreholes

(ii) Construction of head works/ well apron

(iii) Digging of Wells

(iv) Deepening of wells

(v) Construction of gravity piped schemes

(vi) Spring protection works

(vii) Other water point development schemes

#### 2.2.3 Community Basic Service Level facilities

The un-served rural households will be provided improved water supply facilities with basic service level. The basic service level is defined as follows:

**(a) Basic water supply service level facilities**

Quantity : 25 lpcd

Quality : safe (clear, odourless and acceptable to the community, and meets WHO guidelines in physical, chemical and bacteriological parameters)

Access : Public water points each for a maximum of 20 families (with minimum 70% capacity utilization)

**(b) Basic sanitation service level facilities**

Access : Access to sanitary latrines that can contain human waste in a hygienic manner before final disposal to be constructed by community members.

Knowledge : Knowledge through Hygiene and Sanitation Education leading to clear understanding of good hygiene practice and will to commit to CLTS and ODF.

The basic water supply facilities are subsidized with some community contribution requirements. The communities are free to choose higher service level facilities if they are willing to pay all the additional cost beyond the basic service level.

#### 2.2.4 Community Basic Service Packages

The following package of activities will be carried out in the communities to provide basic water and sanitation services:

**(a) Water and Sanitation Basic Service Package**

(i) Community Mobilization and Organization

(ii) Development of Water Supply facilities

(iii) Hygiene Education

1. Support in Community Led Total Sanitation – support in design of appropriate Sanitation Facilities
2. Establishment of community based operation and maintenance system at village level

**(b) Stand alone Hygiene and Sanitation Projects**

(i) Community Mobilization and Organization

(ii) Hygiene Education

(iii) Community Led Total Sanitation

### 2.3 Sector Planning and CDC Approach

RuWatSIP will continue water and hygiene coverage in those areas that CDCs have been established and the NSP has moved on to areas not covered, as CDCs have proven to be an ideal method to make interventions in the communities. In those areas that NSP has not made interventions the WASH sector can continue interventions but keep the Provincial offices up to date of the activities and coordinate closely with all authorities on District and Province level. The coordination ensures that the programs/ projects are not clashing or intervening with standing Government or other programs, coordination meetings are held on provincial level to coordinate all activities.

### 2.4 Sector Coordination

Sector co-ordination is important. MRRD will work closely with the established Water and Sanitation Group (WSG) and its sub-committees/ working committees on Water (including water quality), Hygiene education and Sanitation in order to harmonise and rationalise sector development and implementation of Government policies.

MRRD will furthermore further the co-ordination at provincial levels so as to strengthen and harmonise activities at that level. The co-ordination framework is envisaged to institute joint national planning and sector evaluation.

## 3.0 RuWatSIP

### 3.1 Rural Water Supply and Sanitation (RuWatSIP) Project

RuWatSIP will start preparing for a programmatic approach to sector development which will adopt an integrated approach to water supply, sanitation and health hygiene education by seeking active involvement of the community who would own the assets and be responsible for operation and maintenance of the facilities. Thus, the thrust of the approach for service delivery is demand-driven and community ownership which have proven to be essential for sustainability.

There are different donors involved in the provision of safe and sustainable water supply and sanitation facilities to rural communities in Afghanistan. Provisioning of safe water supply and sanitation facilities to rural communities in Afghanistan continues to be one of the primary activities of the humanitarian aid communities. While some bilateral donor agencies are funding NGOs and more recently through MRRD funding is taking place. RuWatSIP with support of WASH Sector stakeholders will: (i) help streamline the appropriate approach to scale up service delivery in the sector, (ii) initiate partnership between NGO/private sector and the Government; (iii) support the Government’s effort to take a more programmatic approach to sector development so as to eventually lead to a sector wide approach. The capacity of MRRD and RuWatSID will be enhanced to be able to implement streamlined consistent approaches throughout the sector; assume a greater role and eventually do away with separate PIUs for implementing projects funded by different donors.

RuWatSIP will support Government’s programmatic approach to sector development and service delivery by (i) building the capacity to define sector programs, facilitate service delivery using the strengths of the NGOs/ private sector and thus forge partnerships in which the funding is channelled through the government budget to provide a coordinated funding mechanism; (ii) strengthening the capacity of RuWatSIP, private sector, NGOs and the communities to plan, operate and maintain their facilities ; (iii) provide basic water supply and sanitation services and institutionalize a mechanism/s to scale up such activities to enhance total coverage as quickly as possible.

RuWatSID will also focus on strengthening the government institutions at provincial and community level.

### 3.2 Project Development Objectives

RuWatSIP Development Objectives are as follows:

**Objective 1:**

* Improve access of the rural population to 25 litres per capita per day (LPCD)from 27% to 50% in 2014, and 70% to 100% in 2016 and 2020 respectively and improve potable quality of drinking water (WHO standards).

**Objective 2:**

* Make all villages/rural communities in the country 100% ODF free and fully sanitised by 2020; and 50% and 70% by 2014 and 2016 respectively by empowering communities to:
* Improve existing traditional latrines to become safe, hygienic and ensure user privacy;
* Make new latrines as models of safe sanitation in households, schools and clinics;
* Undertake the safe disposal of solid and liquid wastes.

**Objective 3:**

* Provide hygiene education with appropriate follow-up activities in schools, households and communities for sustained behaviour change and adoption of safe hygiene practices.

### 3.3 Project Components

RuWatSIP will initiate support to the sector development program and will support the following:

* Ensuring community participation in decision-making for women and men in planning, design and service delivery, ensuring ownership and sustainability at the community level.
* Partial capital cost sharing and 100% operation and maintenance responsibility by the community for all water facilities.
* Gender mainstreaming through women’s active involvement, particularly in S*hura*s, and in CDC decision-making to ensure social equity and justice.
* Protecting the human rights (safety, security, privacy and dignity) of people, particularly of women, children, returnees, IDP, and physically and mentally challenged.
* Protecting the environment by conserving water sources, adapting to climatic changes through the preservation and improvement of catchment areas, with a focus on recharging ground water.
* Strengthening and capacity building of government agencies, NGOs, private sector and the communities.
* Selection and Construction of Water Points and Community Led Total Sanitation approach, community-level health and hygiene education as a pre-condition and integral part of the water supply and sanitation (integrated rural RuWatSIP) package.
* Studies such as, for developing service delivery mechanism for pastoral communities (Kuchis) and “Rural Towns”, determining a strategy for a national health, hygiene and sanitation campaign, developing feasible sanitation strategy/ approaches and water quality monitoring and other studies leading to appropriate technology and sector development.

## 4. Community Led Total Sanitation (CLTS) and ODF

Objective: To understand the Community-Led Total Sanitation and what is required to make it successful.

Objective: To understand Open defecation free (ODF) and methods that can be used to ensure that it will happen and how to measure ODF.

Kamal Kar and Robert Chambers have been involved in the starting and producing handbooks on the CLTS approach. Besides the handbook there is also the training manual and therefore the approach becomes more transparent and acceptable. The approach must be adjusted to the local needs and cannot be used without analysing the local habits and background. The approach should be used with monitoring and evaluation tools planned to be used to give feedback and make improvements in the next villages that the approach is being used. The approach has been in use since 1999 and has been launched in many countries, but the approach should be adapted to the local situation.

Open defecation free (ODF) is as defined by Kamal & Chambers (2008) as when “no faeces are openly exposed to the air”, therefore an open direct pit latrine is only ODF if covered by a lit, and the lit must be fly-proof. Verification and certification can only be done by persons trained in recognising all the finer points of what ODF means. They also define what to call a latrine and a toilet, a latrine is having a direct pit and a toilet has a water seal.

Kamal (2010) highlights the need for trainers to be careful and does not enforce CLTS, the approach is demand-driven. The trainers are urged to be responsible and make changes to the trainings in a manner that takes the reality of the localities in view. A community should not be asked to make latrines or stop open defecation, the decision should be from the community, the decision should be from the local organizations and government of the country concerned.

Kamal (2010) recognises that the CLTS is a approach in development but there are a number of core principles and practices that are important, but should be noted that diversity and creativity should have their place in the approach. The indicators for CLTS training is not on numbers of trainers trained but numbers that show the effectively facilitation by the trainers and the quality of the training. The most important indicator will be the number of ODF villages.

CLTS can be explained is a few sentences but the two references Kamal & Chambers (2010) and Kamal (2010) are the essential readings that will clarify the ideas, training and approaches required. Knowledge in participatory methods are an advantage as well as a number of the tools are directly taken or adapted from the participatory method toolbox. The training manual by Kamal (2010) will be the core document to start the training and is clearly laid out and can be followed by trainers used in participatory methods and training in hygiene and sanitation. The training manual is helpful in pointing out potential weaknesses and the do’s and don’ts of training, facilitation and community approach. The activity of reporting is being stressed as those are useful in the monitoring exercise afterwards. An important Appendix I of the training manual gives a checklist for the CLTS strategies if in line with the CLTS approach. A five day workshop should be sufficient to cover a whole district.

Why can CLTS work while other approaches do not work at all or in a limited manner? According to Kamal et al. (2008) by using the crude word “shit” and visiting the worse places (where villagers shit), thereafter the appraising and the analysing of the situation “shocks, disgusts and shames people”. The style used is supposed to be provoking and leaving the decisions and action to the community. A number of approaches can support the triggering event that the community will take action.

The method should not have the subsidy factor and should not say the type of toilet that should be required. The use of local materials and innovative systems as devised by the community for rewarding, penalising, spreading the CLTS – ODF approach and scaling up are essential. The system makes the community responsible and leaves the action to themselves.

The selection of the villages to start with should proceed with care as outlined in Kamal & Chambers (2008). The organization starting the system should avoid challenging situations to start with and select favourable settlements. The NGOs should know their respective areas and locate those villages that are likely have the right conditions for excepting change if initiated by themselves.

References

Kamal, K., Chambers, R. (2008, March). Handbook on Community-Led Total Sanitation. Plan International (UK)

Kamal, K. (2010, April). Workshops for community-led total sanitation: A trainers’ Training Guide. CLTS Foundation, Water Supply & Sanitation Collaborative Council.

# Section III Institutional Implementation

## 1. Institutional Arrangements

### 1.1 Community Organization

#### 1.1.1 Community

A community is the main recipient of a project. Communities will be identified based on existing local settlement and social patterns. All the willing households should be included as beneficiaries as members of CDCs and otherwise Water and Sanitation Users’ Group (WSUG) that might have to be constituted.

Community will be supported by RuWatSIP/Organizations financially and technically to plan and implement demand driven water supply and sanitation scheme. A key characteristic of this approach is that it promotes a high level of community participation and ownership during all phases of the project cycle.

As such, roles and functions of the community will include:

* Assess water and sanitation situation and identify needs
* Form Water and Sanitation Users’ Group/ Committee (WSUG/C) or work through Community Development (CDC)
* Participating in survey, appraisal, and all other community meetings related to Water;
* Participate in identification of water point sites
* Participate in Making Informed Choice of Technical Options
* Participate in preparation of community contribution Plan
* Lead the Community-led Total Sanitation and reach ODF
* Participate in preparation of Operation and Maintenance Plan
* Participate in selecting Village Hygiene Promoter (Male and Female Team), Village handpump/ water point caretakers, and pump/ valve Mechanics
* Participate in preparation of Community Action Plan (CAP) and demand-driven water and sanitation sub-project
* Provide Community Contribution (Cost Sharing) for basic service level and share additional cost if opted for higher service level
* Participate in Community Participatory Implementation Monitoring
* Participate in health & hygiene education campaigns and sessions
* Certify satisfactory completion of works
* Maintaining the asset after completion with community cost contributions.

#### 1.1.2 Community Development (CDC) and/or Water and Sanitation Users’ Group/ Committee (WSUG/C)

Community Development Council (CDC), established under the National Solidarity Program (NSP), is a community-based decision making body which is elected by the community through elections based on a secret ballot[[6]](#footnote-6). The Community Development Council (CDC) will be responsible to plan, implement and operate and maintain the newly constructed facilities and assume asset ownership. It will be responsible for overseeing the preparation of the Community Action Plan for implementation of water and sanitation sub-project, its implementation and operate and maintain the system. RuWatSIP/Organizations Projects will use established CDC wherever they exist.

Where the Community Development Council (CDC) does not exist, the community will form a Water and Sanitation Users Group/Committee (WSSUG/C) to plan, implement and operate and maintain the newly constructed facilities and assume asset ownership. These WSUG later could be merged or administered under the CDC.

The Community Development Council (CDC) or Water and Sanitation Users’ Committee (WSUC) should at least comprise a Chairperson, Treasurer and Secretary.

The Community Development Council (CDC) or Water and Sanitation Users’ Committee (WSUC) should obtain the endorsement through community meetings regarding:

* Decisions on Community Action Plan for implementation of Water and Sanitation Sub-project.
* Selection of technology/ technical options
* Site selection for Water Point Construction
* The size and composition of community contributions
* Transparency arrangements,
* Arrangements for maintenance of completed projects.

Specifically, the Community Development Council (CDC) or Water and Sanitation Users’ Committee (WSUC) will be responsible for:

* Assessing water and sanitation situation and identify needs
* Convening community wide meetings;
* Identification of water point sites with consent of women users
* Make Informed Choice of Technical Options
* Prepare community contribution Plan
* Prepare Operation and Maintenance Plan
* Lead the Community-Led Total Sanitation process.
* Select Village Health Promoter (Male and Female Team), Village Handpump/ water point caretaker, Village Handpump/ Valve Mechanics
* Prepare Community Action Plan (CAP) and demand-driven water and sanitation sub-project
* Mobilizing community contributions for:

a) contribution to capital costs of projects;

b) operation and maintenance costs and

c) operation and maintenance costs of CDC or WSUC;

* Ensuring community participation during all phases
* Carry out Community Participatory Implementation Monitoring
  + Assist with the hygiene education campaigns and sessions that lead to Community-led Total Sanitation
  + Collect required community contribution in cash or kind from the community
  + Recommend payments of SOs/ CPs
* Certify satisfactory completion of works
* Own assets, establish O&M system and take full responsibility for O&M
* Maintaining the asset after completion with collection of community cost contributions.

Water and Sanitation Users’ Committee (WSUC) must be elected or selected through community wide meeting.

All beneficiaries’ households are member of the Water and Sanitation Users’ Group (WSUG) and Water and Sanitation Users’ Committee (WSUC) is the executive committee of the WSUG. Hence, the representatives in the WSUC will be selected or elected with majority consent in the community wide meeting in presence of male and female representatives of the member household.

To have functioning Water and Sanitation Users’ Committee (WSUC), the number of representatives should be between 5 and 15 persons depending on the size of the community. The Organization should facilitate and inform community to select or elect representative WSUC inclusive of different socio-economic, ethical/ tribal sub-divisions within the community and represents different clusters. The Water and Sanitation Users’ Committee (WSUC) should select or elect a Chairperson, Secretary and Treasurer.

Where local norms regarding *Purdha* do not allow women to participate directly in community wide meetings or in the Community Development Council (CDC) or in Water and Sanitation Users’ Committee (WSUC), the organization must promote and select separate male and female sub-committee on different male and female members community wide meeting. When separate male/female sub-committees are established, an Executive Coordination Committee consisting of two members of each sub-committee shall be established[[7]](#footnote-7).

The Organization should ensure that the choices and decision made by women are discussed with the men, and that those choices and decisions by the men are discussed with the women, so that Community Action Plan (CAP) takes account of both on consensus.

### 1.2 Implementation Organization

#### 1.2.1 Organization (NGO)

Communities will be supported by organizations i.e. primarily Non-Governmental Organizations (NGOs: International NGOs and local NGOs with extensive WASH Expertise) who will be responsible for software aspects[[8]](#footnote-8) of the project.

* Planning – assist in preparing provincial plan of action in line with provincial priorities, participate in site surveys and preparation of provincial construction plans
* Dissemination of Project Information
* Hygiene Education - awareness creation by conducting hygiene, sanitation education and forming CLTS approach covering all Water and Sanitation Users’ Group
* Community Mobilization – support in using existing Community Development Council (CDC) or the election/selection of Water and Sanitation Users Committee (WSUC) to plan, implement, own assets, build capacity to assume full responsibility to operate and maintain the newly constructed facilities.
* Assist community to prepare Community Action Plan (CAP) for implementation – participatory survey and water point site selection involving women in making decision on water point site selection, community contribution plan, Operation and Maintenance Plan
* Assist community to Identify Water Point care taker, Area Pump Mechanic/ Valve Mechanic, Hygiene Promoter/ Community Health Worker (CHW)
* Ensure community ownership and contribution (at least 10% of the cost)
* Promoting and convincing Households to construct the superstructure of latrines with their own resources while project provide moral and technical support.
* Obtain community willingness to assume full responsibility for O&M of the facilities
* Training – CDC or WSUC, Water Point care taker, Area Pump Mechanic/ Valve Mechanic, Hygiene Promoter/ Community Health Worker (CHW)
* Monitoring and Supervising Construction Partners responsible for hardware aspects: assist MRRD in evaluating, recruiting, supervising Construction Partner (CP) and managing of contracts between MRRD and Construction Partners (CP) within one or more provinces, do quality control, certify invoices for payments to the Construction Partners (CP)
* Reporting – prepares water point report with photographs; coordinate all water supplies for registration in the national water database

The MRRD will give the reigns in the hands of the CDCs and they will organize the needed approach with the support of the Provincial Office in case the need is identified or requested. The established and experienced CDCs will have very little requirements for the organizational aspect but will require support with the hygiene education and the Community-Led Total Sanitation approach.

#### 1.2.2 Construction Partner

The construction Partners (CPs) are primarily private sector firms responsible for hardware aspects[[9]](#footnote-9).

* Construction of water supply facilities – drilling of tubewells, deepening of dug wells, construction of head works for tube-wells and dug wells, supply and installation of approved hand pumps, construction/ rehabilitation of existing facilities as spring protection etc., supply and laying of pipes and fittings for gravity piped schemes (including reconstruction and rehabilitation)
* Training – Village pump/ water point caretaker and pump mechanics (on the job training)

Depending on volume of work, it may be necessary to recruit many Construction Partners (CPs). Construction partners (CPs) are most likely from the province or the region and contracts will be signed directly between MRRD, CDCs and the Construction Partners (CPs).

### 1.3 District and Provincial Organization

#### 1.3.1 District

The District Administration (DA) will work with the Provincial office and the CDCs or Organization to conduct survey, prioritize Village Project and forward application. Further, DAs work closely with community in planning, implementation, and operation and maintenance of projects.

#### 1.3.2 Provincial RRD

The provincial water and sanitation staff (3 technical officers and one hygiene officer) in the RRD office of the MRRD will work with CDCs or Organizations to carry out the following activities:

* Select Districts and Villages as per the set criteria in consultation with Governor’s Office
* Prepare provincial priority RuWatSIP project activity plans in consultation and endorsement of Governor's Office
* Appraise Community Action Plan (CAP) for implementation of the project.
* Prepare Water and Sanitation Sub-Project and documents for procuring Construction Partners (CPs)
* Provide technical backstopping to the CP and the community
* Monitoring Progress of project activities including works of SO and CP and report to RuWatSIP Department

Further the P-RRD office carries out the following activities:

* Monitors the performance of the CDCs or organizations and report to RuWatSIP Department.
* Recommend Payments of both CDC, organizations and CP
* Assist community during major repair of the water supply facilities

In future, when the expertise and capacity at the provincial level is adequate, the provincial RRD will assume contracting responsibility with CPs. The Districts will be increasingly involved as capacity increases.

#### 1.3.3 Regional Technical Support Unit (based in provincial RRD)

In each region, a Technical Support Unit (TSU) staffed by O&M advisors and, at least, one inspection team for a province (comprising of Water Engineer and Support Officer) to visit and inspect existing and new water facilities at least once a year. The main function of the Technical Support Unit (TSU) is as follows:

* Visit and inspect water facilities,
* recording of GPS for all wells
* inspection of maintenance standards
* does quality testing of water
* Update information on the water supply situation
* Enhance sustainability
* Gives feedback to the projects
* Gathers lessons learned
* Apply lessons into the next round of planning

### 1.4 Central Executing Agency

#### 1.4.1 Project Implementation Unit, Water and Sanitation Department, MRRD

The projects will be executed by a Project Implementation Unit (PIU) in MRRD under RuWatSIP Management Unit, comprising of a team staff lead by a Project Manager and assisted by advisors, as required.

