

CHAPTER 9

PARTICIPATION AND WATER/SANITATION PROGRAMMES

Water is **vital to survival**; it is central to all types of livelihoods. At the same time, it is a **collective asset** that, in most instances, needs to be managed at the community level. As such, it is a key factor in social and economic relationships within populations. Although its importance is universal, local perspectives on water, in regard to its value and management, are highly dependent on the context and the culture.

A population's relationship with water manifests at several levels.

- Water rights, or social and legal rules and obligations relating to the use of water, are often key aspects of local customs and regulation mechanisms.
- Water is often a principal element in conflicts and is even the source of conflict in water-scarce environments.
- Knowledge and skills, concerning water and sanitation, are usually well developed, with specific groups or individuals having recognised roles in water management.
- Practices relating to the use of water and sanitation are part of a local culture, sometimes enshrined in religious events and rituals.

Understanding these dynamics is essential, not only to ensure programme relevance and efficiency, but also to avoid creating conflict, exacerbating tensions, excluding specific groups, or putting them at risk.

It is for all of these reasons that it is particularly important to work with the affected population in all stages of a water and sanitation programme.

9.1 ASSESSMENT

A participatory assessment for a water and sanitation programme consists of three steps.

- Describing the water situation.
- Identifying existing knowledge and know-how.
- Defining needs.

The water situation Including geographic, seasonal, economic and socio-cultural features, and habits related to water.	Local know-how Knowledge of sourcing water; knowledge of infrastructure construction (like wells, canals and reservoirs); knowledge of the management of water and the disposal of excreta etc	Needs How many people? How much water is needed? Should the quality of the water be improved? Should hygiene practices be improved?
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9.1.1 DESCRIBING THE SITUATION

A What you need to know

Key questions that should be addressed in the assessment phase of a water and sanitation programme include all of the links in the following chain:

Water resources?

Rivers, springs, wells, canals, rain.

Water quality?

Bacterial content, etc

Access to water?

Socio-economic, geography, water rights

Transport?

Distance? Who transports? How?

Storage?

Where? How?

Use?

Irrigated agriculture, livestock, cooking, washing

Sanitation and hygiene?

Frequency of washing, disposal of excreta, etc

These questions can be addressed through various **focus groups**. In most situations, it will be important to ensure that their composition is diverse, to take account of the perspectives of different stakeholders and groups. One may organise separate focus groups, too, particularly for women who may have specific responsibilities in regard to water management. Also, consulting children can generate essential insights on the role that they play, such as collecting water, and can highlight specific needs and suggestions that they may have.

During children's focus groups in Afghanistan, children explained that fetching water was the task that they found most burdensome.

In relation to hygiene and sanitation (such as washing and the disposal of excreta), cultural sensitivity runs high, and you might find it difficult to deal with these issues in large groups. Smaller focus groups, if possible, involving respected key informants (such as the local doctor, the village clerk, or the Mullah in a Muslim context), might be more appropriate. A

special session might have to take place with women only, handled with a particularly high degree of sensitivity and, if possible, managed by female staff.

In order to understand the issues listed above, it is important to be aware of the various factors that affect them.

- The environment and the geology of the area.
- The socio-economic context and the livelihoods of the population.

B The environment and geology

The **climate** will, of course, be a key determinant in relation to access to water. It is important, therefore, to establish patterns of water availability, particularly seasonal variations.



This can be done by collectively elaborating a **seasonal calendar**, including the rainy season, times when the snow thaws, and periods of flooding or drought. Other water-related issues can also be added, such as periods with there is a high prevalence of water-borne **diseases** (like diarrhoea and dengue) and vectors (such as mosquitoes and guinea worm).

The **geography** and **relief** of the area is another essential factor, as it can determine the potential for digging irrigation networks, the presence of springs or rivers, and the amount of water generated by mountain snow thaws, for example. The geology (ground composition) will also determine the presence of underground water tables, or the possibility to dig boreholes and/or wells.



Mapping exercises are very useful to describe the location of various water sources, while **transect** walks can be used to describe the geology of an area and the presence of underground water sources.

The information collected can be summarised in a table (see below). Such a table can be validated in small **focus groups** or with key informants.

C Socio-economic factors and livelihoods

The population's relationship with water will be largely affected by the socio-economic context and its means of livelihood. The water situation will, indeed, be very different depending on whether you are


Table 23 Water resources in Afghanistan, and how they can be captured

The geology of Afghanistan is extremely complex, as is, therefore, the related hydrogeology. Water resources and the way that they are captured can be classified according to the following typology.