The roles and responsibilities of the PIU will be:

* Execution of Program/ Projects
* Recruitment of Construction Partners
* Endorse the Selection of Communities
* Supervision, Monitoring and Evaluation of Project
* Periodic Progress Reporting
* Technical Backstopping at Provinces
* Coordination of training activities
* Preparation of Annual Procurement Plan
* Prepare ToRs, bidding documents, contract documents
* Procurement of goods, services and works
* Overall contract management (supervision, monitoring and evaluation, review recommendations on contractual payments and making payments, as appropriate)
* Avail the services of regional monitoring teams established in regional RRD offices to assist in M&E and payment certification
* Co-ordinate its work with other parallel management units for projects supported by UNHCR, USAID, UNICEF and others
* Co-ordination with other programmes and in particular with NSP with respect to priority areas, and establishment of sustainable operation and maintenance system
* Co-ordination with other stakeholders and ministries

#### 1.4.2 Project Management Unit

All projects will be coordinated by RuWatSIP Management Unit (PMU) lead by Project Coordinator and Joint Project Management Committee (JPMC) comprising of respective Project Managers and advisors of different projects. It co-ordinate different projects supported by UNHCR, USAID, UNICEF and others through a Joint Project Management Committee (JPMC) for respective projects headed by RuWatSIP coordinator. The aim is to enhance the capacity of MRRD, RuWatSID to be able to implement streamlined approaches; assume greater role and eventually do away with separate PIUs for implementing projects funded by different donors. The preferred model is to make use of CDCs through the P-RRD offices as well organized committees that have proven to function well most of the time, monitoring is essential but should be together with the provincial, district authorities and community representatives.

The Functions of the Joint Project Management Committee (JPMC) includes:

1. Based upon field studies/appraisal and approval of RRD, recommend to the management to endorse approval or rejection of schemes in strict compliance with the eligibility criteria;
2. Recommend to the management for approval of Construction Partners (CPs)
3. Preparation of documentation as required for Management decisions on funding recommendations;
4. Overall supervision of project progress, compliance with agreement, and that appropriate policies are followed for sustainable and cost effective development.
5. Review of the overall progress of RuWatSIP portfolio and its processing;
6. Identification and documentation of common problems and resources which emerge during the processing of projects. The JPMC analyses and makes recommendations for management on problem cases.
7. Focus on capacity building and strengthening appropriate institutions.

#### 1.4.3 MRRD, Water, Sanitation and Irrigation Department

The overall oversight of RuWatSIP will be the responsibility of RuWatSID in Ministry of Rural Rehabilitation and Development (MRRD), headed by the National RuWatSIP Program Coordinator/ Director.

The roles and responsibilities of the MRRD, RuWatSID will be as follows:

* Sector policy formulation, revisions and overall rural RuWatSIP sector development
* Sector planning, budgeting and allocation
* Macro-level sector monitoring and evaluation to bring about efficiency in service delivery to the rural communities
* Sector co-ordination through WSG
  + Co-ordination at all levels (Ministry, PIU, Provincial and Community)
  + Co-ordination with other Ministries viz. MoPH, MoE, MoWA

# Section IV Project Implementation Process

## 1. Project Cycle Management

The implementation process should not be undertaken until a complete assessment and planning process is undertaken. The project cycle management as can be found on the European Union web site[[10]](#footnote-10) would be a good starting point if the organization has no fixed planning methods. The Project Cycle Management (PCM) Guidelines of the EU (others have similar methods) produces a process that can be done in parts or as a complete approach. The Logical Framework Tool will support the project in setting up outputs, indicators and verifiable methods of measuring for all level of personnel. The assumptions are important for the management as those have to be monitored as well. The Logical Framework gives support to the middle management to ensure that all components are monitored and evaluation will be easier.

Additional tools can be utilised that can support decision making during assessment and even prior to the assessment phase with the support of GPS data projected through the use of GIS (Annex II refers). The assessment data require to be analysed and conclusions to be drawn that will support the selection of intervention areas.

## 2. Scheme Cycle Activities and Project Review Process

The average project scheme cycle is estimated to be about twelve months which consists both planning and implementation phase at which time it is expected that the community mobilization, organization, community planning, health and hygiene education would be carried out and the water points and the latrines are build by the community when the Community-led Total Sanitation as being used. However, the duration could vary with the level of community awareness, weather condition of project area, security etc. and would need to be monitored carefully.

The different Phases of Project Scheme Cycle Activities and tentative timeline is shown in the following figure[[11]](#footnote-11). The detailed Project Scheme Cycle Activities with tentative time frame are shown in Annex-1.



### 2.1 Selection of Organization and District Demand Collection

Communities will be supported by the Provincial RRD or Organizations i.e. primarily Non-Governmental Organizations (NGOs: Afghan and International NGOs) who will be responsible for software aspects[[12]](#footnote-12) of WASH Projects.

The MRRD, as an Executing Agency, might support in the selection and contract Organizations to assist communities in the delivery of services. For small Community based projects the CDC approach is the preferred method and the use of existing trained hygiene education couples.

During this phase, the Province will ask for application from interested district to apply for water and sanitation improvement with rational for their application. The applications from interested districts will be also be collected during this phase. The engaged Support Organization will assist district in data collection and work closely with district representatives as well as with villages and provincial staff in proposing provincial, district and village priorities.

### 2.2 Provincial Planning

In this Phase, demand from the district will be appraised with feasibility study with District and Village survey. Based on this, by applying district eligibility criteria, the district and villages will be selected in consultation with provincial governors.

**During this phase Organizations will carry out following activities:**

* Project Information sharing with Villagers/ communities
* Participatory Feasibility District and Village Survey (The Sample Format to be used for District and Village Survey are provided in Annex-3[[13]](#footnote-13))
* Prepare provincial plan of action in line with provincial priorities in consultation with provincial governors
* Submit District and Village Selection and Project Implementation Plan for approval of Project Implementation Unit, MRRD through Provincial RRD

**The MRRD, Project Implementation Unit (PIU) will carry out following activities:**

* Endorse the District and Village Appraised and Selected by Provincial RRD in consultation with Provincial Governors. The District selection criteria are presented in Box-1[[14]](#footnote-14).

Box 1 Criteria for District Selection

* Need: % of population without access to safe drinking water
* Epidemic of water borne disease
* Higher Rehabilitation Needs
* No other WatSan project on significant size planned and in progress in the district.

### 2.3 Community Organization and Planning

In this Phase Community Organization such as CDC and/or WSUC will be established, baseline information collected, Hygiene and Sanitation Education Started, Community Action Plan for Implementation of project along with engineering design estimate will be prepared.

The Community Action Plan for Implementation of project along with engineering design estimate will be submitted to Provincial RRD. MRRD will appraise project along with Provincial RRD. Upon endorsement of project by MRRD, before start of the work, an agreement will be signed between an Organization and the District Authority. A sample agreement between an Organization and District Authority is provided in Annex- 4[[15]](#footnote-15).

During this phase the Organization (can be NGOs but also locally trained personnel who have formed local companies have sufficient knowledge to undertake the support function) will support communities with the following activities:

* Project Information sharing with Villagers/ communities
* Community Social/ Resource Mapping[[16]](#footnote-16) with Transact Walk

(The Guideline for Community Social / Resource Mapping is provided in Annex- 5[[17]](#footnote-17))

* Baseline Hygiene KAP Survey

(The Format for Baseline Hygiene KAP Survey is provided in, Annex-6[[18]](#footnote-18))

* Community Mobilization and Organization (refer Section X for details)
* Formation of WSUG/C or use existing CDC
* Orient and Train WSSUG or CDC
* Community Situation Analysis
* Selection of Hygiene Promoter/ Educator
* Training of Hygiene Promoter/ Educator
* Hygiene Education (refer Section XI for details)
* Community Informed choice of technical options
* Prepare community contribution plan
* Prepare Community Action Plan[[19]](#footnote-19) (including site selection, choice of technical options, community cost contributions, community supervision and monitoring, O&M arrangements, Hygiene and Sanitation Education) (The Format for Community Action Plan Information is provided in Annex-7)
* Obtain inputs and endorsements from community (separate meeting with men and women should be carried out and agreement of both men and women should be there) regarding site selection and community action plan (The Format for Community Action Plan Information is provided in Annex-7)
* Technical Feasibility Study, Engineering Survey, Design, Estimate

The community will:

* Assess water and sanitation situation and identify needs
* Form Water and Sanitation Users’ Group/ Committees or use existing Community Development Council as a decision making community institution;
* Participate in preparation of a Community Action Plan for implementation of project;
* Participate in Hygiene and Sanitation Education and form CLTS
* Submit Community Action Plan for implementation
* Participating in field appraisal, and all other community meetings related to project;

The MRRD will:

* Appraise the projects submitted by the community with community action plan with provincial RRD
* Endorse the selection of communities appraised and selected by Provincial RRD (The eligibility criteria for selection of communities is provided in Box-2)
* Prepare tender document for construction works
* Advertise tender for construction works
* Evaluate tender
* Select Construction Partner (CP)

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| **Box 2: Community/ Scheme Eligibility Criteria**  **(i) Needs**  **Access**  Villages without any source of water within 60 minutes round trip to collect (ref. water RURAL WATER SUPPLY AND SANITATION, National Policy Framework, Final draft September 2004)  or  **Water Quality**  Without any access to safe drinking water  (Clear, odourless and acceptable to community, parameters meeting WHO guidelines)  or  **Quantity**  Using less than 15 lpcd of water  **(ii) Technical Feasibility**  **Water Point Site Selection**  Location should be in a public place providing free access to all users  Women users involved in selecting site and location acceptable to women water users.  **Technically Feasible**  Proposed source, undisputed, unpolluted and Yield to meet Water Demand of 25 lpcd (Where no cost effective alternatives source meeting Water Demand less than 25 lpcd can also be considered in water scarce area),  Meets engineering standards, basic service level including measures to mitigate environmental adverse impacts |

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| **Box 2: Community/ Scheme Eligibility Criteria (Continued)**  (**iii) Willingness to participate, contribute and sustainability**  Exist or Established representative Community Development councils (CDC) or water and sanitation users' Group/committees (WSSUG) and Separate Women’s Sub-Group if main council or committee do not represent women.  Minimum 10% of total cost committed as community contribution in cash or kind (skilled and unskilled labor, local materials, transportation of material) towards capital cost. Priority will be given for more community contribution.  The community will be introduced into the Community-led Total Sanitation and the community should therefore upgrade their hygienic conditions of the whole village. On achieving the desired state of ODF the community will get additional funds that can be utilized for community projects in a transparent manner.  Community committed and willing to pay all running costs and take full responsibility for O&M, planned and committed to establish viable system for O&M with establishment of O&M fund.  All willing household in a community are included and will have access to benefits (equity – people from different geographical and occupational sections of the village can access benefits)  Community Action Plan that includes Water Supply, Sanitation and integrated Hygiene Education endorsed by the community. The decisions and choice of women taken into account (beneficiary participation)  Selected Water Point Care takers, Pump/ Valve Mechanic, Hygiene Promoter from community by the WASH Users' Group and willing to train and engage  User Group Executive willing to sign an agreement with an area pump mechanic or Valve Mechanic for repair and annual preventive mechanical maintenance of the water supply  Users' Group Executive willing to take responsibility to own and manage, accepts principle of transparency, monitor and report posted in public places. |

3. Implementation

In the implementation phase, the construction of water supply system and no demonstration toilets will be constructed but other methods will be used to encourage the community to construct their own acceptable but safe toilets. The hygiene education will be carried out prior to the CLTS or as decided by the method used. The functional Operation and maintenance system will also be established.

Before the start of this phase, an agreement will be signed between SO (SO should be understood in the widest sense), Community and District Authority. A sample agreement between Organization-Community-District Authority is provided in Annex-8.

During this phase The Support Organization will carry out following activities:

* Hygiene and Sanitation Education
* Construction of Demonstration and Household Latrines
* Supervise Construction Works of water supply system
* Mobilize community contribution towards capital cost/ construction
* Training of Pump/ Water Point Caretaker
* Training of Area Pump Mechanics/ Valve Mechanic
* Set Functional Operation and Maintenance System
* Engage Water Point Care takers and Pump/ Valve Mechanic
* Link with spare parts shopkeeper
* Orient WSSUG/ CDC
* Water Quality Sampling and Testing
* Project Completion Report (PCR)

The Format for Project Completion Report (PCR) is provided in Annex-9.

The Construction Partner will carry out following activities:

* Construction/ Improvement of water points
* Provide on-the-job training to Mechanics

The community will:

* Mobilizing community contributions for:

a) contribution to capital costs of projects;

b) operation and maintenance costs of outputs/assets and

c) operation and maintenance costs of CDC/ WSUG;

* Facilitate the well digging or tube-well boring or trench digging for pipeline.
* Provide unskilled labour for construction of water point/ water system.
* Provide local materials for construction.
* Provide unskilled labour for ring sinking or well boring and handpump installation/ pipe trench digging and construction of structures.
* Arrange transportation of well/ tubewell/ piped scheme components from the production site to well site.
* Managing and supervising scheme implementation;
* Inspect the performance of hygiene promoter regularly.
* Inspect the performance of caretaker and mechanics regularly.
* Reporting to the community and to RuWatSIP on project progress and use of funds.

The MRRD will:

* Carry out regular monitoring
* Carry out technical audit upon completion of the works

## 4. Follow-ups

The regional Technical Support Unit, MRRD will at regular interval visits and inspect water facilities, irrespective of who built them, so as to have updated information on the water supply situation and to enhance sustainability. The water point survey form is attached in Annex-10.

# Section V Procurement Arrangements & Financial Procedure

## 1. Procurement Arrangements

Procurement under the RuWatSID will follow the MRRD procurement rules based on the Government of Afghanistan procurement framework. Sector partners will have procurement rules that are closely related to donor requirements and provided that the procurement is done in a transparent manner, well documented and items with high standards bought (especially those items left within the communities) no interference is expected.

The other projects/ programs may follow similar procedures with adjustments as per the needs of the donor and agreement made with them. The Government is trying to harmonize the procurement procedure through Contract Department in the MRRD and it should be followed.

The following five main considerations, however, should guide the selection process:

(a) The need for high-quality services,

(b) The need for economy and efficiency,

(c) The need to give all qualified consultants or contractors or manufacturing industries, national or international an opportunity to compete in providing the services or goods and works,

(d) The need of encouraging the development and use of national consultants or contractor or manufacturer, and

(e) The need for transparency in the selection process.

## 2. Fund Flow

RuWatSIP projects will be executed by MRRD. A RuWatSIP manager in the PIU will be responsible for the use of the funds in accordance with budgets and approved procedures of payment/ disbursement.

The Payments for organisations are made against milestones certified by the communities and Provincial RRD. The milestones will be set in advance in the contract document.

CPs payment will also be made against milestones certified both by community and by the organisation followed by Provincial RRD. The milestones will be set in advance in the contract document.

## 3. Accounting Policies and Procedures

RuWatSIP will follow standard Afghan Government financial management policies and procedures, including use of the Chart of Account developed by the Financial Management Agent to record project expenditures.

## 4. Disbursement

### 4.1 MRRD

MRRD, Financial Management will support the Special Disbursement Unit (SDU) within MoF in preparing withdrawal applications, taking steps to transfer/make payments, undertake accounting and reporting. The financial management advisor in MRRD is also responsible for ensuring that proper financial procedures are followed in the implementation of RuWatSIP.

### 4.2 Special Disbursement Unit, MoF

The Special Disbursement Unit (SDU) within MoF has the main responsibility for preparing withdrawal applications, taking steps to transfer, make payments, undertake accounting, reporting and obtaining audit opinions.

Overall project accounts will be consolidated centrally in the SDU for all implementing entities, and consolidated Project financial statements will be prepared for all sources and uses of project funds.

## 5. Audit Arrangements

RuWatSIP accounts will be audited by the Auditor General with the support of the Audit Agent with terms of reference satisfactory to the donor. The annual project financial statement would include a summary of funds received (showing funds received from all sources), and a summary of expenditures shown under the main Project components/ activities and by main categories of expenditures.

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# Section VI Gender

## 1. Why is Gender Important?

Women, girls, boys and men have different needs, strengths and capacities. It is important to understand these differences so that programme strategies are effective and relevant. While being gender inclusive means working with girls, women, boys and men, it includes focussed work with girls and women. This is because typically girls and women face historical social, economic and cultural disadvantages that lead to their exclusion from decisions that affect their lives. It is especially true in Afghanistan where over 30 years of conflict and ongoing chronic disasters expose women and girls to increased vulnerabilities.

In the WASH sector, girls and women are primarily responsible for water related activities. Women often identify water related responsibilities as the biggest part in their overall household tasks. *A World Bank study of 1996, identified that active participation of girls and women in a project improves its effectiveness 6-7 times.*

The Afghanistan National Rural Water, Sanitation and Hygiene Policy (2010) emphasizes the importance to actively include women in decision making, in various stages of a project cycle. Also, with hygiene as its main focus, the policy strengthens the role of women who are seen as mainly responsible to ensure family and hence community level hygiene practices

Through its national and international commitments, the National Action Plan for Women in Afghanistan (NAPWA), Afghanistan Development Strategy (ANDS) and the Millennium Development Goals, the principles of gender equality & equity is further committed to by the Government of Afghanistan

## 2. Basic Definitions & Concepts

**Sex:** biological/physical differences between women and men, girls and boys, based on their sexual and reproductive functions, which we are born with; generally cannot be changed

**Gender:** socially-created differences (roles, responsibilities, and expectations) between women and men, girls and boys; they change with societies, cultures and even families over time. These are the culturally specific set of characteristics that identifies the social behaviour of women, girls boys and men and the relationship between them.

**Socialization**: the process by which roles are constructed. They indicate the

norms of behaviours for different members in a society such as women, girls, boys and men. It includes our beliefs, attitude and practices

**Gender Equality:** refers to the equal enjoyment by girls, boys, women and men of rights, opportunities, resources and rewards. Equality does not mean that women and men, girls and boys are the same but that their enjoyment of rights, opportunities and life chances are not governed or limited by whether they were born female or male.

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**Gender Mainstreaming**: is *a globally accepted strategy, an approach, a means to achieve the goals of gender equality*. It requires that attention is given to gender perspectives as a key aspect of all activities across all programs. This involves making gender questions – what women and men do, resources and decision-making processes they have access to – more central to all policy development, research, advocacy, development, planning, implementation, monitoring, and reporting of projects.

**Gender Programming:** taking into account gender differences in all stages of the project cycle from design to evaluation. It involves an understanding that women and men may want different things and that outcomes may also be different between women and men. No programme work is gender neutral.

**Gender Analysis**: examines the relationships between females and males and their access to and control of resources, their roles and the constraints they face relative to each other. A gender analysis should be integrated into needs assessment and in all sector assessments or situational analyses to ensure that humanitarian and development interventions do not extend gender-based injustices and inequalities and, where possible, greater equality and justice in gender relations are promoted.

**Gender Balance** is about the equal participation of women and men in all areas of work (international and national staff at all levels, including at senior positions) and in programmes that agencies initiate or support (e.g. WASH, livelihoods etc). Achieving a balance in staffing patterns and creating a working environment that is conducive to a diverse workforce improves the overall effectiveness of policies and programmes, and will enhance agencies’ capacity to better serve the entire population. This is especially true in WASH which is often perceived as a technical sector and primarily dominated by male engineers who comprise the majority of internal staff of Implementing Units.

## 3. Gender Sensitive approaches in WASH

When it comes to women and girls, usage of WASH facilities in the public space depends on cultural appropriateness and the security aspect related to location access and use. The cultural & religious values, alongwith the aspects of security makes the demand for privacy and personal safety required to make WASH facilities acceptable to women and girls relatively high. If these factors are not included into the design and location of the toilets & water points, this may lead to their non use by almost half of the population in a community.

*Case: There have been cases of women and girls choosing to travel longer distances to fetch water, compared to a facility closer to their home. The reason was that the water point was located near a mosque making it convenient to the male population, especially for the purposes of ablutions for prayers, but for the women & girls, this led to restricted and often no access.*

The aim of making WASH facilities gender inclusive ensures that all users can have equal access and use it with dignity and without any issues of shame or fear.

What follows are some clear *‘To Do’* steps that can be taken during the project implementation to ensure women and girls are actively included into program aspects, along with men and boys.

### 3.1 Preparation and Planning

1. Directly contact women and girls, boys and men on their needs & requirements for adequate water, sanitation and good hygiene requirements.
2. Hold separate meetings with women and girls to consider their opinions when designing, technology selection, locating and building latrines and water points.

*In 2009, DACAAR conducted a gender focused needs assessment of WASH programme in Balkh. During the discussion with the respondents, it emerged that there were women who had studied engineering in college. But after marriage, they had moved to the village and their household responsibilities had not given them an opportunity to build on their education. Seek out these women to be built in as active partners in WASH related work in the area.*

1. Discuss the convenience & appropriateness of the meeting venue and meeting time with women and girls. Make sure to choose a meeting time that is acceptable to them, given their household responsibilities. E.g mid morning is not a good time as women are busy preparing lunch, similarly late evening when it may not be appropriate for them to attend meetings. School going young girls and boys can be contacted by arranging for social session during their school hours when there is a greater probability of capturing their attention
2. Support Organizations/Implementing teams to have women in their staff, e.g from the hygiene units, to directly contact girls and women in the community. If for some reason, women cannot be employed directly in the project teams, temporary hire a woman volunteer, such as a school teacher, a health worker from the village for this role.

*Where is not possible at all that women and girls can be directly contacted., the field engineer stresses the importance of asking the women’s opinion when requesting the user group men to think about needs and site location*

1. Include women’s shuras, women’s groups, mothers groups and other similar local collectives to encourage women’s participation in site selection , planning and designing
2. Include female headed households, households with single females, women unaccompanied by males, households with persons with disabilities and other vulnerable households in these discussions
3. Prepare separate KAP survey tools for women and men. Make sure that male staff interviews the male population and female staff interviews female population.
4. In the KAP tool used for women, include women specific WASH questions, especially on sanitary hygiene and safety, security concerns. Sample of questions that may be included are-

* *are there any specific issues of safety, security or privacy that you or your family members (especially women, children, elderly and persons with disability) might have in accessing the water point at any point of time?*
* *what is the sanitary material that you use during menstruation? how do you dispose it?*
* *do women, girls and children find it easy to access and use the latrine at all times?*

If appropriate, some questions on safety and security may also be asked to men as this will help the project staff to understand the issues of concern from both men and women. The dialogue with men will also be a process in sensitizing them on their stuff

**Design/Access/Use-**Identifying the Site Location is the most critical sages of the WASH activities.

1. Ensure women and girls have safe and secure access to the toilets/water points. E.g they should not be in a public place, near a mosque, facing the street etc.
2. In case a water point/latrine has to be built facing the street, construct a wall /fence (*‘Purdah Wall*’ )to ensure privacy. Do this in discussion with the women and men in the community.
3. The direction of the water point should be such that the face of the women should not be exposed to the street, public market when she is using the water point.
4. Make sure that the water point is not built near the house of influential person(s) or a similar place where the risk of it being privatized is high. Also, women and girls will feel uncomfortable to use that water point in such a scenario
5. You may choose to explore building of sample latrines to encourage safe and healthy hygiene practices by beneficiaries. In such a scenario, in choosing the house to build the sample latrines, make sure that the criteria for selection is most vulnerable and the discussion is held with all community members-both men and women in identifying the household
6. Holes in the latrines should not be too big as it makes it risky for children to use due to fear of falling.
7. Mostly women and older girls are responsible for keeping the toilets and water points clean. Talk to them about the design requirements to assist them in easy cleaning. At the same time, also encourage men to participate in the cleaning of latrines and water points.
8. In case of communal latrines, have separate latrines for women and men. Make sure there is adequate distance between them. Put up relevant signs to indicate this separate location and also emphasize this in community meetings
9. Make sure the latrine design is culturally appropriate, provides privacy, has adequate lighting and there is effective locking system that allows the door to be completely shut by the user. Women and girls must not feel any risk of violence in accessing, or using the latrine

*Example: A latrine constructed by an NGO in a house compound used curtains instead of doors for purposes of privacy. It was seen that the female members of the household did not use the latrines as they felt uncomfortable, embarrassed and exposed in absence of the facility of a locked door. They always felt that their privacy and dignity was not ensured through the curtains and that there was always a possibility that someone might walk in when they are using it*

1. Include women in site selection, design and the technology selection of WASH facilities. Do not assume that absence of technical skills by women will hamper their understanding and ability to share their needs and requirements
2. If there are restrictions on using time or access to the water point /latrines, make sure the women and girls are informed of it, and agree with it
3. Make sure there is easily available and culturally appropriate items that users can use for washing after using the latrine. For example- water/soap/ clay etc

### 3.2 Hygiene Education

1. Women and men are aware of the importance and know how to practice improved hygiene through water storage, water use and personal hygiene. Special care to be taken about hygiene practices of small children, elderly or people with disabilities.
2. Include aspects of specific sanitary requirements for women and older girls in the hygiene messaging.
3. Women members of the Support Organisation/Implementing team (Hygiene staff) to talk to women and girls in the community on aspects of personal hygiene and hygienic usage and disposal of sanitary cloth during menstruation
4. Train women members of the hygiene staff to be able to address issues of sanitary hygiene effectively, without shame or discomfort.
5. Make sure the male staff is aware of the importance of the women specific hygiene messaging.
6. Special classes/lectures for girls on personal hygiene during the menstruation to be done by women hygiene educators in schools

### 3.3 Operation and Maintenance

1. Where possible, include a certain percentage of women in the Water & Sanitation User Committee (WSUC). Establish a specific quota for women members. Having only one woman may be too less as she might not feel confident and adequately supported to actively participate in the process. *Try to have at least two office bearer of the WSUC to be women.*
2. Where it is not possible to have a mix composition, have women exclusive WSUC –(a sub WSUC) with the same roles and responsibilities and with a direct responsibility to represent interests of women and girls of the Water & Sanitation User Group (WSUG). Set up a mechanism to share the meeting outcomes with the WSUC to ensure that women’s voices are included in the agenda setting and discussion points of the WSUC with the Engineer or other relevant member of the Support Organisation.

*The governance model developed can be based on the first 2 models offered by the NSP –1) mix of men and women CDCs; 2) separate women shuras that work alongside the male CDCs*

1. Make sure the women members in the community are aware of the different WASH governance models- CDC, WSUG, WSUC, Monitoring Units, other relevant mechanisms and Implementing Units
2. When selecting a Caretaker, try to find a woman Caretaker –who is motivated, has the community support and respect. Often, not all women have same barriers in participation example- elderly women are often more open to taking up this role and the community acceptance to this role is more.

*To start the process, offer Caretaking role to a couple in the community so that both women and men in the community are comfortable in sharing their concerns directly to the relevant member of the Caretaker team*

1. Hold discussions with women’s groups to decide the maintenance/user cost. Especially focus on inclusion of women from female headed households.
2. Have a flexible payment arrangement which take into account women’s income earning potential which may be seasonal or uncertain *(e.g. payment by installment, ability to defer payments)*

### 3.4 Capacity Building

1. Offer basic gender awareness training with focus on importance of gender issues in WASH to the staff (men and women) of the Support Organization/NGO/Implementing Units
2. Hold awareness raising on issues of gender and its importance to WASH with both women & men, girls and boys and other influential leaders in the community.
3. Hold special hygiene classes with both and girls in schools. Make sure the hygiene messages for girls are inclusive of their specific requirements during menstruation
4. Train both men and women in communities in aspects of WASH- operating the technology; maintenance and repair; hygiene education; surface and groundwater protection and other relevant techniques

1. Hold special trainings for women in leadership, management and other required skills to make them able to take the new responsibilities effectively
2. Make sure the training time is convenient for women to participate, given their household responsibilities. This can buy having a discussion with women before setting up the schedule

*Do not assume illiteracy of women to be a barrier in their ability to learn technical skills. E.g. In a recent workshop conduced by WET center (DACAAR) with ARZU (and women’s NGO in Afghanistan) for women on Bio Sand Filters, 12 of the 15 women trained were illiterate*

### 3.5 Monitoring and Evaluation

1. Include sex, age and disability disaggregated data on programme coverage are collected, analysed and routinely reported on.
2. Through spot checks, discussions with communities, routinely monitor women’s, girls’, boys’ and men’s safe access to /use of WASH services
3. Develop gender focussed indicators in the project and report on them
4. Include specific indicators to monitor and evaluate the level and quality of participation of women and girls-such as how many women are present in WSUC, do they hold active office in WSUC? Are there changes in roles of women and men 9home and community)? are men becoming more sensitive and accepting to women’s increased participation in decisions? are men assisting in cleaning and maintaining the water points/latrines etc?
5. Use participatory methods for evaluation. Have separate discussions with women and girls; and men and boys. Make special efforts to include elderly people and people with disabilities are part of the interviewed sample. (*They may not easily find you, make sure YOU find them!)*

## 4. Overall

1. Have ongoing and early discussions with community elders, other influential elders and women to mobilize support for improved participation of women and girls
2. Include and sensitize men, as beneficiaries and co-workers, to advance the role of women in WASH.
3. Listen to women as they are often aware of how to work around existing male power structures and rely on their insights to set up processes to improve their involvements while at the same time, not alienating the male members.
4. Identify some quick and real benefits for the community to see, linked to the improved role of women and girls. This will help minimize expected resistance from men.

References:

* [*http://www.irc.nl/page/39147*](http://www.irc.nl/page/39147)
* [*www.unwater.org/downloads/unwpolbrief230606.pdf*](http://www.unwater.org/downloads/unwpolbrief230606.pdf)
* [*http://www.genderandwater.org/*](http://www.genderandwater.org/)
* IASC Handbook- Different Needs - Equal Opportunities: Increasing Effectiveness of Humanitarian Action for Women, Girls, Boys and Men
* Gender indicators for the WASH cluster, Afghanistan*.*
* OXFAM: Gender equality in humanitarian programmes
* *DACAAR’s M&E tool for WASH*

# Section VII Environmental and Social Assessment

## 1. Environmental and Social Assessment

Project implementation requires complying with MRRD policies, strategies, guidelines and procedures. Other projects may also follow the same framework or any other similar applicable framework.

The compliance with the safeguard provisions are ensured through screening process during appraisal of community action plan before implementation of projects. The following are the checklist for the environmental and social impact assessment:

**Environmental Impact Related**

* Adequate measures taken in design for possible erosion and water logging, particularly in gravity flow schemes, cause by overflows at reservoirs and other system components
* Adequate provision in design for waste water disposal
* Sufficient distance from water point and proper design of the latrine to check possible ground water pollution
* Ensured that proposed water source being tapped are unpolluted or adequate measures are taken so that water quality meets WHO guidelines in physical, chemical and bacteriological characteristics for drinking water.

**Social Assessment Related**

* All the willing potential beneficiaries including local ethnic and religious minority are included as beneficiary of the project
* If land would be needed for a project (e.g. to build a small reservoir or a dug well), land obtained either through private voluntary donation or available government land or compensation paid by the community (i.e. with transaction between willing buyer- willing seller) will be documented as required for the government land
* Provincial and District governors are reported to inform Archaeological Committee.
* Appropriate Mine Risk Management measures are considered

### 1.1 Environmental Impacts

Schemes under the Rural Water Supply and Sanitation may comprise small-scale infrastructures which are not expected to have any significant negative environmental or social impacts. However, adverse impact could occur, if the schemes are not properly planned, sited, designed, constructed, operated and maintained. Some potential negative impacts could be:

* Possible erosion and water logging, particularly in gravity flow schemes, caused by overflows at reservoirs and other system components
* Possible problems caused by increased water use without adequate waste water disposal
* Ground water pollution due to inappropriate and/or poorly built latrines
* Health adversely affected if polluted sources are tapped and untreated, contaminated water is brought closer to households

Such adverse problems occur only if the schemes are not properly planned and designed. While implementing projects, projects should ensure that these adverse issues are addressed within the planning, designing and O&M phases.

### 1.2 Social Impacts

**Local ethnic and religious minority groups:** local ethnic and religious minority groups are included as beneficiaries, and that their concerns are addressed. The community/scheme criteria include all inclusiveness that should be addressed and monitored.

**Cultural Property:** Implementation of project/schemes involving civil works should be reported to the provincial or district governors, who then will inform the Archaeological Committee.

**Mine Risk:** Appropriate mine risk assessment based on the procedures defined for community rehabilitation/ construction works in the *Procedures for Mine Risk Management in World Bank Funded Projects in Afghanistan* or other similar applicable procedure should be carried out before starting implementation of project /scheme.

**Land acquisition**: No land acquisition is anticipated. If any minor areas of land would be needed for a project (e.g. Build a small reservoir or a dug well) such land could only be obtained through either private voluntary donations, compensation paid by the community (i.e. transaction between willing buyer-willing seller), or from available government land. Private voluntary donation and community purchases should be documented as required for the government land. Documentation would be needed that the land is free of encroachments, squatters or other encumbrances, and has been transferred to the community by the authorities.

# Section VIII Monitoring and Evaluation

## 1. Monitoring and Evaluation Framework

The purpose of monitoring is to provide timely feedback and analysis to the team and program partners for making management decisions. This information is used to:

* facilitate problem-solving at the local level;
* identify trends requiring corrective action at the program level;
* evaluate program performance;
* document successful approaches and lessons learned; and
* support strategic planning efforts.

Three types of M&E are conducted:

* *Implementation monitoring* of on-going subprojects focuses on measuring progress against work plans (outputs) and the quality of facilitation and community participation (processes).
* *Post-Implementation monitoring* of completed subprojects focuses on the quality of completed subprojects (how well they are designed and constructed) and sustainability (the community has adequate arrangements for operations and maintenance).
* *Program Evaluation* provides a more in-depth assessment of 1) development outcomes and impacts, and 2) the effectiveness and efficiency of implementation (institutional arrangements, policies, procedures, and management systems).

Each type of monitoring uses a selected group of *performance indicators* and associated *targets* to measure results. The four types of indicators listed below form a “results chain”. Lower-order results (program outputs and processes) are necessary steps toward achieving higher-order results (development outcomes and impacts).

**Table 1: Types of Performance (Results) Indicators**

| **Type of Results**  **Indicator** | **Key Indicators** | **Means of Measurement**  **and Timing** | **Responsible Party** |
| --- | --- | --- | --- |
| Output | Immediate visible result. (Examples:   * No. of Community Development Councils (CDCs) and/or Water Supply and Sanitation Users’ Group (WSSUG) formed, trained and Involved in project planning and implementation, * Community Action Plan Prepared, * Hygiene Promoters (Male/Female), Pump Maintenance or Valve Mechanics Chosen, Water Point Caretakers Identified and Trained, * Hygiene Education Activities such as House to House Visit, Training by Teachers, Training by Mullah etc. as planned are carried out, * Numbers of water points/ water system constructed * Numbers of Hygienic sanitation facilities (Latrines) constructed * Operation and Maintenance System Established). | Regular Monitoring  (Community Planning)  (Community Planning and implementation)  (implementation) | Organization and Provincial RRD/ MRRD  [Community will participate in monitoring] |
| Process | Actions taken by beneficiaries and facilitators to achieve a desired outcome, such as institutional arrangements and changes in behaviour.  (Examples:   * percentage of community members involved in electing/ selecting WSUG; * percentage of community members involved in preparation and endorsement of Community Action Plan, * percentage of women involved in site selection, * percentage of community contribution, type of contribution). | Regular Monitoring  (implementation  and post)  (Community Planning)  (Community Planning and Implementation) | MRRD and Organizations  [Community will participate in monitoring] |
| Outcome | Medium-term result  (Example:   * Percent increase in number of households with improved access to water points; * Percent increase in number of households with improved access to hygienic sanitation facilities; * Percent increase in the number of individuals that practice hand washing with soap at critical junctures; * Increased capacity of Government Agencies (central and provincial) to monitor the sector and manage contracts and * Increased capacity of local NGOs and private sector in social mobilization and the construction of water points and sanitary latrine (total number of units / year) * Behaviour changes | Benefit Monitoring, KAP Impact study, Technical Audit, Special Studies  (post and evaluation) | MRRD and organizations  [Community will participate in monitoring] |
| Impact | The long-term result that comes from achieving outputs and outcomes. Typically measured several years after final disbursement.  (Example:   * Percent decrease in the prevalence of diarrheal disease morbidity among children under five years * time savings and reduction in domestic drudgery through greater accessibility * enhanced overall domestic productivity through decrease in person days used for the water supply of the household) | KAP study, Impact Study, Special Study  (Program  evaluation) | External evaluators |

In addition to monitoring results, the MRRD is responsible for tracking program activities and inputs:

* *Program Activities (work plan)*: the coordination, technical assistance, training, procurement, and other tasks undertaken by program implementers; and
* *Program Inputs (investments)*: the program staff, organizations, equipment/supplies, funds, and other resources allocated to the program.

## 2. Different Types of Monitoring

### 2.1 Implementation Monitoring

#### 2.1.1 Baseline on Hygiene Situation

A baseline will be taken on hygiene and sanitation situation of the community at the beginning of project implementation. Baseline KAP study will be carried out (Refer section on “Hygiene Education and Sanitation”).

#### 2.1.2 Baseline on Water Supply situation

Water supply situation is taken analyzed along with community mapping and village assessment process. (Refer section on “Community Mobilization and Organization” and section on “Hygiene Education and Sanitation” for details).

#### 2.1.3 Output and Process Monitoring

Progress against work plans (outputs) and the quality of facilitation and community participation (processes) will be monitored regularly. The baseline on hygiene situation and water supply situation will also be taken as basis to monitor progress on improvements on hygiene situation and water supply situation.

### 2.2 Post Implementation Monitoring

#### 2.2.1 Technical Audit

Technical audit reviews the quality of infrastructures, the soundness of design, its sustainability, adequacy of O&M arrangements and transition of roles and responsibilities between organization and community , CP and community, organization and CP and MRRD and organization/ CP/ community whether indeed MRRD has achieved its aim of enabling the community to plan, implement and manage the water supply system.

#### 2.2.2 Follow-up Monitoring on Sustainability of Water Points

Regional Technical Support Unit (RTSU) with assistance of Provincial RRD will monitor hand pump maintenance. They visit each Handpump Mechanic every six months to discuss and assist in resolving problems at individual water points. They also inspect the water points on a routine basis. (Refer section on “Operation and Maintenance System”.

### 2.3 Program Evaluation

#### 2.3.1 Benefit Monitoring

Benefit Monitoring focuses on immediate outcomes such as percent increase in number of households with improved access to water points, percent increase in number of households with improved access to hygienic sanitation facilities, percent increase in the number of individuals that practice hand washing with soap at critical junctures etc.

#### 2.3.2 Impact Evaluation

The long-term result that comes from achieving outputs and outcomes are evaluated. Impact Evaluation provides a more in-depth assessment of 1) development outcomes and impacts, and 2) the effectiveness and efficiency of implementation (institutional arrangements, policies, procedures, and management systems). The study should include the permanent change of behaviour of the community members.

#### 2.3.3 Special Studies

As a part of learning and strategic inputs special studies will be carried out in different cases of strategic issues.

## 3. Institutional Arrangements for M&E and Reporting

The M&E system will be managed by MRRD RuWatSIP Department at the provincial level and national level with inputs from Organizations.

While it is expected that the Provincial RRD staff at the provincial level will regularly make village visits for output and process monitoring, it is important to stress that senior personnel from MRRD RuWatSIP Department should also go to the field periodically, to get better acquainted with ground realities.

Project reports will be compiled at provincial level, and at national level. On a monthly basis, RuWatSIP progress report will have to be prepared. The copies of report also go to the donor. The MRRD PIU, MIS and Monitoring and Evaluation (M&E) Department will thus receive regular monitoring reports.

### 3.1 Community Monitoring

The community is to monitor the inputs and quality of the Organization and CP services, this might be done through report card system. CDC/WSUC will participate in the regular M & E activities. All RuWatSIP related salient features, funding sources and activities are displayed in the public place. Monthly implementation progress and relevant information will be displayed in the notice boards accessible to the public, and/or announcements of project-related information at *Jumma* prayers. The methods for information dissemination should ensure that women are informed about project activities. At the end of implementation/ construction community will certify the satisfactory completion of the project.

### 3.2 Organizational Monitoring

Support Organization will do regular monitoring and prepare Progress Monitoring Report on a monthly basis. Organizations and CDCs monitor activities of construction partner. A construction completion report will be prepared at the end of construction.

### 3.3 Provincial RRD Monitoring

Provincial RRD will compile monthly progress reports prepared by the Organizations on regional basis. Supplemented by the monitoring teams of MRRD which covers various regions, these teams will link with MRRD provincial offices, which will monitor at the provincial level and prepare report on quarterly basis.

### 3.4 Regional Technical Support Unit Monitoring

Regional Technical Support Unit (RTSU) with assistance of Provincial RRD will monitor hand pump maintenance. They visit each Handpump Mechanic every six months to discuss and assist in resolving problems at individual water points. They also inspect the water points on a routine basis. It provides input to maintain database of functioning of water points at regional and national level.

### 3.5 MRRD Monitoring

The MRRD M&E Department will also conduct surprise visits to project sites. The M&E Department will have to visit all projects at least once to assure adequate project delivery, and prepare a report, which will be the basis for final payment.

MRRD RuWatSIP Department will also hold meetings and workshops with Organizations (at least quarterly) to share the results of monitoring and receive feedback from them.

The impact evaluation, technical audit and special studies are also sanctioned by the MRRD.

### 3.6 Co-ordination and Strategic Monitoring

Regular monthly coordination meetings in the Water and Sanitation Group will continue as a forum for stakeholder coordination and for continuous supervision of sector activities.

Project funded under different donors will be supervised and coordinated through RuWatSIP steering committees.

## 4. Management Information System (MIS)

A computerized MIS system will ensure that information flow takes place smoothly at all levels, and that data are electronically processed from provincial level upwards to national level at MRRD.

# Section IX Training

## 1. Training Strategy and Methodology

The overall objective of the Orientation/training strategy of the Program is to:

“Build the capacity of the water and sanitation users groups/ committee, support organizations, RuWatSIP and their staff engaged in rural water supply and sanitation program, so as to strengthen demand-led, community-based services as envisaged by the WASH Policy and Strategy in Afghanistan”.

The MRRD will support the provision of services, as well as conduct other activities aimed at improving the development capacities of the acting institutions i.e. the community, Organizations, CP and MRRD. The primary thrust will be to orient and familiarize the various involved personnel and organizations in the WASH concept, objectives, working procedures and its rationales through the orientation and training, which supports operations within the project cycle i.e., site appraisal, financing, monitoring and reporting of the project schemes. Thus, training and institution building will be woven into practice and learning as each cycle progresses, and will not be simply isolated events.

## 2. Different Levels and Types of Training

The training/ orientation activities will be carried out at different level such as MRRD, Organization/ CP, and Community.