Type	Resources	Location	Means of capture
Surface water	Large scale	Large valleys	Direct tapping Derivation dams and canals
	Small scale	Small valleys	Direct tapping Derivation dams and canals
	Rain water	In the north	<i>Kanda</i> (water reservoir, average content 180m ³)
Underground water	Infiltration water	Springs in mountainous areas where infiltration and circulation of water in the geological substratum is possible	Spring catchments
	Upper table	In foothill colluviums	<i>Kareze</i> (underground canals dug in mountainside)
	Medium table	In the main alluvial terraces	Hand-dug shallow wells
	River table	In the extended river bed	Hand-dug shallow wells. This underground water has a quick recharge rate
	Deep table	In the large alluvial plains in south	Drilled wells, some of them are equipped with large pumps, with or without storage capacity (<i>bowli</i>). The rate of recharge of this underground supply is relatively slow
	Deep table	In the plateaux of the north, composed of loess	Due to the physical texture of the sediment, the rate of recharge is extremely slow

situated in an urban or rural setting, whether you are working with a pastoral population or with farmers, or whether you are in a refugee/IDP camp.

It is important to understand how these dynamics affect access to water by various population groups. In particular, the issue of **water rights** must be tackled. This can be done through a series of focus groups and interviews with key informants, coupled with observations.

 But be careful when raising the issue of water rights in a water-scarce environment, where access to water is a key (sometimes political) factor and potential source of conflict!

9.1.2 IDENTIFICATION OF LOCAL SKILLS AND KEY STAKEHOLDERS

Over centuries, populations have found ways to manage water, whether it is scarce or over-abundant. It is not uncommon for groups or individuals with special roles and knowledge to be present in the local community (including spring finders, water managers, and underground canal and well diggers). It is crucial to identify them as early as possible in the process, not only because their competence could be vital to ensuring the programme's relevance and effectiveness, but also because not working with them might make you lose your credibility and jeopardise your relationship with the population.

In many communities in Afghanistan, the mirauw, or 'water lord', manages the distribution of water between families. It is important to identify him and to involve him in the programme process.

Local knowledge generally exists in regard to a variety of tasks relating to water and sanitation, such as sourcing water, the construction of water-related infrastructure, and the disposal of excreta.

Irrigation context

In agricultural areas, where irrigation is common, there are a variety of **water rights** that interact with **land rights**. Who has access to upstream or downstream water intake? What are the financial expenses or labour duties of water users? E.g. related to water service, access to networks, repairs etc. What is the nature of inter-village relations in respect of the management of a common resource?

Pastoral context

Much of people's time in a pastoral community is split between **looking for pastures** and **looking for water**. There are very complex **migration** lines from one watering point to another, and the **societal** elements (calendars of migration and others' social behaviours) can also be very complex, built on old and sophisticated knowledge of where and how to find water.

Urban context

Dealing with water and sanitation at the community level is often vital, but it is difficult in situations where there is little group cohesion. In urban contexts, **traditional social networks have generally broken down**, and a new set of social relations have emerged that are often based on monetary factors or, in the case of slums, on survival strategies and identity factors. This can leave **certain groups particularly vulnerable** in terms of access to water and sanitation.

Camp context

A camp is a **mixed society** where most traditional values are strongly challenged by **promiscuity** and the realities associated with an **artificial context**. Yet, various rules and values emerge in the course of the camp's development, frequently involving religion (such as where are women allowed) and politics (such as who runs the rebel group in charge of the camp). Additionally, relationships develop with neighbouring villages. These factors can also affect individuals' access to water.

The spring finder

In many parts of the world, there are people renowned for their capacity to look for and find water. They often work for a salary, which is normally provided by the community or by the family requesting their assistance. It is important to identify if they exist, to get to know them, and to agree with the community ways of involving them in the project.

The well-diggers

In many societies, there is a specific group or caste known as 'well diggers'. It normally handles not only the digging, but also masonry and other activities involved in establishing a proper well in a given substratum.

People who can play a role in the area of hygiene and sanitation include teachers, religious leaders, and traditional healers.

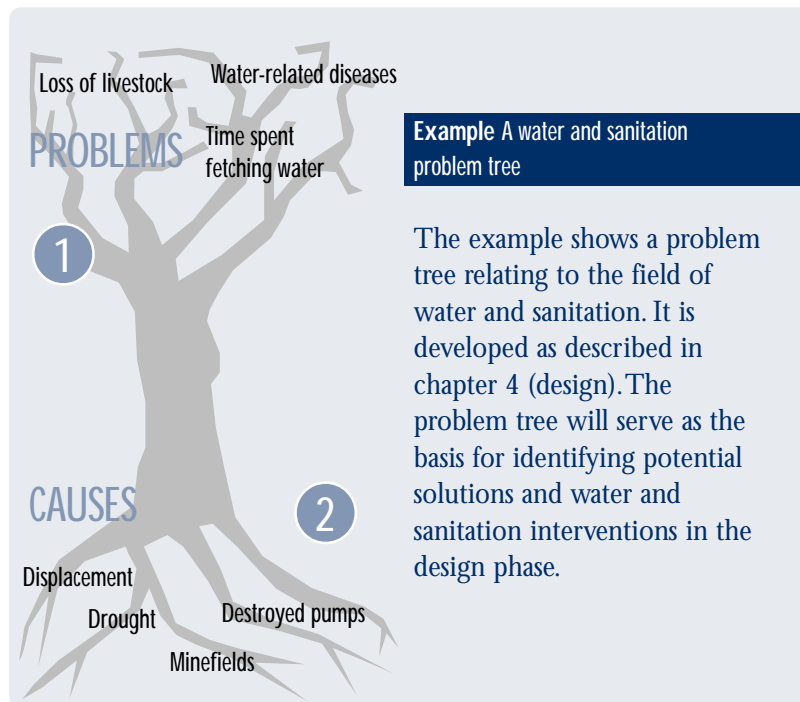
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One way of identifying the various individuals and groups involved in water and sanitation is to conduct a **stakeholder analysis** (using a Venn diagram, for instance), where focus-group participants describe their roles and relative importance.