### 2.1 Training/ Orientation at MRRD level

The staff involved in RuWatSIP will be oriented in WASH policy, strategy, demand driven approach, project rules, procedures and implementation modalities.

### 2.2 Training/ Orientation at Support Organization Level

The following training/ orientation will be carried out to Organizational staff to enable them to carryout implementation support as per the program implementation modalities and strategies[[20]](#footnote-20).

1. Planning
2. Social Mobilization/ Organization
3. Technical Surveys and Design
4. Basic Hydrogeology
5. Well Construction, Supervision and Quality Control
6. Water Quality Testing
7. Trainers Training on Hygiene Education
8. How to conduct CLTS and reach the lofty goal of ODF
9. Alternative methods of water purification
10. Project Implementation for Bio-sand filter
11. Bio-sand filter Fabrication

### 2.3 Training/ Orientation at Community Level

The community capacity to participate in decision making process and management of the scheme will be build through various participatory approaches and training activities.

1. CDC (WSUG) Orientation and Management Training
2. Training of Hygiene Promoter
3. Training of Teachers on Hygiene Education
4. Training of Mullahs/ Imams on Hygiene Education
5. Training on Well digging
6. Training of Hand pump Caretaker
7. Training of Hand pump Mechanics
8. On-the job training for Valve Mechanics
9. Training of Masons for Latrine Construction (Private Builders)
10. Training of CDC (WSUG) treasurer
11. Training of Local dealers or sellers
12. Post Construction Training to WSUC
13. Training on CLTS and ODF

## 3. Details of Training Activities/ Modules

Some Training courses are described below.

### 3.1 Planning Training Course

**Participants:** Water and Sanitation Engineers/ Field Coordinator of SO

**Course Duration:** 2 days

**Course Objectives:**

After completion of this course the participants will:

* Have an understanding of the many aspects to planning.
* Have an understanding of the different sources of information and variety of methods that constitute planning.
* Be aware of the objectives influencing a water and sanitation programme.
* Be aware of the water supply technology available and the factors influencing their choice.
* To be aware of the different information that assist in deciding where to site a well
* Be aware of the processes and principles influencing the choice of village to receive improved water supply.

**Course Contents:**

* Introduction to planning (what planning means and what constitutes a plan?, Planning and the need to plan)
* Objectives and goals influence the plan
* Technical specifications (Technical options and choosing right technical option)
* Steps when planning for implementation (Community Action Planning Process)
* Monitoring (different types of monitoring – technical and non-technical) and supervision

### 3.2 Social Mobilization/ Organization Training

**Participants:** Social Organizers and Water and Sanitation Engineers

**Course Duration:** 3 days

**Course Objectives:**

By the end of the training course the participants should have gained the following:

1. Respect for the experience, skills and wisdom of village communities
2. Understanding of the concept of empowerment, social organization and participation.
3. Ability to evaluate the degree of participation in project implementation.
4. Understanding of role of the Social Organizer/Engineer in the development process.
5. Understand the importance of community participation
6. Understand the importance of and practice of community based well operation and maintenance systems

* Basic skills for analyzing village-level political and social structures

**Course Contents**

* Power and Poverty
* Power and Empowerment
* Development and Empowerment
* Social Organization
* Participation
* Role of Social Organizer (Engineer)
* Johari Window
* Village Power Network
* How to Approach the Community

### 3.3 Survey Training

**Participants: Water and Sanitation Engineers**

**Course Duration: 5 days**

**Course Objectives:**

After completion of this course the following topics will have been covered giving participants experience and knowledge of a survey, and its value for a water and sanitation project:

* Introduction to the history of the GPS and its uses
* Operation of a Global Positioning System
* GPS and map reading.
* Surveys and the different types of surveys.
* Tools and methods of a field survey.
* Water and Sanitation programme database formats.
* Recording database water point reports.
* Introduction to the Geographical Information System (GIS)
* Introduction to calling up information on the GIS

**Course Contents**

* Global Positioning System (General introduction to GPS and its functions and use)
* Map reading and the GPS (Practical exercises using GPS and a map)
* Field surveys (Objectives of a survey, Types of surveys, Methods and techniques of a field survey)
* Collecting Information (Meeting and interviews, Mechanic and spare parts shop, Hand pump inspection)
* Technical survey (Technical survey, Database formats, types of water points, Water table monitoring)
* Connecting data collected with GPS, entered into database, and connect into GIS to show the data in maps
* Introduction into analysing data in GIS

### 3.4 Introduction to Basic Hydrogeology

**Participants:** Water and Sanitation Engineers

**Course Duration:** 3 days

**Course Objectives:**

After completion of this course the participants will have a broader understanding of:

* Hydrogeology.
* The hydrologic cycle.
* Climate and precipitation in Afghanistan
* Aquifer, transmissivity, storativity, porosity and permeability.
* The description of rocks including their mineral composition and texture.
* Soils and the particle size and classifications of clay, silt, sand and gravel.
* Groundwater and ground water quality.
* Wells and how wells influence each other.
* Well hydraulics
* Duration Step Test - Multi Stage Pump Test

**Course Contents**

* Introduction to basic hydrogeology
* Hydrological Cycle
* Climate, precipitation and landforms in Afghanistan
* Rocks and Aquifers (Introduction to the Main Types of Rocks, Aquifers: A layer within the Earth’s crust that stores and transmits water)
* Ground water (Saturation zone, aeration zone, porosity and permeability, Transmissivity, Ground water level in humid and arid region, Impervious rocks and artesian ground water, Springs, Kareez)
* Wells in Afghanistan and pumping tests (Dug wells tube wells)
* Introduction to Hydraulics (Cone of Depression and Draw Down, Pumping Tests)

### 3.5 Well Construction Training

**Participants:** Water and Sanitation Engineers

**Course Duration :** 5 days

**Course Objectives:**

After completion of this course the participants will have gained:

* An awareness of the knowledge, expertise, and steps, necessary to construct a fully functional reliable well.
* Knowledge of the different well construction techniques, hand digging, percussion method, rotary drilling.
* A broader knowledge of the MRRD technical specifications.
* Knowledge of supervising well construction
* Knowledge of the drilling log and its value.

**Course Contents**

* Hydrological cycle and ground water (hydrological cycle, Aquifers and ground water, Groundwater and wells
* Wells and their construction (Wells in Afghanistan, A hand dug well, well ring fabrication and assembling of hand pumps)
* Percussion drilling (Percussion drilling procedures, advantages and disadvantages of percussion drilling, site selection)
* Rotary drilling (Rotary drilling, Introduction to well hydraulics, Kareez and wells, Cone of depression and draw down (Introduction to pump tests)`
* Site supervision and management

### 3.6 Water Quality Training

**Participants:** Water and Sanitation Engineers

**Course Duration:** 3 days

**Course Objectives:**

After completion of this course the participants will:

* Have an understanding of the hydrological cycle.
* Gain knowledge of the properties of water.
* Understand how water can become contaminated and the dangers of contamination.
* Gain knowledge of the types of contamination and those most common in Afghanistan
* Be cognitive of the WHO recommendations for safe drinking water.
* Have participated in performing the various methods for testing water quality.
* Realize the importance of sterilizing equipment and steps necessary when taking water samples and testing.
* Have conducted on-site water tests using basic field equipment.
* Have knowledge of the various ways of filtering and purifying water.

**Course Contents**

* Water contamination (The hydrological cycle, Sources of contamination and its dangers)
* Tests for water qualities and WHO recommendations (Tests for water qualities, recommendations) & interpretation of recommendations
* Sterilizing equipment and taking samples of water for testing (Sterilizing equipment and taking of samples before testing)
* Methods of testing water quality (Bacteriological testing, Physical testing, on site water tests, Chemical testing)
* Methods of water purification (Methods of purification)

### 3.7 Training of Trainers or Supervisors on Hygiene Education (ToT)

**Participants**: Supervisors/ Trainers on Hygiene Education

**Course Duration:** 3 days

**Course Contents:**

* Hygiene education implementation methodology developed by MRRD/HEWG
* Baseline Survey and Situational Analysis regarding Hygiene in an area
* Communication Approaches
* Hygiene Education Messages (All related messages to Water, Sanitation, Personal & environmental Hygiene, Food safety and Re-hydration)
* Community Led Total Sanitation Approach
* Hygiene and Islam (Verses from Holly Quran and Saying from Prophet Mohammad)
* Hygiene Promoter or Educator (Roles and Responsibilities)
* Water Supply and Hygiene Education
* Sanitation and Hygiene Education (household latrine)
* Personal and Environmental Hygiene
* Communicable Diseases
* Diarrhoea and its causes?
* Re-hydration Therapy during Diarrhoea
* Filling of Survey Format or hygiene education

### 3.8 CDC (WSUG) Orientation and Management Training

**Participants:** All WSUC Members

**Course Duration:** 3 Days

**Objectives**

* To build CDC (WSUC) leadership and management capacity related to community activities.
* To make aware on the roles, responsibilities and authority of the Users and Users’ Committee in scheme.
* To help WSUC to manage O&M Fund, sanitation Fund, and Hygiene Education

**Contents**

* Project rules
* Groups dynamics.
* reasons for, and encouragement of, participation of women
* Community Action Plan preparation.
* O&M Fund management.
* Sanitation Fund.
* HSE activities
* Roles on Community Monitoring.

### 3.9 Training of Hygiene Promoter/ Educator

**Participants:** Hygiene Promoter/Educator

**Course Duration:** 3 days

**Course Contents**

* Hygiene education implementation methodology developed by MRRD/HEWG
* Baseline Survey and Situational Analysis regarding Hygiene in an area
* Communication Approaches
* Hygiene Education Messages for Water Supply
* Hygiene and Islam
* Hygiene Promoter or Educator
* Community Led Total Sanitation (CLTS) and Open Defecation Free (ODF)
* Role play about hygiene educator
* Hygiene Education Messages for Sanitation
* Hygiene Education Messages for personal hygiene
* Hygiene Education Messages for Environmental Hygiene
* Hygiene Education Messages for Food safety
* Hygiene Messages for Re-Hydration
* Diarrhoeal Disease
* Re-hydration therapy during Diarrhoea
* Filling of Survey Format or hygiene education

### 3.10 Training of Handpump/ Water point Caretaker

**Participants**: Handpump/ Water Point Caretaker

**Course Duration:** 1 day

**Contents**

The objective is to train the caretaker to be responsible for general care and routine maintenance of the handpump, particularly in the following aspects:

* How and when to report to the Water Sanitation Users Committee or CDC.
* How and when to inform the handpump mechanic on repair requirements, including agreed channels of communication for women users.
* How and when to inspect the well surrounding and keep it clean.
* How to operate the hand pump.
* How to contact women users (for communications on changed situation, such as out of service/restored service).
* Aware of possible sources of contamination of the water point

### 3.11 Training for Hand Pump Mechanics

**Participants:** Handpump Mechanics

**Course Duration:** 3 days

**Contents**

To train the handpump mechanic to make minor repairs when necessary, particularly in the following aspects:

* Difference between dug wells and tube wells.
* Use of standard tools for handpump maintenance.
* How to install the handpump and how to remove it from the well for necessary repairs.
* How to make a schedule for visiting the wells under his responsibility.
* Explanation on handpump spare parts and their quality.
* How to keep records on handpump repairs.
* Information on where the handpump spare parts can be obtained.
* How to construct aprons and other well components
* How to consider safety factors during handpump repairs.
* Orientation on safe water, sanitation and hygiene practices.
* Training on communication skills.

### 3.12 WSUC Treasurer training

**Participants:** WSUC members and treasurer

**Course Duration:** 3 Days

**Objective**

1. To train WSUC Treasurer on basic book keeping and financial recording system.
2. To brief basic principles and payment procedures.

**Contents**

1. Roles and responsibilities of the Treasurer
2. Simple book keeping system.
3. Store entry procedures
4. Class room exercise in each requirement.

### 3.13 Training to local dealers/local sellers.

The local dealers will be trained on:

* Information on where and how handpump spare parts can be purchased.
* Information on which spare parts are commonly required and how to recognize their quality.

### 3.14 WSUC Refresher (Post construction) Training

**Participant**: All WSUC Members

**Course Duration:** 3 Days

**Objective**

To enable the participants to consolidate and manage the scheme and programs.

**Contents**

1. Operation and Maintenance of the water points/ water system.
2. Role of the Caretaker, Mechanics, Hygiene Promoter and WSUC.
3. Regular collection of the Operation and maintenance Fund.
4. Management of Sanitation Fund.
5. Management of the Maintenance tools.
6. Remuneration to the Mechanics.
7. Minor and Major problems in scheme.
8. Meetings and information systems to the WUG.

### 3.15 Project Implementation for Bio-Sand Filter

**Workshop Description**

Training courses on the biosand filter are essential to ensure the proper and consistent use of the filters in diverse regions of the world. Knowledge that is vital to the health of the end users is provided during this training.

The workshop offers instruction and hands-on experience in construction of all components of the filter - the concrete filter box, media, diffuser plate, and lid. The participant will gain a clear understanding of the rationale in which the filter design is grounded, how to install the filter, and how to instruct end users on its correct use and maintenance.

The workshop explores the relationship between water and health in developing countries. Participants will gain a fundamental overview of water, hygiene, sanitation, disease transmission, household water treatment options, and safe water storage. As well, participants will discover how to successfully plan and implement a biosand filter project.

**Objectives**

Upon completion of the workshop participants will be able to:

* Demonstrate how to construct and install a biosand filter correctly
* Describe the operation and maintenance of a biosand filter
* Describe the relationship between water and health
* Explain the need for household water treatment, hygiene and sanitation education
* Describe the CAWST dissemination model and how it applies to project planning
* Describe how to successfully plan for a biosand filter project abroad
* Establish a network of contacts of other program implementers

**Participants**

The ideal participants are individuals or groups who are:

* Working in water and sanitation, community development or health projects seeking solutions for safe water
* Aware of the need for safe water and may have some familiarity with household water treatment
* Motivated and prepared to implement a household water treatment project
* Mid-level managers within their organization with the responsibility for organizing projects and making decisions
* Program organizers, community liaison people, technicians, front line supervisors, project managers, or project engineers

Participation by women is encouraged. Preferably, 2 to 5 people from each organization would attend to ensure that they learn together and benefit most from the workshop.

**Methods of Instruction**

The participatory workshop includes theory, classroom exercises, demonstrations, open discussion, case studies, guest speakers and hands-on construction. Approximately one-third of the workshop is spent building and installing a biosand filter. Active participant engagement in learning activities is encouraged.

**Content**

The following is a tentative list of the topics to be covered. A specific agenda will be developed for each workshop.

Theory

* Global water issues
* Microbiology and epidemiology
* Disease transmission
* Household water treatment options
* Safe water storage
* Sanitation and hygiene
* Water quality testing
* Biosand filter design and operation

Practical

* Construction, installation, operation and maintenance of the biosand filter
* Selection and preparation of sand media
* Troubleshooting

Implementation

* Project planning
* Requirements for a successful household water treatment project
* Developing the vision and next steps after the workshop

**Training Materials**

The following materials will be provided:

* Participant Manual
* Biosand Filter Manual with instructions on construction, installation, operation and maintenance
* CD containing all material presented in the workshop and related resources

**Duration**

5 days

### 3.16 Bio-Sand Filter Fabrication

**Workshop Description**

This introductory course is designed for people interested in learning more about the biosand filter. The workshop offers instruction and hands-on experience in the construction of all filter components including the concrete box, media, diffuser basin and lid. The course is also intended to introduce participants to the need for household water treatment in Afghanistan and developing countries around the world.

This course is not intended however to replace the 5 day “Project Implementation for the Biosand Filter Workshop”, nor is it sufficient for someone to become competent in filter construction.

**Objectives**

Upon completion of the workshop participants will be able to:

* Demonstrate how to construct and install a biosand filter.
* Describe the operation and maintenance of a biosand filter.
* Describe the relationship between water and health.
* Explain the need for household water treatment.

**Participants**

The ideal participants are individuals or groups interested in:

* The biosand filter.
* Poverty alleviation, global issues and water.
* How to implement a biosand filter project in Afghanistan and a developing country.

**Methods of Instruction**

A variety of learning activities will be used including lectures with PowerPoint slides, small group work, hands-on construction, in-class demonstrations, individual reflection, case studies, guest speakers and open discussion. Approximately one third of the workshop is spent building and installing a concrete biosand filter.

**Content**

The following is a tentative list of the topics covered. A specific agenda will be developed for each workshop.

Theory:

* The relationship between water and health
* The biosand filter operating parameters

Practical:

* Biosand filter construction, operation, maintenance and installation
* Troubleshooting

**Training Materials**

The following materials will be provided:

* A reference manual including instructions for the construction and installation of the biosand filter and construction of the steel mold.
* Instruction manuals for the construction and installation of the biosand filter including directions for building the steel mold
* A CD containing all the material presented in the workshop (PowerPoint slides, reference manual, filter instruction manuals)

**Duration**

3 days

### 3.17 Project Cycle Management Training Course

Project Cycle Management (PCM) has become a tool of great importance in developing projects as well in the private industry. It is a way of understanding that there are steps to be taken before the next goal can be reached in a satisfactory manner. The cycle management can be used as a recurrent tool that makes the management changes possibly in timely manner, as any tool it needs to be used in the correct manner and without making short cuts. PCM was set up as weaknesses were identified in the situational analysis and in the decision making structures. Basically the system was developed and evolved to the system as of today because of the many studies in failures of development projects and within the various industries.

Different tools can be used within the PCM but generally the Logical Framework is being utilised as that is a tool system being part of the PCM as used by EU and others.

**Goal of the Project Cycle Management Training Course**

The goal of the training course is to broaden the participants’ knowledge of the application of Project Cycle Management (PCM) together with Logical Framework Analysis (LFA) for planning purpose of projects as being utilised by many development agencies.

**Objectives of the Project Cycle Management Training Course**

1. To understand the components of the Project Cycle Management and what the details of the components are and the importance to step through all the points carefully without making short cuts. How to make use of PCM and how to ensure to keep the planning on track.
2. Logical Framework and its components, its uses and the steps to go through to get all the details to make a complete plan.
3. To understand the importance of monitoring and evaluation, the role of report writing and the components that should be covered, and the essence of report writing (must be concise).

**Selected Skills covered in the Course**

* What is Project Cycle management? Why did it become an important planning document?
* Elements of the PCM described and explained
* There are six phases and what they entail
* The Logical Framework explained
* Show and explain the logical framework matrix
* Potential short comings of project cycle management
* Planning, monitoring and evaluation and their relationship
* Participatory planning and its importance
* The role of proposal writing and the components of the report
* Report writing and its components

**Planned duration:** 4 days

### 3.18 Survey by GPS Training Course

Global Positioning System (GPS) functions and usage are introduced to participants in the course. The participants will learn how to set the GPS system, time and units according to requirements. They are also made capable of reading and saving coordinates (Latitude & Longitude) for a point/location. Participants will also have one field day in which the trainer facilitate practicing in the field on how to set and get ready a GPS to read, mark and save coordinates of points/locations. The field readings are saved in GPS and then plotted on maps.

**Goal for the Survey by GPS Training Course**

To broaden the participant’s knowledge of GPS unit, its functions and applications to support Rural Water Supply in Afghanistan.

**Objectives of the Survey by GPS Training Course**

After completion of this course the participants will have gained the following:

* Understand some of the history, origins, use and outputs of GPS
* Be familiar with the GPS unit, its functions and applications
* Understand how GPS works, identifying a position on earth, latitude and longitude and their measurement, operation and maintenance of GPS, its accuracy and settings.
* Have the knowledge and skill to read and use GPS to practically get coordinates of water points at site and plot on map.

**Planned duration:**

3 days (2 days in the classroom + 1 day in field)

### 3.19 Operation & Maintenance of Rural Water Supply Training Course

In this course topics such as sustainability, community participation and management, importance of O&M for water supply technology, technology selection and its O&M requirements will be introduced and fully discussed with the participants. In addition, MRRD and DACAAR O&M systems and different forms of agreements and reports on O&M of water supply projects will be presented in details and discussed.

**Goal for the O&M Training Course**

To broaden the participant’s knowledge of the operation and maintenance system to contribute to the sustainability of water supply programmes and projects in rural areas.

**Objectives of the O&M Training Course**

After completion of this course the participants will be able:

* To understand the MRRD and other NGOs O&M system
* To understand what are the responsibilities of the community and of the hand pump mechanic in terms of hand pump maintenance and repair
* To update knowledge on O&M issues
* To reinforce management skills on sustainable O&M
* To create specific approaches for better work and planning with communities
* To understand the importance of community participation
* To implement effective O&M of rural water supply and sanitation services

**Planned duration:**

4 days

# Section X Community Mobilization Organization

## 1. Introduction

The community mobilization, organization consist of the following activities:

* Social Mobilization
* Community Organization
* Community Action Planning
* Implementation and Community Participation
* CLTS & ODF

The Organization is responsible for community mobilization and organization.

## 2. Social Mobilization

Social mobilization is the process by which community will be mobilized and organized for the common goal to implement water supply and sanitation project. The community will be motivated to participate in the project at all stages, to organize, plan, implement and own the system.

* Hold preliminary discussions with key stakeholder groups in each community to introduce the project and gain endorsement from community leaders.
* Organize public meetings for men’s and women’s groups to explain the Project and Project rules.
* Organize community as CDC or WSUG/C to plan, implement and manage the project.
* Prepare community map, analyze base line situation in hygiene, water and sanitation.
* Strengthen community capacity to plan, implement and manage the project/ scheme.
* Obtain community support for women’s participation in selection of WSUG members and members of a women’s sub-committee.
* Obtain community support for women’s participation in community action planning and decision making.
* Obtain community support for participation in hygiene and sanitation education
* CLTS to be introduced and concept of ODF

Ensure a gender balance amongst social mobilizers and facilitators, in order to reach women in an equitable fashion. Where this is not possible, submit an alternative plan to the project that explains how the Organization will still attempt to provide equitable training to women in communities.

### 2.1 The role of engineer or social mobiliser in community

1. The implementer of water projects relies on the cooperation of the people who live in the village if the water project is going to be successful. If his approach is successful he will gain accurate information, the resident’s cooperation and their commitment to implement RuWatSIP.
2. The Water Engineer or his representative who are working with the community are advised not to act as strangers but as a partner. They are advised not to present themselves as an authority. The implementer does have important knowledge to share but also has a lot to learn. The community is likely to reject someone who acts like an authority and who acts as if they know better than the local people by telling them what they need in their village instead of listening. We should dress traditionally and conservatively otherwise the community will just come to look at us and not to share the important information and the make the commitment we need for success.
3. On arriving at a village show respect to the residents and their culture. Introduce yourself, carefully explain your purpose, why you have come and what you can do. You cannot be in a hurry. If time is short you will have to return another day.
4. Make sure that everyone understands from the beginning that you are making a preliminary survey that does not mean that a project is definitely going ahead.
5. We should talk to the people, elders, and both men and old women. Sometimes in a village, there are no men as they are working in the fields.
6. You must find out if any other organization is working with a development program in the village and what they are doing. Check whether they have any information that would be of value to you. Avoid duplication of projects.
7. It is important for us to be very open and share our information.
8. During the meetings give a general outline of your organizations’ strategy. How we work together with the community, our capacity and the responsibilities to the people living in the village. If the project goes ahead the various responsibilities will be discussed in detail at a later date. Explain why we believe that program will be successful by working together.
9. Assist community to prepare community map and carry out participatory exercise to fill village assessment forms with some of the necessary information successfully.
10. Ask about the population size (should ensure that numbers also cover women, girls and children). Population number is important for estimating coverage
11. Examples of questions we may need answers to:
    * Where do you take your water? Spring, stream, or well etc.
    * How many and what kind of wells do you have, dug or tube well?
    * Ask if the water from the water point is good for drinking? If there are any complaints about the water we should test the water for contaminants.
    * How easily are the water points/wells accessed?
    * Are the water points safe/ improved? Have the wells a concrete cover, hand pump installed, apron and drain?
    * Is it near a contaminated site, disposal site of human stools, animal stools, latrines and baths?
    * Do any people in the village have improved latrines?
    * Are there contaminated streams or stagnant ponds of water lying in the village and are they close to the water point?

Answers to these questions will also be obtained when participatory community map will be prepared and when the engineer walks around the village.

### 2.2 Gender

As is often the case in Afghanistan, it is the health-related interventions that provide the best opportunity for accessing women directly. Thus, the female partner of the mobile Hygiene education couples should be used to ensure women’s voices are heard (Section 6 Refers).

## 3. Community Organization

### 3.1 Community

A community is the main recipient village of the project. Communities will be identified on the basis of existing local settlement and social patterns.

All the willing households in the community who do not have access to improved water supply and sanitation should be included as beneficiaries and member of the water and sanitation users group.

Community will be supported by RuWatSIP financially and technically to plan and implement demand driven water supply and sanitation scheme. A key characteristic of this approach is that it promotes a high level of community participation and ownership during all phases of RuWatSIP cycle.

**3.1.1 Roles and Responsibilities of Community**

As such, roles and functions of the community will include:

* Assess water and sanitation situation and identify needs
* Forming Water and Sanitation Users’ Group/ Committees or using the Community Development Council;
* Participate in preparing a Community Action Plan for implementation of the project;
* Participate both men and women in Hygiene and Sanitation Education
* Taking over the sanitation component through CLTS
* Providing community contributions;
* Participating in field appraisal, and all other community meetings related to the project;
* Monitoring and Supervision of project implementation by the community through its Community Development Council or Water and Sanitation Users’ Committee;
* Providing oversight of project implementation with regard to quality and use of funds;
* Maintaining the asset after completion with community cost contributions.

### 3.2 Council (CDC) or Users’ Group/ Committee (WSUG)

Water Sanitation User’s committee (WSUC) should be established or an existing Community Development Council (CDC) should be used, to motivate planning, implementation and maintenance of the handpump wells/ water point or water system. The Community Development Council (CDC) or Water and Sanitation Users’ Group/ Committee (WSUG/C) is community-based decision making body for the implementation of the project.

CDC was elected by the community through elections based on a secret ballot in the NSP supported communities. Where such CDC does not exist, Water and Sanitation Users’ Group/ Committee should be formed with wide participation of water users.

All beneficiaries households are member of the Water and Sanitation Users’ Group (WSUG) and Water and Sanitation Users’ Committee (WSUC) is the executive committee of the WSUG. Hence, the representatives in the WSUC will be selected or elected with majority consent in the community wide meeting in presence of male and female representatives of the member household.

To have functioning Water and Sanitation Users’ Committee (WSUC), the number of representatives should be between 5 and 15 persons depending on the size of the community. The Organization should facilitate and inform community to select or elect representative WSUC inclusive of different socio-economic, ethnical/ tribal sub-divisions and religious minority groups within the community and represents different clusters. The Water and Sanitation Users’ Committee (WSUC) should select or elect a Chairperson, Secretary and Treasurer.

Where local norms regarding *Purdha* do not allow women to participate directly in community wide meetings or in the Community Development Council (CDC) or in Water and Sanitation Users’ Committee (WSUC), the Organization must promote and select separate male and female sub-committee on different male and female members community wide meeting. When separate male/female sub-committees are established, an Executive Coordination Committee consisting of two members of each sub-committee shall be established[[21]](#footnote-21).

#### 3.2.1 Roles and Responsibilities of CDC or WSUG

Specifically, the Community Development Council or Water and Sanitation Group/ Committee will be responsible for:

* Overseeing preparation of the community action plan;
* Convening community wide meetings;
* Overseeing planning and preparation of scheme
* Ensuring community participation during all phases;
* Arrange to provide public land for water point, accommodation and security for well/ water point/ water system construction team.
* Site selection for water point according to the site selection guidelines.
* Mobilizing community contributions for:

a) contribution to capital costs of projects;

b) operation and maintenance costs of outputs/assets and

c) operation and maintenance costs of CDC/ WSUG;

* Provide unskilled labour for construction of water point/ water system.
* Provide local materials for construction.
* Provide unskilled labour for ring sinking or well boring and handpump installation/ pipe trench digging and construction of structures.
* Arrange transportation of well/ tube-well/ piped scheme components from the production site to well site.
* Assist the Organization in Managing and supervising scheme implementation;
* Select handpump caretaker or water point caretaker.
* Entering a maintenance contract with local Hand Pump Mechanic
* Select hygiene promoter.
* Inspect the performance of hygiene promoter regularly.
* Keep track of project progress and inform community
* Inspect the performance of caretaker and mechanics regularly.
* Solve the problem of mechanic payment and other water related issues as they arise.
* Inform an implementing agency or local authority whenever major breakdown of handpump or water system occurs.

#### 3.2.2 Criteria for selection of water and sanitation users’ committee members

* Should serve the community voluntarily.
* Be representative (Male/female) of the user group, with defined communication channels between male and female members, and between Handpump Caretaker and women well users.
* Should have ability to read and write if available.
* Should be a respected person with some leadership skills.

## 4. Community Action Planning

Community Action Planning is a process by which community will be involved in planning the scheme and in decision-making. The community action plan contains the following:

* 1. Community Mapping and Baseline Situation Analysis
  2. Hygiene education plan
  3. Site selection and water supply scheme layout plan
  4. Sanitation plan
  5. Community contribution plan

(local labour, local materials, transportation and cash contribution plan for water supply and sanitation)

* 1. Operation and Maintenance Plan
  2. Monitoring and Evaluation Plan
  3. Community Capacity Building Plan

The format for preparing Community Action Plan is presented in Annex-7.

### 4.1 Participatory Community Mapping and Baseline Situation Analysis

Mapping is one of the methods of gathering actual information on a sheet of paper. The map should contain critical information, natural resources, water points, defecation areas, roads, school, cluster pattern, boundary, village path, member of household, population etc. This is done with participatory approach, community will draw a map of their community, in which they are residing and will be able to show community situation, needs, issues, problems and resources. Refer Annex-5 for the guideline on community mapping process.

This will initiate dialogue and help establish a common understanding of the situation within a community. The quality of this dialogue is as important as the map itself. As with focus groups, engineers can derive a wealth of information from mapping exercises and need to involve themselves either directly or indirectly.

Along with the community map, village assessment form and hygiene KAP baseline data will be collected. Community will map problems with diarrhoea and water borne diseases or problems of diseases from unsafe or bad water and solutions will be discussed with the community. Based on these data baseline situation will be analyzed participatory. This will provide basis for planning for the community.

### 4.2 Hygiene Education Plan

Based on the hygiene KAP baseline, community situation will be analyzed participatory. This will then be taken as a basis to design/ choose hygiene and sanitation messages and target community groups. The modalities of hygiene education including training, advocacy and strategy will also be determined. This includes how children and women groups will be mobilized. Hygiene Promoters will be chosen from the village and trained. (Refer section on Hygiene Education for details)

### 4.3 Site Selection and Water Supply Layout Plan

#### 4.3.1 Site Selection Criteria/ Principles

In collaboration with the user group, the field engineer is responsible for the final site selection for each water point of the area. The user group is involved in site selection and should understand selection principles.

The selection of the improved water point should be based on the following criteria:

* The water point should be located so that access cannot be monopolized by anyone. This means that sites should preferably not be selected adjacent to the compound of powerful members of the community as it increases the risk of privatization.
* Each Water Point should be used, in general, by twenty families or 150 people but the number should be to utilize full potential of the dugwell/ tubewell or at least 75% of the full potential but not less than 17 families
* The site must not be open to contamination from latrines, washing areas, canals, ponds or other sources. There is no perfect rule governing the distance that is necessary for safety between latrine and well. Many factors such as slope and level of the ground water, and soil permeability influence the possibility of the bacteria in ground water. In general, the distance between well and latrine should not be less than 20 m in ordinary soil condition with low permeability.
* A well should not be near a graveyard.
* A well site should be above the flood-level so that the well water cannot be contaminated by flood water
* The well site should preferably be in open and sunny place that will help to keep the platform dry
* The well should be located in a place where consideration of *Purdah* does not prevent women from using it.
* Choose a place away from heavily used roads. The well should not be near a public place road or Mosque as women carry most of the water and the women cannot collect water from those places.
* The well should be situated away from agriculture plots due to the use of urea, chemicals, and animal and human dung as fertilize
* Where the sale, exchange or donation of land is required to construct or improve a water point then the sale exchange or donation of land should be documented in a *waquf.*
* The site of the water point should not obstruct any future government plans and informed the Archaeological Committee through provincial or district governor.
* The user group must reach consensus on the site selected. The Field Engineer will advise the user group on site selection with technical information. Hence, the other criteria set by the community on consensus can also be taken.
* Women should have the prime role in the selection of the site. The female Hygiene Educators should be used to ensure that women’s opinions are collected during the site-selection process.

The users must make a major contribution to site section. It is very important that from the beginning they feel the well belongs to them and not to the engineer or contractor. The community know their culture and the necessary conditions to enable the well to be used freely by the families that are targeted. Women especially must be consulted.

It is very important to talk to a large number of people. The mosque is a good place to talk to people as many people go there. Similarly, house-to-house visit or alternative meeting place should be arranged to get women's views of the sitting of the well. Powerful people have been known to take public land for their own use. If the program strategy and decision making is openly shared with the community this is not as likely to happen.

The implementer should share all of his/her technical ideas clearly with the community and listen to their ideas so that the best decisions are made. Understanding why decisions are made engenders cooperation, participation and commitment.

Community usually know the locations where it will be difficult to dig. It is to our advantage to listen to their advice. Community also often know about the ground water sources, whether there is water. Community members know their location and can advise on areas to avoid because of rocks and previous failed attempts to locate water. Elders in the community can advise the technical person about the rainfall over the past ten years. The Engineer will take all collected information into account when he advises at what depth to put the filter and estimating the recovery of the water table after pumping. If for some reason the community choose a site that for technical reasons or some other reason is unsuitable the Engineer must share with them his reasons for believing it is not suitable.

A layout plan will be prepared as per the site selection. The proposed layout of water point can be shown in the community map prepared earlier again with community participatory approach. In case gravity piped water supply system, the location of source and location of major structures like reservoir and taps will be identified to prepare a layout plan.

#### 4.3.2 Technical Options

Different possible technical options and service level should be presented to the community with its merit and demerit to enable them to choose most appropriate technology. The project considers basic level services which provide subsidies (no toilet subsidies are being foreseen in the new WASH Policy 2010) with certain level of community contribution requirement. If community choose higher service level, the additional cost beyond basic service level have to be borne by the community.

The following technology options, depending upon applicable site conditions, can be considered:

* Dugwell with handpump
* Borewell with handpump
* Gravity piped water supply system
* Protected spring
* Infiltration Gallery
* Karez improvement
* Sub-surface dam
* Rain water Harvesting

The technical options will be discussed with the community and community will make informed choices (refer Section on Water Supply Technology for details on technology). The rehabilitation and improvement of existing water system should also be taken as possible options. Technical options should be provided with its merit and demerits.

The engineer will carry out engineering survey based on the site selection and layout plan prepared by the community with participation of community. Any changes required in the site due to technical problems will be discussed with the community and appropriate site will be selected in participation of community. Engineers will then prepare detailed design and estimate.

### 4.4 Sanitation Plan

A plan will be prepared in participation of community based on true demand of the community households. It will be done in conjunction with hygiene education.

The Community-Led Total Sanitation approach will be used to make the village Open Defecation Free and no demonstration latrines will be constructed per water point. Community should be aware and demand for latrines. Sanitation will be promoted focusing on the social benefits that a latrine can bring as well as the hygiene benefits. Different technical options in constructing the latrine will be presented so that community household can choose suitable option. Technical options should be provided with its merit and demerits and related cost (Refer section on Sanitation).

The main technology options would be:

* Dry, single or double vault latrine
* VIP Latrine
* Pour flush water seal Latrine

### 4.5 Community Contribution Plan

Community should contribute at least 10% of the total capital cost. However, community should contribute as much as possible in the form of kind and cash contribution. The community should prepare a plan in which items they contribute and how it will be done.

Communities are generally responsible for following contribution:

* Providing unskilled labour
  + to dig the well or to support the contractor in drilling the tubewell or dig and fill pipe trenches
  + for sinking of the well components/ rings or pipe laying
* Installation of hand pumps
* Provide all unskilled labour for apron construction or construction of structures such as spring protection, break pressure tank, reservoir, tap stand etc.
* Curing of apron or structures
* Transport non-local materials from production centre to the well site
* Providing local materials such as crushed graded aggregates, sand, stone, etc. for apron construction or construction of different structures

If community opt for higher service level the additional cost beyond the basic service level facilities should be borne by the community.

Further, community participation is expected in the construction of dug wells and tube wells are as follows:

* Ensure accessibility of the well after confirmation of the site from the social and technical point of view.
* Ensure security for the construction team and assist with their accommodation if necessary.

### 4.6 Operation and Maintenance Plan

Communities are responsible for operation and maintenance of water supply system. The CDC or WSUG will be responsible for the management of the system.

The community will:

* Select care taker for each water point
* sign an agreement with a local area mechanic/ valve mechanic for regular mechanical maintenance and for repair of the pump/ water system specifying his duties and what the User group will pay him (in cash or kind) on annual basis for his services.
* Pay the handpump mechanic for future repairs and maintenance.
* Purchase spare parts for repair and maintenance.
* Make known communication channels between women users and caretaker/ mechanic.

Refer section on Operation and Maintenance System for details.

### 4.7 Monitoring and Evaluation Plan

Community involves in monitoring management and supervision of a water supply project and it’s Maintenance.

* Village representatives should be present as far as possible when all contracts are signed
* Technical specifications of the contract should be shared with village representatives
* Village representatives should know and also monitor what the contractor is supposed to be doing. This is an essential aspect of community ownership.
* Villagers will get to know the contractor very well and their good relationship with the contractor can motivate the contractor to do his best.
* The Engineer should regularly observe the work in progress and discuss progress with village representatives and the contractor or his representative.
* Community shall be empowered to plan, construct, operate, maintain and own all infrastructures
* Community shall organize preventative maintenance
* Service sustainability has highest priority

(Refer Section on Monitoring and Evaluation for details on community level monitoring needs)

### 4.8. Community Capacity Building Plan

Community capacity building plan includes training and orientation needs of the community and community organization. The area of training includes leadership, management, community mobilization, hygiene education, bookkeeping, operation and maintenance etc. (Refer Section on Training for details on community level training)

## 5.0 Project Implementation and Community Participation

Project will be implemented in participation and involvement of community. Community Action Plan (CAP) prepared by the community will be implemented with the leadership of community through CDC or WSUC.

It is important that women's are equally involved in water point selection, implementation and in Health Education and Sanitation.

The following are the reasons why community should be involved in a village water supply project?

* By involving the community in all aspects of well construction we are assisting the community to receive safe reliable drinking water.
* The sustainability of a water supply is reliant on community ownership. Community ownership means once the well is completed the members of the village are responsible for its functioning. A community that truly values the provision and access to safe water will organise themselves to maintain a well. They will choose reliable people to be caretakers. They will spread knowledge and information about well maintenance. Correct use of the hand pump, cleanliness, maintenance and tidiness of the site, calling for a mechanic, paying a mechanic, obtaining spare parts will become norms. Avoiding misuse that can cause a breakdown of the hand pump and result in expensive on-going repair bills are responsibilities that the engineer cannot take on. These responsibilities are the responsibilities of everyone in the village. The misuse or lack of maintenance of one well means those people will start to misuse another well.
* The community members need to organise a system (choose a member responsible) to monitor all stages of the construction of the well. This community monitor and the community need to have faith that the engineer is working to serve their best interest.

# Section XI Hygiene Education

## 1. Introduction

Hygiene education is an integral part of water and sanitation projects, but should be given priority. Drinking water should be safe and clean. Water that is safe from faecal contamination at the source often becomes contaminated during transport or storage. Again, improved sanitation through effective disposal of faeces by latrines is very important. Therefore, each water or sanitation project must have hygiene component as emphasized in the WASH national policy guideline developed by Water and Sanitation Group (WSG) and MRRD 2010. It mainly focuses on targeted beneficiaries for water and sanitation projects. The approaches and methodology developed by Hygiene Education Working Group (HEWG) and approved by MRRD and MoPH will be the main basis for hygiene education.

## 2. Definition

1. Hygiene education as a part of health education is a process through which we can pass on different messages related to drinking water and sanitation to the people to adapt sustainable changes in behaviour, practice and knowledge for their healthy life.
2. Hygiene education is any activity which is designed to achieve learning related to safe drinking water, adequate sanitation, personal and environmental hygiene, food safety and rehydration therapy at household level. Effective hygiene education may produce changes in knowledge and understanding, it may influence or clarify values; it may improve skills; it may affect changes in behaviours.

**Hygiene** has two aspects: personal and environmental.

**Personal hygiene:** The aim of personal hygiene is to promote standards of personal cleanliness within the setting of the condition where people live. Personal hygiene includes; bathing, clothing, washing hands and toilet; care of feet, nails, hairs and teeth; spitting. Personal hygiene should begin at a very early age and must be carried through school age.

There is a major role of women in training children in personal hygiene. Women assist children, the aged and the sick with their hygiene and sanitation needs. Women also take the main responsibility for socializing children into the use of latrines and for providing health/hygiene education for children.

**Environmental hygiene** has two aspects; domestic and community.

**Domestic hygiene** comprises that of the home: use of drinking water; foods; hygienic disposal of wastes, use of toilet; need to avoid rats, mice and insects.

**Community hygiene** is a major concern of many governments and related agencies throughout the world. In the developing countries, the emphasis is on the improvement of basic sanitary services consisting of water supply, disposal of human excreta, other solid and liquid wastes, vector control, food sanitation and housing which are fundamental to health. In many areas, poor sanitary practices among the people have their roots in centuries-old customs, styles of living, habits and war. These are not easily altered.

The **objectives of Hygiene education** in environmental health are:

1. To educate the people in the principles of safe drinking water and sanitation with a view to bring about desired changes in hygienic practices and lasting behaviour changes.
2. To secure adoption, wide use and maintenance of safe drinking water and sanitation facilities.
3. To promote active participation of the people in planning, construction and operation & maintenance stages of environmental improvement.

## 3. General Hygiene Education implementation: Framework

* After administrative mobilization and having their support and agreement for a hygiene education project in a targeted area, we could start implementation.
* During implementation of hygiene education projects, it is a must to know the direction we are moving. Hygiene education supervisor/trainer has to know the general framework or necessary steps to be taken.
* For implementation of a hygiene education project, it is necessary to know from where we should start and how the project moves forward and learn while the project is developing to reach a better result.

The following steps should be taken:

1. Hygiene situational analysis
2. Set objectives
3. Select targeted audience
4. Find setting and sectors
5. Choose Approaches
6. Start actions
7. Monitoring and evaluation
8. Impact assessment

##### i. Hygiene situational analysis (hygiene baseline KAP survey)

In this phase of implementation, first we have to collect some necessary information from the targeted area and fill questionnaire pertaining to Knowledge Atitude and Practices of people. The following activities will be carried out to mobilize the community and collect information:

* Transect Walk to observe the current situation and build rapport with the community
* Social Mapping to establish the number of households, population, water points, latrines (refer Annex-5 for guidelines on community mapping)
* Hygiene Baseline KAP study to know the knowledge aptitude and practices on hygiene (refer Annex-6 for Hygiene Baseline KAP Format)
* Defecation site(s) visits to observe the current situation with regards to faeces dispersal due to open defecation
* Situational Analysis and cause and affect analysis to identify the current latrine use pattern

The Base line KAP Survey Format for Hygiene Situation Analysis is provided in Annex-6.

* After completion of this questionnaire or format by literate hygiene promoter or supervisor, it should be kept as a record from targeted area. One format should be filled for each household and then for whole village and district and put in a separate file.
* Whenever, there is impact assessment after completion of hygiene project, this format once more should be filled and the first recorded hygiene status should be brought for comparison in order to find the behavioural changes in the same area.

##### ii. Building objectives

In this phase, when we collect information regarding hygiene status we have to summarize all hygienic and unhygienic habits.

Regarding unhygienic behaviours to be changed, we will put our objectives for education purposes.

Who is our targeted audience? Main focus should be on the clients to change unhygienic behaviours, so we have to put specific objectives which would come out from the hygiene situational analysis phase for a targeted area or audience.

For example: There is safe drinking water available and people properly deal with that, but open defecation is a common habit and human excreta is scattered everywhere, so focus should be on this namely how to educate people to use latrine for defecation and dispose human excreta from environment in a safe place, that could be one of our objectives.

Supervisor and hygiene officer should work together with promoters in the process of objectives selection for a particular area during project implementation period.

##### iii. Select targeted audience

Targeted audience could be:

* mothers (caregivers),
* young girls at households
* young boys in village,
* elderly women in house hold,
* elderly men in mosque and in village
* children between 5 to 15 age in village,
* school children in school,
* Fathers,
* Grand father or mother, and etc.

Based on health problems found in hygiene situational analysis phase, we will find its link with different targeted groups mentioned above, and then we have to focus on one, two or more selected groups during the implementation period.

For example: mothers who are taking care of children under 5 year, not washing their hands after cleaning the faeces of children. We have therefore to focus on mothers who are taking care of children under five years.

##### iv. Setting/venue

When we completed three phases of general framework: a) identified problems b) putting objectives and c) selected targeted audiences, then we have to find a proper venue for education to be comfortable for both parties (hygiene educator and targeted audience) this could be:

* household,
* clinic,
* mosque,
* school and or play ground,
* bazaar,
* field,
* traditional gathering,
* Friday prayer and other venues or occasions.

Selection of setting is completely depended on hygiene educator or supervisor to find the best place in consultation with the community.

* In rural areas, to convey hygiene messages to women, suitable place is a house. It may be her own house or we could bring women together from few houses to one house as a group audience.
* For schoolchildren, the best venue is a school.
* For men may be mosque or field.

##### v. Approach

Approach to targeted audience is another phase of implementation period. In hygiene education, we have different approaches that are used for different targeted audience. Approach depends on social status, religious, traditions, cultures and interest.

We have multiple approaches like:

* interpersonal communication,
* group communication,
* discussion, question and answers,
* visual materials (picture card, poster, and leaflet),
* drama, story, song/poem,
* radio and TV, news papers,
* lecture, and etc.

The main hygiene education approaches to targeted population will be as follows:

1. **House to house visit** by female educators and making groups among children including their mothers and other elders in the house to convey hygiene messages at household level for female beneficiaries (mothers, girls, elderly women)[[22]](#footnote-22).

Female educator could work as a team consisting of two female educators or couple (one male and one female e.g. husband and wife, brother and sister or father and daughter). Each team will cover 3 to 6 households per day. They should stay in each household for at least one and half hour or as a female session, females from few households may come to gather in one house for education if it is possible according to local traditions or experiences from the area by supervisor or educators in a proper time. This inter-personal or group communication will take place during the implementation period or hygiene education process.

They also provide the hygiene education in schools for the schools children and their teachers as well. Each team will cover 2 groups per day (one school group and one local group). They should stay in each group for at least one and half hour to complete their lessons according to the teaching pan.

1. **Hygiene education by trained Mullahs/Imams** at mosques during prayer time particularly Friday’s prayer for at least 10 minutes for male (elder and young) targeted population and also for children over 5 years old getting religious knowledge or studying in the mosques during the implementation period or hygiene education process.
2. **Hygiene education by trained teachers** for students at schools for 10 minutes in each class per week totally three times for each class during implementation period in all schools in the targeted area.
3. **Hygiene education by male promoters/educators** for males at fields, local bazaar, gathering places in the villages and for children in playgrounds in the village. Visiting each village and making groups among children age 5 to 15 including their fathers and other elders in the area by male educators to convey hygiene messages in the village for male beneficiaries (fathers, boys, elder men).

These male hygiene promoters/educators could make male sessions outside the households for male targeted population. Each session would have 10 to 20 participants and should be held in a proper place and time.

Male educators are working in two teams two people in each team. They also provide the hygiene education in schools for the schools children and their teachers as well. Each team will cover 2 groups per day (one school group and one local group). They should stay in each group for at least one and half hour to complete their lessons according to the reaching plan. Male educators provide hygiene education for the people who have a latrine. These trainings are provided in those areas where latrines have been build. Each session would have 10 to 20 participants and should be held at a proper place and time.

##### vi. Action

After completion of the above phases, we should start our hygiene education. It means hygiene promoter/educator will do act and convey hygiene messages based on previous steps which have already been taken. Some of the hygiene education messages and hygiene pictures developed by the HEWG are presented in Annex-11.

| **No** | **Activity** | **Time** | **Comments** |
| --- | --- | --- | --- |
| 1 | Administrative and Community Agreement and Mobilization | Beginning of project | At Central Provincial, District and Village level |
| 2 | Community Mobilization and Information Collection | Beginning of project | Village level |
| 3 | Transect Walk to observe the current situation and build rapport with the community | Beginning of project | Community Mobilization and Information Collection |
| 4 | Social Mapping to establish the number of households, population, water points, latrines | Beginning of project | Community Mobilization and Information Collection |
| 5 | Defecation site visits to observe the current situation with regards to faeces dispersal due to open defecation and environmental sanitation | Beginning of project | Community Mobilization and Information Collection |
| 6 | Identify Hygiene Promoter from Village | After Community Mobilization | Community approval |
| 7 | Training:   * Training of Trainers (ToT) * Training for Promoters (ToP) * Training of Teachers * Training for Mullahs * Training of influential community representatives | After administrative and community mobilization and agreement (third step) | Each course/workshop is held at least for 3 days and accommodate 20 to 30 participants in one course at district and provincial level |
| 8 | Baseline Hygiene Survey  (Hygiene Situational Analysis) | After completion of training  (Fourth step) | Should be conducted by Supervisors and literate promoters |
| 9 | Situation Analysis and cause and affect analysis to identify the current latrine use pattern and hygiene practices | Community involvement | Community gets a copy of the report |
| 10 | Prepare Community Action Plan | Based on Situation Analysis Community Action Plan (CAP) will be prepared  CAP contains   * objectives * targeted audience * venue and setting * Approaches | Community ownership |
| 11 | House to House Visit (HHV) | After completion of hygiene situational analysis and preparation of CAP, up to the end of implementation period | By trained locally female hygiene educators/ promoters (CHW) |
| 12 | Education by Mullahs/Imams | After completion of hygiene situational analysis and preparation of CAP, up to the end of implementation period | By trained Mullahs/Imams at mosques |
| 13 | Education by Teachers | After completion of hygiene situational analysis and preparation of CAP, up to the end of implementation period | By trained teachers at schools |
| 14 | Hygiene Education outside the households for men and young boys | After completion of hygiene situational analysis and preparation of CAP, up to the end of implementation period | By trained locally male educators |
| 15 | Carryout Hygiene Education and per CAP prepared based on situational analysis using Hygiene Guidelines by supervisors, trainers and promoters. | From the beginning of project up to the end of implementation period | By all hygiene staff |
| 16 | Impact Assessment | After completion of project implementation period and later on (last step) | By supervisors and literate promoters |

The action points will be modified when CLTS and ODF are being used.

##### vii. Monitoring and Evaluation

This process actually is one of the government responsibilities and all organizations have their own systems to satisfy the donors. Monitoring and evaluation could be conducted during and at the end of project implementation period. It might be based on specific indicators which have been discussed separately in this guideline. An organization could do monitoring of their activities, but normally it is better to be done by third party (may be government departments, UN agencies or NGOs).

The monitoring and evaluation framework and indicators are provided in Annex-12.

##### viii. Impact assessment

This is the last step of hygiene project implementation. It could be done after implementation period, after completion or a certain time later, there is no limitation.

In this stage, we will do the same activity which was done at the start of the project namely a hygiene situational analysis and would use the same format. This project impact assessment should be based on comparison with the first record of hygiene status with the latest assessment. The comparison of both results could reveal impact of the project by seeing changes in the health status and behaviours.

## 4. Hygiene Education & Gender

Gender and hygiene education are similar words in Afghanistan. As women are main users and dealers of drinking water and disposal of children’s excreta, so the large portion of hygiene education activities should be focused towards women and females at household level. Therefore, strong gap is visible due to such human resource in local communities and central level in order to have female hygiene trainers and promoters to perform this huge task which is always difficult with male only hygiene staff, so male and female staffs have to compliment and work together as a couple.

Hygiene education is integrated with gender and this is the only worldwide-approved approach to reach our targets and visit all Afghan women besides men with hygiene messages.

The worst child mortality rate due to preventable water and sanitation born diseases, have to be brought down by effective hygiene education for most vulnerable targeted groups who are mothers and caregivers for children less than 5 years and this would be possible through female hygiene trainers, supervisors and educators.

Women from communities should be encouraged and provided with facilities to participate in hygiene education for the sake of their families and communities in order to improve the health status and reduce the high mortality and morbidity rates among the children and vulnerable Afghan rural population in a sustainable manner.

## 5. Hygiene staff or personnel Arrangement

Hygiene education staff at village level consist of hygiene supervisor or field officer, hygiene trainer and hygiene promoter/educator. There would be one supervisor for 10 hygiene promoters. One team of two female hygiene promoters should approach 75 to 150 household per month (according to distance between household location). Every promoter should visit 3 to 6 families per day as separate visit or bring them together in one household. Each household has been estimated to be seven people, so every male promoter should visit 12 to 24 male targeted audiences per day. In this methodology, supervisor and trainer might be the same person.

### 5.1 Hygiene Educator or Promoter

Based on MoPH policy and BPHS, CHW will be the hygiene promoter at village level and will work permanently as a primary health service provider. Wherever CHW exist, CHW will be the hygiene promoter and wherever CHW do not exist, Hygiene educator or promoter will be selected locally and will be adjusted to become a CHW latter.

It is important to liaise with Ministry of Public Health (MoPH) to assure that the approach is fully in line with the policy approach in MoPH.

* Male and female promoter is needed to work inside and outside household. It would be better if they are a couple (wife and husband, father and daughter, brother and sister). The hygiene educators should be community based and selected from local area (village).
* Hygiene Educators/Promoters should be mature persons (men and  
  women) preferably married as that will enhance the possibility of gaining the respect and attention of the community
* Hygiene educator can be community leader, religious leader, teachers, health workers, social workers, mothers, fathers, children, local barbers and anyone in the community who wants to promote hygiene awareness and behavioural changes.
* Good female hygiene educator may be drawn from existing TBAs, vaccinators, teachers, female health workers and female elders in the community.
* Males, on the other hand, may be drawn from male health workers, teachers, Imams, community representatives, farmers, local barbers, elders and etc.

The criteria for selecting the Hygiene Promoter are provided in Annex-13.

### 5.2 Incentive for hygiene promoters

Incentive for promotersis an important issue here. According to the MoPH policy we will not provide salary to hygiene promoters, but community could pay them in kind as incentive.

## 6. Developed hygiene materials

Hygiene education guidelines for supervisors, trainers and hygiene educators developed by HEWG, MRRD and MoPH should be used during the whole implementation period. These guidelines have all needed materials and instructions for trainers, supervisors and promoters including prioritized messages, indicators and hygiene pictures that could be used in picture cards, leaflets and posters which endorsed by MRRD and MoPH Ministers as a national hygiene materials for hygiene education program in Afghanistan.

Additional materials will be provided while the Community Led Total Sanitation will develop by the various organizations within the various regions in Afghanistan.

## 7. Training Courses/Workshops

Training of hygiene staff should be done by expert trainers carefully at commence of implementation period. These courses or workshops could be repeated as refreshment courses at the middle of implementation period. Duration of workshop may be for at least three consecutive days from the morning up to evening. According to the roles of hygiene staff, the curriculum and timetable is different for each course. Hygiene education guidelines should be considered as main source for different subjects of the course. Lectures should not be used instead group working, discussions, question and answers, video projectors, flip charts, role-plays and dramas can be used. Main focus should be on participation of attendees. Suitable place could be selected like conference room or a big hall in the area. If there is problem to sit male and female together in one room according to particular reasons and traditions, then separate places for workshop is advised for male and female.

### 7.1 Type of courses/workshops

1. **Training of Trainers/supervisors** (ToT) for hygiene trainers and supervisors. Training of trainers is conducted for hygiene trainers who will be responsible to guide and train hygiene promoters or educators. Supervisors can carry out the same job and receive the same training. In this workshop the main focus should be on how to use the hygiene education guideline for trainers and supervisors, communication skills and hygiene implementation methodology.
2. **Training of Promoters** (ToP) for hygiene educators or promoters. This training is designed for hygiene educators who will convey the hygiene messages to the targeted audiences. In this workshop the main focus should be on how to use the hygiene education guideline for educators or promoters, communication skills and hygiene implementation methodology.
3. **Training of Teachers** is specially designed for teachers from those schools located in targeted area. From each school one, two or three teachers should be selected and trained. They will work as hygiene educators at schools and will provide hygiene education for students. In this workshop the main focus should be on how to use the hygiene education guideline for educators or promoters and communication skills. The headmasters should get an orientation so that they can be able to support their teachers.
4. **Training of Mullahs/Imams,** this workshop is particularly designed for Imams from those mosques located in the targeted areas. All Mullahs from all mosques should be invited to this workshop to be trained in hygiene education and afterward they will take part in the hygiene education process through mosques. In this workshop the main focus should be on how to use the hygiene education guideline for educators or promoters and communication skills.

Refer section on Training for training approach and modules.

# Section XII Sanitation

The Community-Led Total Sanitation (CLTS) as proposed to be used in the WASH Policy 2010 will enforce a different approach towards sanitation and subsidies. Subsidies have no place in the CLTS approach, but should lead to bring the villages/communities to become Open Defecation free (ODF). The latrine types will depend on the villagers and what they can afford but have to fulfil the criteria as laid down by the ODF criteria.

## 1. Implementation Approach

The following steps are taken in implementation:

### 1.1 Knowledge and Awareness Creation

Knowledge and awareness creation is linked with Hygiene Education. Training and Participatory social marketing approaches will be used through hygiene and sanitation education to promote the sanitation program (refer section-XI: Hygiene Education).

Most latrine users consider latrines to be some kind of a status symbol. The motivating factors for many households to build a latrine are not only hygienic but primarily social: comfort, convenience and privacy. This is true even where households have been exposed to health education[[23]](#footnote-23). Hence, when promoting and marketing sanitation, project implementers should focus on the social benefits that a latrine can bring as well as the hygiene benefits.

The approach to create awareness and generate demand in sanitation will be:

* Transect Walk to observe the current situation and build rapport with the community.
* Social Mapping to establish the number of households, population, water points, latrines and Hygiene Baseline KAP study to know the knowledge aptitude and practices on hygiene.
* Defecation site visits to observe the current situation with regards to faeces dispersal due to open defecation.
* Situation Analysis, cause and affect analysis to identify the current latrine use pattern.

As the community members are explaining the current status with regards to the project the process of community motivation is starting. The purpose is to generate interest in improving the hygienic situation in the community. Enabling the community to see their current situation and its effect is a powerful motivator for change. A successful method of doing this has been highlighting the affects of open defecation including people ingesting faeces. People are willing to get involved in action as they see how they and the community as a whole will benefit from their actions.

### 1.2 Community Management

Sanitation management is the people’s programs and its success and sustainability depend on the involvement, participation and management by the community, therefore, participatory management by the community in all stages of planning, implementation, monitoring and evaluation of the sanitation program will be encouraged to ensure ownership feeling.

The Water and Sanitation Users Committee or the existing CDC with separate male and female group will manage the sanitation activities along with hygiene education and water supply activities.

### 1.3 Prepare and Implement Community Action Plan

Based on the situation analysis, community will prepare an action plan with facilitation of Organizations to improve the current RuWatSIP situation. The action plans usually involve a mixture of individual actions such as stopping open defecation and community action such as community cleaning exercises to clean up public places. As the community members themselves are the main implementers of the action plan, with people helping each other and finding collective responses to problems, meetings with groups of members of the community are important. Meetings serve a variety of purposes such as to discuss progress, suggest solutions, explain technology and see where organizations input is needed to implement the action plan.

Male and Female Hygiene Promoters, Teachers, Mullahs chosen as vehicle for motivators in hygiene education, will also promote sanitation.

### 1.4 Construct Demonstration Latrines

The construction of 3 demonstration latrines have been taken out of the WASH Policy 2010 and the Community Led Total Sanitation and the Open Defecation Free villages are introduced. After a village is ODF then the community might be given a certain amount of cash for a community project, this require careful planning.

### 1.5 School Sanitation

School is the most important place of learning for children. School can influence families and communities with the help of outreach activities through their students. It is therefore important that school must have effective and adequate sanitation facilities.

The latrine needs to be hygienic and sufficient for the students and teachers. The latrines should be constructed considering the gender aspect such as the privacy needs of the girl students.

### 1.6 Provision of Technical Options

Motivated community starts building toilets. The communities are able to make choices and identify different technical options on latrine construction. Design, drawing and estimation of different latrine options for households and public institution (school) should be prepared and used as per ecological conditions. Communities should be involved in the selection process which further help to finding an economically and culturally acceptable design. This creates freedom to the community for the option selection as per their demand and affordability. So, the poor groups are benefiting from the low cost technical options of different types of latrine designs.

The household may keep on improving standard latrine as per their demand, affordability and need. Hence, availability of options are very important.

### 1.7 Sanitation Mart

Awareness alone may not ensure the installation of latrines. Materials and information required for the construction of the latrines such as pans, pipe, fittings, cement, etc. are usually not available everywhere. It has been observed that if these materials are made available in local shops or markets, local people are encouraged to construct latrines. Local masons will be trained in different types of latrine construction and encouraged to establish shops (refer Section IX: Training).

### 1.8 Monitoring and Rewarding

An effective mechanism will be established to record, monitor and evaluate the sanitation program along with monitoring water supply system.

The cleanliness of family members, sanitary practices, and cleanliness of surrounding households will be observed and monitored periodically by hygiene promoter and community members/ WSUC members with indicators set by the community. Feedback will be given to household and WSUC.

Simultaneously, latrine observation exercises are also carried out to check whether latrines built are being correctly maintained and cleaned. Feedback will be given to household and the WSUC.

## 2. Gender

Gender sensitive planning needs to be done by respecting privacy needs for women. Women play a key role in sanitation promotion and hence their involvement would be emphasized at all levels, right from planning, implementation, and monitoring and evaluation stage.

## 3. Subsidy and Revolving Fund

### 3.1 Subsidy for Demonstration Latrine

Subsidies are not included in the WASH policy 2010 and is being replaced with the CLTS and ODF approach. The project can give the community advice on demand. The community members will be encouraged to improve and construct their own latrines.

The project might give information to the community members on the following:

* Latrine Slab
* Manhole frame and cover
* Ventilation pipe and mesh
* Concrete bathing tiles
* PVC bath drainage pipe

### 3.2 Revolving Fund

The motivated community will build their latrines on their own cost.

## 4. Sanitation Technology

As far as possible, it will be tried to replicate the existing latrine technology used in the area, but incorporating hygienic improvements. Geological formations in Afghanistan differ from region to region. The type of the soil varies from hard rock to sandy to clay, and the water level varies from 3 meters over 50 meters. Keeping in mind the various traditions and practices, normally following types of latrine are considered:

* Dry, single or double vault latrine
* VIP Latrine
* Composting Urine Diversion Latrine
* Pour flush water seal Latrine

The RuWatSID will further support to develop appropriate technologies in sanitation.

### 4.1 Dry Single or Double Vault Latrine

In this type, single pit (when sealed), the faeces are allowed to decompose for several months (minimum of six months), still with some risk for survival of worm eggs. The fermented material then can be taken out in the form of a dark grey powder, no smell, less risk for transmission of diseases, and used as fertilizer.

The double vault unit (composting type) consists of two adjacent box-like vaults, built of brick/ stone and lined with cement. While one side is in use (for a minimum of six months), the other is sealed. The double-vault is the most appropriate dry latrine. Refer to the drawings and specifications in sketch III-1 to III-6 and tables III-1 to III-11 of “Community Handpump Water Supply and Sanitation Guide for Afghanistan – Water and Sanitation Sector Group Afghanistan, 1999”.

### 4.2 Ventilated Improved Pit-VIP Latrines

These types of latrines are appropriate where people do not use human waste as fertilizers. These types of latrine are also recommended for areas where the water table is not close to the ground surface, in emergency cases, and in urban areas. This type of latrine represents a marked improvement: smells and fly problems are greatly reduced, and the latrines can be put closer to houses, thus more accessible, especially for children. To eliminate flies and bad smell, the dry latrine can be improved to a Ventilated Improved Pit (VIP) latrine.

A VIP latrine has a ventilation pipe to carry away the bad smell. The inside is kept quite dark so that flies in the pit tend to travel up the vent pipe because they are attracted by light.

The VIP toilet can be single pit or double pit. Refer to sketches III-7 to III-9 and tables III-12 to III-17 of “Community Handpump Water Supply and Sanitation Guide for Afghanistan – Water and Sanitation Sector Group Afghanistan, 1999”.

### 4.3 Composting Urine Diversion Toilet

Waste is deposited in the chamber and dry absorbent organic material, such as wood ash, straw or vegetable matter is added after each use to deodorize decomposing faeces and/or control moisture and facilitate biological breakdown (composting). Urine may be separated/diverted through use of specially adapted pedestals. This may be collected and used as a fertilizer. In desiccation systems, ventilation encourages the evaporation of moisture.

### 4.4 Pour-flush Water Seal Latrine

These are used where water is available and used for anal cleaning. These are feasible and hygienic option for many communities. The latrine slab or latrine pan insert under the hole has a gooseneck, typically made of plastic or ceramics. Two to three litres of water is required for flushing after each defecation, the excreta, urine and water collected in the covered pit Water from a container is poured into the latrine pan to flush the excreta into a pit. Some amount of water always remains in the pan. This maintains a water seal, keeping smells in and flies out of the pit. A big pot of water is to be kept near the latrine for flushing and cleaning.

The latrine may have one or two pits. It is advisable to go for two pits. For a family of five or six members, each pit is of one-meter diameter and one meter deep. Only one pit is used at any time by blocking the inlet of the Y-shaped drain leading to the second pit. One pit will fill up to the drain outlet level in about two years. The excreta should remain in the covered pit undisturbed for about two years to decompose. After that time, the odourless contents of the pit can be handled safely and used as fertilizer. The latrine can thus be used as long as one wants by using each pit alternately. Refer to sketch III-10 to III-16 and table III-18 to III-23 of “Community Handpump Water Supply and Sanitation Guide for Afghanistan – Water and Sanitation Sector Group Afghanistan, 1999”.

## 5. Eco-San Option

Objective: An alternative to the more traditional sanitation methods through use of the urine and faeces in a safe manner.

The Eco-san option is the use of urine and waste products in a manner that will produce benefits for the users. Normally the stool is the solid part and contains the harmful organism but it breaks down over time to a product that can be used in the garden or fields provided half a year during warm weather (not winter period) that the faecal matter has been completely decomposed and harmful helminth eggs are inactive. Urine is more difficult component in septic tanks to breakdown. Urine contains relatively few harmful organism but contains high levels of nitrogen and phosphate in one way or the other and are difficult to remove in large quantities. Urine is an excellent fertilizer for crops as it contains N and P in one way or the other.

Ecosan, ecological sanitation, is an alternative to conventional sanitation solutions through reuse and recycling of nutrients and water. The human waste is used for fertilising the agricultural fields after composting of the human faeces, the urine is used to fertilise the fields with nitrogen and phosphate as found in urine. The philosophy is based on reducing the health risks, prevent pollution, recharge of the soil fertility and ensure that management of nutrients (recycle) and water are optimal. Some of the advantages can be improvement of health as no pathogens are being introduced into the water cycle and recycling of nutrients, organics in a safe manner. Soil fertility is expected to improve and therefore increased production.

Reuse of human waste is practised but not in safe manner, so this should be improved through using ecosan systems. Basically ecosan would not use flush toilets with high use of water and separates the faecal matter from the urine and should therefore keep dry. The stage of composting should take place over half a year in dry climates and 9 month in colder climates.

Ecosan toilets have been set-up even in slums in India and are functional. A number of toilet systems were introduced in Kabul like the Sulabh system that recycles the waste but still requires water and might not be able to be replicated in the rural areas and is not an ecosan system, but uses poor-flush toilets and recycles waste and reuses the water for flushing.

Heeb, J., Jenssen, P., Gnanaken, K., Conradin, K. (2006). An approach to Human dignity, Community Health and Food Security. Swiss Development Cooperation (SDC).

## 6. Sanitation ladder

The sanitation situation requires improvement in Afghanistan and other approaches will need to be main streamed in Afghanistan through the Community Led Total Sanitation (CLTS) and the hygiene ladder approach. The CLTS is discussed in Section III and elsewhere with reference to the WASH Policy 2010.

Excreta disposal is an important part of overall environmental sanitation. Inadequate and unsanitary disposal of infected human excreta leads to the contamination of the ground water and sources of drinking water supplies. It provides shelter to breed flies to lay their eggs and to carry infection from faeces to other human beings. Man is the reservoir of infection for several diseases. Faecal borne diseases and worm infestations are the main cause of deaths and morbidity in a community where they go for indiscriminate defecation.

It is interesting to note that all such diseases are controllable or preventable through good sanitary barriers through safe disposal of human excreta (see Box 1).

**Box1**

**A sanitary latrine is one which does not**

***• Pollute or contaminate soil***

***• Pollute or contaminate ground water***

***• Pollute or contaminate surface water***

***• Act as medium to fly breeding or access to flies and animals***

***• Require handling***

***• Produce odour and give ugly sight***

***• Require huge amount and high technology.***

Providing technological options/informed choices is one of the strategies of New WASH policy. It matches with local situation and enhances the demand for owning a sanitary latrine irrespective of the socio-economic conditions and leads to sanitary way of defecation.

There are minimum four components that define the **sanitary toilet.** They are - pan, pit/tank, superstructure and overall system (technology) in which they operate i.e. water seal or slab with hole. We can have several sanitary technological options for rural Afghanistan which can be used depending upon the soil conditions, water availability, and affordability of the user.

Some of the key proposed technological options are:

1. Simple Pit Toilet

2. Ventilated Improved Pit (VIP) Toilet

3. Pour Flush Toilet

4. Eco-san Toilet

The sanitation ladder refers to the options available and depends on the financial situation of the family what they can afford, assuming that the family income improves over time the latrine will become of a higher quality and fulfil all the requirements as mentioned in Box 1.

# Section XIII Water Supply Technology/ Technical Options

## 1. Water Supply Technology/ Technical Options

The following technology options for construction of improved water supply are described in this manual which are widely used in the sector:

(i) Tube well with Hand Pump

(ii) Dug well with Hand Pump

(iii) Gravity fed Piped Water Supply System

However, any design that is proper and exist within community can be selected for construction. Other possible technical options are:

* Protection and rehabilitation of springs and existing water points
* Spring Protection
* Infiltration galleries
* Improvement of traditional water system like Karez
* Sub-surface dams
* Rain Water Harvesting

Site Engineer should discuss with the community and explore possible technical options. While choosing the technical options, discussion should be held with men and women beneficiaries with merit and demerits of each option. Basically an option will be chosen analyzing the following aspects of the option:

* Cost effectiveness with lesser per capita investment cost
* Simplicity and easy to maintain by the community
* Community willing to contribute for capital cost and operation and maintenance cost as per the rule

The RuWatSID / AIRD will further support in developing appropriate local technology in the sector.

The details on technology are provided in Annex-14 and Standard Designs and BOQ are provided in Annex-15.

## 2. Choice of Well

The type of the well to be constructed will be of one the following:

* Hand Dug Well
* Tube Well
* Dug Well deepened via drilling rig

As a general rule, whenever technically feasible, the Dug Well shall be preferred first.

Normally, a tube well will be chosen when:

* The SWL is too deep for a Dug Well
* Strata are too hard for hand digging
* The seasonal fluctuation of the water table in the area exceeds 2 m/year
* In highly densely populated areas, where it is not possible to identify a suitable location far enough from contamination sources

Why to prefer a hand dug well?

* A hand dug well can have a hand pump, a concrete apron and drain and if well maintained provide safe drinking water
* It is appropriate when the seasonal fluctuation of the water table in the area is less than 2 meters in a normal year and the water table is higher than 50 meter or the in-flow is very slow a hand dug well can work.
* If the well is dug during the dry season and a sludge-pump is used the well can be made deep enough to provide water during a dry year.
* An improved dug well is hand dug and costs much less than a tube well and enables more people to have a safe water supply. We can construct two hand-dug wells for the cost of one tube well.
* Community members with the guidance of a Water and Sanitation Engineer can do most of the work to construct a dug well thus reducing the cost even further.
* Most communities already have the knowledge to construct wells and they have been very successful. Even when the stratum is conglomerate hard rock, communities find solutions and succeed in constructing wells.
* In some parts of Afghanistan it is much easier to hand dig a well than to use a drilling rig. At Alishing and Alinger in Laghman province the rock is very hard and DACAAR has found it is quicker to hand dig a well than to use a percussion drill. Percussion drilling can take more than three months to drill through the hard rock in these areas.
* Without sludge pumps communities have been able to dig hand dug wells deep enough to retain water during the drought
* Communities that dig their own well have independence and are not reliant on drilling rigs and mechanics and when parts of the country are unsafe to travel in they are still able to construct wells.

A dry dug well can be deepened via drilling rig, provided:

* The dug well cannot be deepened further via traditional means by the community, because of hard strata or excessive depth
* The dug well is already improved, with an handpump installed
* The position of the well is according with MRRD policy
* The community based maintenance system of the dug well was working till the moment the well went dry
* There is enough space in the vicinity of the dug well to permit a drilling rig to be properly installed, in order to avoid that
* The deepening procedure is not going to destroy the upper superstructure of the dug well.
* The deepening is approved by the client’s representative

## 3. Well location, design, and construction for optimal performance

Depending on the application, a well location should be determined by qualified hydro geologist or experienced water well contractor based on a study of the location and test drilling, and in consultation with health authorities. Wells should be located to produce the maximum sustainable yield possible as well as to protect the water source from contamination.

The basic principles of well selections shall be:

* The well is PUBLIC, and shall remain public forever after the implementation
* The well shall not be close to any private compound
* If a water point is located on donated land then the owner donating the land must sign a traditional deed of transfer (waqf) to ensure that his donation is truly disinterested
* The well shall be accessible primarily to women
* The well shall not be visible from any main road, or a wall shall be constructed, by the community, in front of the well in order to hide it
* Sufficient number of beneficiaries families (25 families for tube wells or dug wells but not less than 17 families utilizing 70% of capacity)
* No sources of contamination (i.e. latrines) should be located within 15 m to the water point (see Sanitary Inspection).

A proper well design includes, determining the depth and diameter for the best yield, sanitary protection, procedures for well cleaning/development, testing, and disinfection, all of which are necessary to achieve the greatest efficiency and safety possible.

Designing for maximum efficiency minimizes encrustation effects. A good choice of materials enhances resistance to bio fouling and corrosion. Good design includes provision for wellhead sampling, flow and water level monitoring.

In all cases Afridev hand pumps are recommended for the following depth:

* Less than 15 m : Afridev Kabul
* 15 m – 45 m : Afridev Indus
* 45 m – 60 m : Afridev Pamir

The alignment of the apron should be discussed with the local community to ensure that it is socially appropriate and is not affected by prevailing winds.

A drain must be constructed to ensure that wastewater is led at least 7m away from the well site.

**Summary of well design and placement guidelines**

1. Well design should be done by a qualified groundwater professional (contractor, engineer or hydro geologist experienced with well hydraulics and construction).
2. Determine any fixed distance requirement from your state authorities: usually set as a ground radius from potential pollution sources (sewers, drains, streams, septic tanks).
3. Adjust these for site circumstances. For example, little filtering action (or absorption) will take place in limestone or fractured rocks formations, so a set 30m radiuses may provide little protection.
4. Perform chemical and microbiological analyses of the water to determine the characteristics of the water in the aquifer: this helps predict the susceptibility of the well to encrustation or erosion, provide information on the water quality, and serve as a baseline record to detect any change in water quality or contamination.
5. Choose materials that will provide a long service with the price being a secondary consideration.
6. Design and select screens and construction steps with the same priorities.

The Summary of Design Criteria is provided in the following table.

**Table: 1: Summary Design Criteria Tube Well/ Dug Well with Hand Pump Scheme**

|  |  |  |  |
| --- | --- | --- | --- |
| S.N. | DESCRIPTION | CRITERIA | REMARKS |
|  | POPULATION GROWTH RATE |  |  |
| 1. | Annual Population Growth Rate (in percent) | 3% |  |
|  | DESIGN PERIOD |  |  |
| 2. | Design Period | 10 years |  |
|  | WATER DEMAND |  |  |
| 3. | Domestic Water Demand  Daily Water Demand Per Capita | 25 lpcd |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | HAND PUPMP FLOW RATE | |  |
| 4. | Handpump Flow Rate  and  Well Development | Above 16 lit. in 40 stroke  The pump should run vigorously and continuously run for eight hours or more until only clear water comes out. Each tubewell must be developed immediately after its installation either the same day or at the latest the next day. | Types of handpump are depending on the depth of well:  Afridev/ Kabul pump for depth less than 15 m  Afridev/ Indus pump for depth between 15 m and 45 m  Afridev/ Pamir pump for depth beyond 45 m  [Refer: Community Handpump Water Supply and Sanitaiton Guide for Afghanistan, Water and Sanitation Sector Group, Afghanistan, 1999, and;  SKAT – HTN Publication, 2003 for Technical Specifications of the pump] |

|  |  |  |  |
| --- | --- | --- | --- |
|  | SERVICE LEVEL |  |  |
| 5. | Basic service level | Public Water Point: Dugwell with Handpump / Borewell with Handpump for 25 household or 150 people per water point | |
|  | WATER QUALITY |  |  |
| 6. | Water Quality of the Source or water point | WHO International Guidelines | At the beginning quality of water from the well should be checked for physical, chemical and bacteriological parameters.  At least turbidity, taste, color, pH and fecal coliform/ bacteriological parameters should be checked. |

## 4. Options for Deepening Wells

The following are options in deepening the wells:

* Unlined Wells.
* The deepening process is hand-digging by the community, advised by the mechanic.
* Partially/Fully Lined Wells.
* Those wells which are lined up to 10m, the rings should be held by strong rope and clamps and the well re-dug.
* For wells of less than 15m, the community should take all the rings out under the direction of local mechanic and the well re-dug.
* Where soil conditions permit, the re-digging and fitting of rings of smaller diameter is possible.
* If the well is completely lined with rings and there is the danger of settlement of the rings, re-digging is done by boring. The process of boring is achieved by the mechanic with the help of the community.

NOTE: The risk of slippage can be reduced by the rings being properly back-filled during well construction. Back-filling should be compacted at least each meter.

The use of beams will be considered to remove the risk of ring collapse. The proposal is to fit a pair of beams for each 10m of lining. This needs testing and investigation.

## 5. Gravity Piped System design

Water supply system design means determining the flows for different taps and pipelines, size of reservoir and size of pipe in the different stretch of alignment. Design should be started after plotting the longitudinal profile. Designing of a typical gravity water supply system primarily involves the following major steps:

* Layout finalization with optimum system components, (intake, Collection Chamber/ Distribution Chamber, air valve/washout Break Pressure Tank/Storage tank and their types).
* Population projection, estimation of total water demand and tap flow calculation,
* Flow diagram preparation,
* Reservoir size estimation and
* Pipeline design.

Estimating means finding out the quantity of construction items of structures (number of structures) and the materials required for each structures. Material quantity and rates are put into the standard formats and cost of scheme is found out. Major steps for this are:

* Quantity estimation, material breakdown and BOQ,
* Putting the pipe, other-material and fitting, skilled/unskilled labor and local material quantity in the design estimate report format and
* Finding the cost of a scheme and compiling the design/estimate report.

To fulfill these primary steps it is necessary to collect information on basic parameters necessary to proceed with the design steps. Design parameters that need to be established are as follows:

* Source data and safe yield (lps)
* Community data like present population, household and tapstand location.
* Population Growth Rate and Design Period
* Per capita water demand (institution and Domestic) and peak factor
* Consumption pattern
* Longitudinal profile along the pipe alignment
* Rate of skilled and unskilled labor, construction materials, tools, norms for local material production and porting, ERR calculation data
* Material breakdown norms.

##### System optimization among alternate options:

The term optimization indicates the optimum use of the available construction materials and other resources such that the required level of services are obtained maintaining the requisite engineering standards. Therefore, optimization of rural water supply systems implies to proper design of various system components so that unnecessary increase in pipe class/diameter, reservoir size, pipe fittings cost could be avoided.

Thus, during optimization, alternate designs, use of local construction materials and appropriate rural technology should be investigated so that the most optimum system can be obtained saving the scheme cost. Some Pertinent/important issues/aspects related to optimization of rural water supply schemes are given below.

* Different alternate scheme layout plan should be prepared and their cost and sustainability factor should be analyzed. It includes the choice of structures and their types, pipe line size and series, structure locations and maintenance cost.
* The implication of adopting an "open" system over a "closed" system should also be explored.
* In the closed system, the system should be broken into sub-systems with seperate smaller reservoir tanks as far as possible.
* The class of the pipe to be used should be governed by the maximum static pressure at that point or node.

For example, If the maximum static pressure, at a point is 60 meters then 6 kgf/cm2 HDPE pipe would be needed. Unnecessary use of pipes of higher working pressure (e.g. G. I. pipes and 10 kg/cm2 HDPE pipes) should be avoided;

* While designing the transmission mains, if the source safe yield is more than the required design demand and source is far from community then pipe line should be designed for required design demand only.
* Use of BPTs as far as possible should be avoided because of maintenance reasons. However, if the use of IC or other pressure breaking/reducing means can decrease the scheme cost by avoiding the use of higher series pipes in a significant manner, use of such mechanisms should also be explored.
* Use of ferrocement technology for reservoir tanks should be encouraged, as these are cheaper than traditional stone masonry reservoirs (especially for sizes bigger than 6,000 liters capacity);
* Alternate design of tapstands and its cost implications should also be explored.
* Use of excessive residual head (more than 15 m) at tapstands and other structures should be avoided. It will decrease the size of pipe thus the cost.

Considering above points, alternate design/estimate reports for same scheme should be prepared and then discussed with community. Most appropriate should be selected.

The summary design criteria for piped water supply scheme design and tube well/ dug well with hand pump is presented below:

**Table 2 :Summary of Design Criteria for Pipe Scheme**

|  |  |  |  |
| --- | --- | --- | --- |
| S.N. | DESCRIPTION | CRITERIA | REMARKS |
|  | POPULATION GROWTH RATE |  |  |
| **1.** | **Annual Population Growth Rate (in percent)** | **3%** |  |
|  | DESIGN PERIOD |  |  |
| **2.** | Design Period | **20 years** |  |
|  | WATER DEMAND |  |  |
| **3.** | Domestic Water Demand  **Daily Water Demand Per Capita** | **25 lpcd** |  |
|  | SAFE SOURCE YIELD |  |  |
| **4.** | **Safe Source Yield** | 0.9 \* measured source yield at the peak of the dry season ( during June - August) | Source should be measured at least once at the end of the dry season and preferably twice (in different years) prior to construction. |

|  |  |  |  |
| --- | --- | --- | --- |
| S.N. | DESCRIPTION | CRITERIA | REMARKS |
|  |
|  | **CONSUMPTION PATTERN[[24]](#footnote-24)** |  |  |
| 5. | Time Period  0600-0800  0800-1600  1600-2000  2000-0600 | Consumption of Daily Water Demand in %  30  40  30  Negligible | For continuous Systems |
|  | **PEAK FACTOR** |  |  |
| 6. | Public Connection  Min. | 3.0  2.0 (consumption within 12 hrs) | Based on Consumption Pattern (30% demand in 2 hrs.) |

|  |  |  |  |
| --- | --- | --- | --- |
| S.N | **DESCRIPTION** | CRITERIA | REMARKS |
|  | **STORAGE REQUIREMENT** |  |  |
| 7. | A storage tank should be provided to balance the supply of water from the source to meet the variable demand. The amount of equalizing storage would vary with individual system requirements. The design should be based on analysis of consumption pattern. | Based on consumption pattern Item - 8 | Water supply system requires storage reservoir when:  The safe yield of the source will not directly provide water demand for each tap  The daily water demand is greater than the yield of the source during the daylight hours  The following rule of thumb can be applied for estimating the reservoir storage capacity:  75% of the total daily demand or Total water available from the source during the reservoir storage time |

|  |  |  |  |
| --- | --- | --- | --- |
| S.N. | DESCRIPTION | CRITERIA | REMARKS |
|  | **SYSTEM PRESSURE** |  |  |
| 8. | Minimum Residual Pressure/ Head  i. Min. Residual heads in Tapstands :  Absolute Minimum  Desired Minimum/ Ideal  Desired Maximum  Absolute Maximum | 5 m  10 m  15 m  30 m | Min. Required head  Required head in exceptional cases |
|  | ii. Min. Residual head into  Reservoirs, DC, BPT etc.  iii. Min. Residual head in mains  Hydraulic Grade Line (HGL) in a pipe line | 10 m to 15 m  10 m above the highest point of ground profile | Required Head  Min. Required Head |
| 9. | Maximum static pressure recommended when using HDPE pipes:  i. Transmission main  ii. Distribution main | 100 m - 60 m | The pressure rating for all fittings shall be appropriate to that class of the pipe used. |

|  |  |  |  |
| --- | --- | --- | --- |
| S.N. | DESCRIPTION | CRITERIA | REMARKS |
| 10. | The hydro static pressure, flow velocity, pipe diameter, head losses etc will be calculated by Hazen W. Darcy Weisbach or Colebrook White formula. |  | The pipes in gravity flow distribution system consist of PVC or PE or Galvanized Iron (GI) or Ductile Pipes  The number break pressure tanks will be selected by designer based on ground slope and class of using pipe  Pipe trench excavation depth for PE pipe should not be less than 1.0 meter and width 0.6 meter. |
| 11. | Velocity of flow in pipes  - Maximum Velocity  - Minimum Velocity | 3.0 m/sec  0.7 m/sec |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **SERVICE LEVEL** |  |  |
| 12. | Basic service level | Public Tap-stand  25 house hold or 150 people per tap | |
|  | **WATER QUALITY** |  |  |
| 13. | Water Quality of the Source (See Annex 14) | WHO International Guidelines | Before planning a pipe scheme project water quality test for physical, chemical and bacteriological parameters should be conducted.  At least turbidity, taste, color, pH and fecal coliform/ bacteriological parameters should be checked. |

## 6. Sanitary Inspection of Wells

It is essential to inspect well sites before construction, after construction and after some time to ensure that wells are being kept as they should be to ensure the safety of water. Wells can be inspected on a regular basis or during times that the safety is in doubt in the general area.

The following information should be collected:

General Information

|  |  |
| --- | --- |
| Location (Town, village, street, etc.) |  |
| Water Authority/Local Committee |  |
| Date of Inspection |  |
| Water Sample No. |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Specific Information | Risk | | Comments |
| Yes | No |
|  | Is there a latrine within 30 metres of the well? |  |  |  |
|  | Is the nearest latrine on higher ground than the well? |  |  |  |
|  | Is there any other source of pollution within 30 metres of the well? (e.g. animal excreta, rubbish, etc) |  |  |  |
|  | Is there any stagnant water within 2 metres of the cement floor of handpump? |  |  |  |
|  | Is the handpump drainage channel faulty (e.g. broken, permitting standing water)? Does it need cleaning? |  |  |  |
|  | Is there inadequate fencing around the installation, which would allow animals in? |  |  |  |
|  | Is the cement floor less than 1 metre radius all around the handpump? |  |  |  |
|  | Is there any ponding on the cement floor around the ? |  |  |  |
|  | Are there any cracks on the cement floor around the well? |  |  |  |
|  | Is a bucket also in use and left in a place where it could be contaminated? |  |  |  |
|  | Is the handpump loose at the point of attachment to base (which could permit water to enter the casing)? |  |  |  |
|  | Is the cover of the well not properly clean? |  |  |  |
|  | Are the walls of the well inadequately sealed at any point for 3 metres below ground level? |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Recommendation | Proposed Implementation date | Responsible person/ Agency | Approximate cost |
|  |  |  |  |

The communities could do the inspection as well and forward the information to the Provincial RRD.

## 7. Community Contribution

While choosing the technical option, the investment cost and community contribution requirements should be considered. The community should be willing to contribute for the option chosen. Community should contribute at least 10% of the total capital cost for basic service level option. However, community should contribute as much as possible in the form of kind and cash contribution.

Communities are responsible

* Providing unskilled labour
* To dig the well or to bore the tubewell or dig and fill pipe trenches
* For sinking of the well components/ rings or pipe laying
* (In pipe laying if the strata are hard and excavation is not possible by hand tools, RuWatSIP will provide explosives and the required skilled personnel)
* Installation of hand pumps
* Provide all unskilled labour for apron construction or construction of structures such as spring protection, break pressure tank, reservoir, tap stand etc.
* Curing of apron, tapstand or structures (Samples of uncured and cured concrete can be shown to the User group to emphasize the importance of curing).
* Transport non-local materials from the closest vehicle access
* Providing local materials such as crushed graded aggregates, sand, stone, etc. for apron construction or construction of different structures.

The community should contribute additional cost if chosen higher service level.

## 8. Operation and Maintenance

Operation and maintenance is full responsibility of the community. Hence, this requirement should be discussed when choosing the technical option. Community should be willing to contribute for operation and maintenance, engage caretaker for each water point, make agreement with Maintenance Worker with agreeable payment modes to maintain the system and manage the system.

## 9. Household Water Treatment

**1 The Multi-Barrier Approach for HWTS**

Using the **multi-barrier approach** is the best way to reduce the risk of drinking unsafe water. Each step in the process, from source protection, to water treatment and safe storage, provides an incremental health risk reduction. The household water treatment process includes: sedimentation, filtration and disinfection.

More often than not, people focus on a particular technology that is directed towards one step rather than considering the water treatment process as a whole. While individual technologies, like the biosand filter, can incrementally improve drinking water quality, the entire process is essential in providing the best water quality possible.

**Household Water Treatment**

Safe Storage

Disinfection

Filtration

Sedimentation

Source Protection

* Sedimentation to remove larger particles and often > 50% of pathogens
* Filtration to remove smaller particles and often > 90% of pathogens
* Disinfection to remove, deactivate or kill any remaining pathogens

The household water treatment process is primarily focused on removing pathogens from drinking water – the biggest water quality issue around the world. While improving the microbiological quality, there are some technologies that may also be able to remove certain chemicals as a secondary benefit, such as arsenic and iron.

Although all five components of the multi-barrier approach greatly help to improve the quality of drinking water, this manual focuses primarily on filtration, which should be used in combination with the other components to ensure healthy, uncontaminated water.

**Using chlorine to disinfect water SODIS, or solar disinfection, can be used as**

**part of the multi-barrier approach**

**2. Bio-sand Filter Overview**

**2.1 What is the Bio-sand Filter?**

The bio-sand filter (BSF) is an adaptation of the traditional slow sand filter, which has been used for community water treatment for almost 200 hundred years. The bio-sand filter is smaller and adapted for intermittent use, making it suitable for households. The filter container can be made of concrete or plastic and is filled with layers of specially selected and prepared sand and gravel.

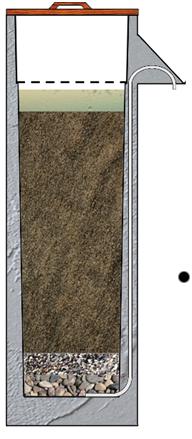
**2.2 History of the Bio-sand Filter**

Dr. David Manz developed the household bio-sand filter in the 1990s at the University of

Calgary, Canada. Dr Manz has trained many organizations on the design, construction, installation, operation and maintenance of the bio-sand filter. He also co-founded CAWST in 2001 to provide the professional services needed for the humanitarian distribution of the filter in developing countries. As of June 2009, CAWST estimates that over 200,000

biosand filters have been implemented in more than 70 countries around the world.

**2.3 Biosand Filter Components**



**1. Lid –** Tightly fitting lid prevents contamination and unwanted pests.

**2. Diffuser –** Prevents disturbing the filtration sand layer and protects the biolayer when water is poured into the filter.

**3. Filtration Sand Layer –** Removes pathogens and suspended solids.

**4. Outlet Tube –** Required to conduct water from the base to the outside of the filter.

**5. Filter Body –** Holds the sand and gravel layers.

**6. Separating Gravel Layer –** Supports the filtration sand and prevents it from going into the drainage layer and outlet tube.

**7. Drainage Gravel Layer –** Supports the separating gravel layer and helps water to flow into the outlet tube**.**

**2.4 How Does the Biosand Filter Work?**

The biosand filter has five distinct zones: 1) inlet reservoir zone, 2) standing water zone, 3) biological zone, 4) non-biological zone, and 5) gravel zone.

**1. Inlet Reservoir Zone** - Where water is poured into the filter.

**2. Standing Water Zone** – This water keeps the sand wet while letting oxygen pass to the

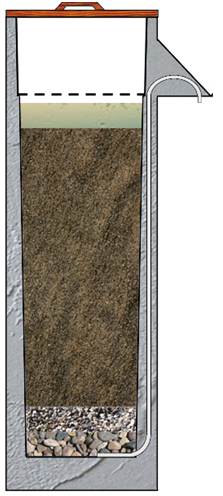
biolayer.

**3. Biological Zone –** Develops at the top 5-10 cm (2-4”) of the sand surface. The filtration sand removes pathogens, suspended particles and other contaminants.

As in slow sand filters, a biological layer of microorganisms (also known as the biolayer or schmutzedecke) develops at the top 1-2 cm (0.4-0.8”) of the sand surface.

**4. Non-Biological Zone** – Contains virtually no living microorganisms due to the lack of nutrients and oxygen.

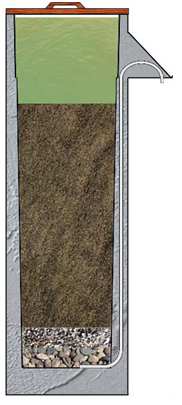
**5. Gravel Zone –** Holds the sand in place and protects the outlet tube from clogging.



Pathogens and suspended solids are removed through a combination of biological and physical processes that take place in the biolayer and within the sand layer. These processes include: mechanical trapping, predation, adsorption, and natural death.

* **Mechanical trapping**. Suspended solids and pathogens are physically trapped in the spaces between the sand grains.
* **Predation**. Pathogens are consumed by other microorganisms in the biolayer.
* **Adsorption**. Pathogens become attached to each other, suspended solids in the water, and the sand grains.
* **Natural death**. Pathogens finish their life cycle or die because there is not enough food or oxygen for them to survive.

Contaminated water is poured into the reservoir on an intermittent basis. The water slowly passes through the diffuser and percolates down through the biolayer, sand and gravel. Treated water naturally flows from the outlet tube.



**During the Run**

The high water level pushes the water through the diffuser and filter (also called the hydraulic head). The water level in the reservoir goes down as it flows evenly through the sand. The flow rate will slow down over time because there is less pressure to force the water through the filter.

The inlet water contains dissolved oxygen, nutrients and contaminants. It provides the oxygen required by the microorganisms in the biolayer.

Larger suspended particles and pathogens are trapped in the top of the sand and they partially plug the pore spaces between the sand grains. This also causes the flow rate to slow down.

**Pause Period**

The water finally stops flowing. The standing water layer will be at the same height as the end of the outlet tube. Some oxygen from the air diffuses through the standing water to the biolayer.

The pause period allows time for microorganisms in the biolayer to consume the pathogens and nutrients in the water. The flow rate through the filter is restored as they are consumed. If the pause period is too long, the biolayer will eventually consume all of the pathogens and nutrients and eventually die off. This will reduce the removal efficiency of the filter when it is used again. The pause period should be a minimum of 1 hour after the water has stopped flowing up to a maximum of 48 hours.

Pathogens in the non-biological zone die off due to the lack of nutrients and oxygen.



**2.5 How Well Does the Biosand Filter Work?**

Water naturally contains many living things. Some are harmless and others can make people sick. Living things that cause disease are also known as **pathogens**. They are sometimes called other names, such as microorganisms, microbes or bugs, depending on the local language and country. There are four different categories of pathogens that are shown in Table 1: **bacteria, viruses, protozoa and helminths**.

The physical characteristics of drinking water are usually things that we can measure with our senses: turbidity, colour, taste, smell and temperature. **Turbid water looks cloudy, dirty or muddy.** Turbidity is caused by sand, silt and clay that are floating in the water. Drinking turbid water will not make people sick by itself. However, viruses, parasites and some bacteria can sometimes attach themselves to the suspended solids in water**. This means that turbid water usually has more pathogens so drinking it increases the chances of becoming sick.**

The following Table 1 shows the biosand filter treatment efficiency in removing pathogens and turbidity.

**Table 1: Biosand Filter Treatment Efficiency**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Bacteria** | **Viruses** | **Protozoa** | **Helminths** | **Turbidity** | **Iron** |
| **Laboratory** | Up to  96.5%1,2 | 70 to  >99%3 | >99.9%4 | Up to  100%5 | 95%  <1 NTU1 | Not  available |
| **Field** | 87.9 to  98.5%6,7 | Not  available | Not  available | Up to  100%5 | 85%7 | 90-95%8 |

1 Buzunis (1995)

2 Baumgartner (2006)

3 Stauber et al. (2006)

4 Palmateer et al. (1997)

5 Not researched. However, helminths are too large to pass between the sand, up to 100% removal efficiency is assumed

6 Earwaker (2006)

7 Duke & Baker (2005)

8 Ngai et al. (2004)

Health impact studies estimate a 30-47% reduction in diarrhea among all age groups, including children under the age of five, an especially vulnerable population (Sobsey, 2007; Stauber, 2007).

# Section XIV Operation and Maintenance System

**Operation and Maintenance System[[25]](#footnote-25)**

A functional Operation and Maintenance System should be established to address the sustainability concerns.

## 1. Core Guiding Principles

The O&M strategy follows the following guiding principles.

* Operation and Maintenance cost should be borne by the community beneficiaries.
* The stress shall be on preventive maintenance system to minimize sudden breakdowns of handpump/ water points.
* Community should make its own decisions, should be in the driver’s seat and manage the scheme. Other actors should strictly work as facilitators.
* Beneficiary communities should have strong sense of ownership.

## 2. Institutional Arrangement

The following institutional arrangement is proposed for handpump O&M system.

### 2.1 CDC/WSUG

At the village level, CDC/WSUG will be the focal point and responsible for operation and maintenance of the system. It is a credible organization at the village level which is elected/ selected by people and involved in planning and implementation of the scheme. Its decisions are generally accepted and respected by communities.

The functions of “CDC/WSUG” in the operational and maintenance of water supply and sanitation will include the following:

* Appointing handpump caretakers for each handpump. The caretaker will keep pump/well surroundings clean, inform pump mechanic about repair and help handpump mechanic in repairs.
* Sign a contract with the Hand Pump Mechanic specifying his duties and what the User group will pay him (in cash or kind) on annual basis for his services. (A sample contract Annex-16 refers).
* Fixing user charges and establish O&M Fund. It is expected that 1,500 Afgani per family per year[[26]](#footnote-26) will be adequate to take care of minor and major handpump repairs.
* Stocking fast moving spare parts.
* Maintain accounts and other ledgers as required.
* Periodically, inform the community about progress and expenditure details.
* Managing O&M of all water facilities in the village including schools within the village through a pump mechanic trained by RuWatSIP.

### 2.2 Hand Pump Caretaker

Each caretaker/elder of the hand pump has the following responsibilities regarding the maintenance and repairing of the hand pump.

1. Undertake the preventative maintenance of the pump
2. Ensure that user groups keep the platform clean
3. Inform the community representatives and the mechanic regarding repairing needs of the hand pump.
4. Assist the hand pump when repairing the pump
5. Assist collect the grain/money for the cost of spare parts as well as wages of hand pump mechanic.
6. Act as a motivator to promote health and hygiene practices, proper use of hand pump and sanitation in villages

Criteria for selection of handpump caretaker in the villages are:

* Should serve the community voluntarily.
* Be a representative (Male/female) of the user groups.
* Should have leadership capabilities.
* Should have ability to read and write.
* Should be accessible, via greed linkages, to female users.

### 2.3 Handpump Mechanic

He/she will be an entrepreneur trained by RuWatSIP and will look after 100-150 handpumps. He will be provided with a set of tools. CDC/WSUG/ will enter into a contract with the handpump mechanic for maintenance of all village community handpumps including the handpump in the village school. The payment for labour charges and spare parts costs will be made by CDC/WSUG. The functions of the handpump mechanic will include the following.

* Visit each handpump at least once every quarter.
* Cary out preventive maintenance to avoid breakdown.
* Repair pump with help from caretaker.
* Purchase spare parts from an approved spare parts shop if CDC/WSUG so desire on actual payment basis.
* Get the signature of the pump caretaker in his/her logbook during the visits of the water source.

Criteria for selection of hand pump mechanic:

1. Preferably to be introduced by the representatives of the user groups.
2. Be a permanent resident of the area
3. Committed to serve that community.
4. Should have the confidence of the community.
5. Preferably be literate.
6. The hand pump mechanic preferably should have a relevant background such as a blacksmith or bicycle mechanic
7. Should have mechanical knowledge, ability and interest.

### 2.4 Valve Man

For each pipe scheme one or more Valvemen will be selected to maintain and operate the system in the same manner as handpump mechanics.

The valve man will receive technical training, and be equipped with the necessary tools for his work. Owing to the complicated nature of his task he should work as a paid skilled labour during the implementation of the project and receives on-the job training.

### 2.5 Spare Parts Shop

The spare parts shop will provide quality spare parts to CDC/WSUG on payment basis. The project will train some mechanics attached to the shop who could also offer installation and maintenance services to CDC/WSUG and private households (HHs). RRD will work with spare parts shop to ensure that spare parts are of good quality and prices are reasonable.

### 2.6 Regional Technical Support Unit (RTSU)

Regional Technical Support Unit (RTSU) with assistance of Provincial RRD will monitor hand pump maintenance. They visit each Handpump Mechanic every three months to discuss and assist in resolving problems at individual water points. They also inspect the water points on a routine basis.

Their role is to:

* Assess the functioning of the maintenance arrangement including the performance of the hand pump mechanic and the spare parts distribution. If the team observes a problem such as non-payment of repairs and spare parts by user groups, the mechanic is performing poorly and lacking in skill or unavailability of spare parts, the team must take steps to rectify the situation
* Assist on conflict resolution between different actors at the village level, handpump mechanic and spare parts shop.
* Monitor the performance of the hand pump and well for technical weaknesses.
* Collect the information recorded by the hand pump mechanic on repairs, maintenance and spare parts used.
* If necessary the team will chlorinate wells.
* If a handpump mechanic leaves or needs replacing the team help select and train a new mechanic.
* The team supplies the hand pump mechanics and the construction teams with packets of chlorine.
* Hold group discussions separately with men and women on issues related to health and hygiene. Use multimedia approach for effective delivery of messages.
* Brief RRD officials on issues needing their attention. If there is need for engineering inputs, RRD will be informed about the need.
* Record relevant data in a computer based data sheet.

This team will be a mobile team provided with a four-wheel motorized transport and cover 1,500-2,000 handpumps. It will comprise of driver-cum-handpump mechanic, a male sociologist and a female sociologist. The role will include the following.

RTSU will form as its backbone for both monitoring of O&M, health and hygiene awareness creation.

### 2.7 MRRD/RRD

MRRD/RRD will lead the programme at the national and provincial level. Their role will include the following.

* Develop policy framework for construction and O&M of water facilities in rural areas at the national as well as state level.
* Keep database on water supply facilities and their status.
* Analysis of data and identify priority areas.
* Do need and resource-based planning.
* Share database with donors/NGOs who intend to take up construction of new facilities and guide them to needy areas.
* Fund RTSU teams and supervise their function.
* Intervene when a repair is beyond community’s reach by providing funding and technical support to CDC/WSUG.
* Build capacity at different levels in cooperation with donor/NGO partners.
* Coordinate construction of new facilities by different agencies in provinces.

MRRD/RRD role will be that of policy maker, coordinator and facilitator rather than programme implementer. Capacity building at RRD will be undertaken based on agreed areas.

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3. Infant mortality rates are among the highest in the world at 25% of children below the age of five. More than half these deaths are caused by preventable waterborne disease (UNICEF, 2002). [↑](#footnote-ref-3)
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5. Through community participation, the provision of safe water supply points, health & hygiene education and sanitation facilities. [↑](#footnote-ref-5)
6. Refer NSP Operational Manual for details on formation of CDC [↑](#footnote-ref-6)
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11. Derived based on similar timeline followed by DACAAR and other organizations with slight modification accommodating Community Planning which is an important phase for demand-driven approach in implementation [↑](#footnote-ref-11)
12. Please refer Section II of the Manual for the detailed activity list of software activities [↑](#footnote-ref-12)
13. The formats are being used by DACAAR for district selection and project planning [↑](#footnote-ref-13)
14. Similar district selection criteria are in use by the NSP but modified to the requirement of RuWatSIP sector [↑](#footnote-ref-14)
15. DACAAR [↑](#footnote-ref-15)
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