9.1.3 IDENTIFYING NEEDS



Needs can be identified through elaboration of a problem tree in **focus-group** exercises.



9.2 DESIGN

Participatory design of a water and sanitation programme should establish:

- the objective of the programme;
- the type of intervention and technically and socially appropriate options;
- the area where the intervention will take place; and
- who will contribute to programme implementation.

Given that water interventions usually concern population groups (neighbourhoods and villages, for example), the targeting of those to be assisted from the affected population is not an explicit part of the design, but is a consequence of the choice of intervention and the area

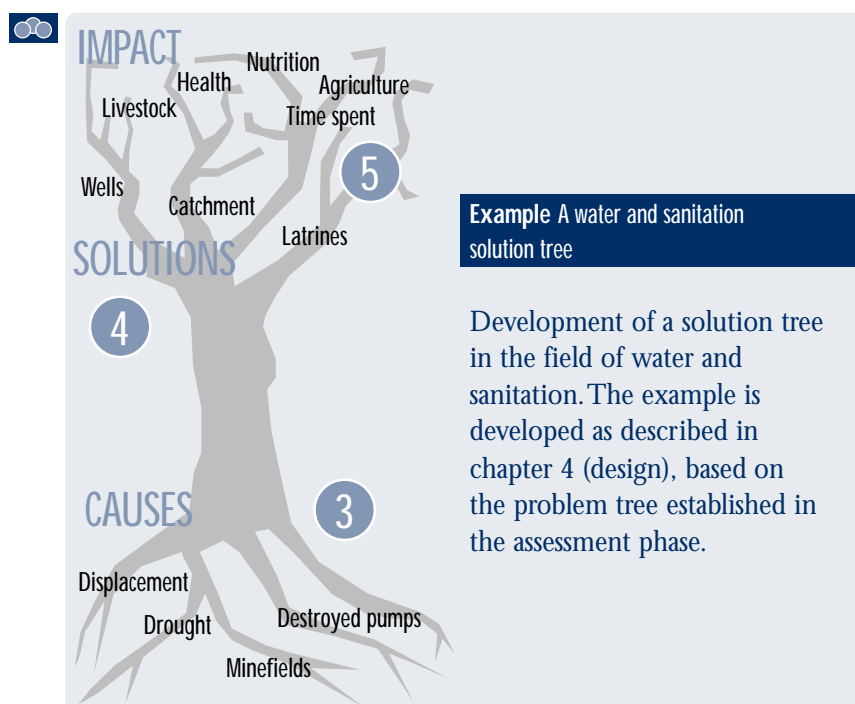
where it will be implemented. It is important, therefore, to consider (when choosing the type and area of intervention) the implications in regard to **who** will benefit from the programme.

9.2.1 SELECTING THE OBJECTIVE AND THE TYPE OF INTERVENTION

A Identifying possible solutions

The possibilities for a water and sanitation project are numerous. Where the objective is to improve the water supply, solutions include the installation of hand-pumps, the digging of wells or boreholes, and rehabilitating irrigation networks. When the goal is to improve sanitation, latrines, waste disposal, hygiene, and health education are among the possibilities. The choice will, of course, be determined by needs, and what is appropriate and socially and technically feasible in a given context.

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One way of identifying solutions in a participatory manner is to go back to the problem tree developed above, and create a solution tree. It is also important to take into account the potential impact of the solutions that are proposed.

B Choosing from various technical solutions

In this sector, the choice of technical solution should not only be guided by what seems **technically feasible** at the implementation stage (construction/drilling techniques, equipment used), but also by what is **socially feasible** and can be adapted to local conditions. This is where **local knowledge and techniques** can be most valuable: they can help to ensure that the programme is appropriate, and serve to strengthen local capacity and the sustainability of the programme.

Sustainability is key in a sector where projects often require a degree of maintenance. It is all too often the case that projects end up with broken and abandoned equipment that lead to public health problems and a feeling of disappointment on all sides. This can either be because the projects required too sophisticated technology, which the population could not maintain, because spare parts were not available in the region, or because the committee set up to maintain it lost interest, for example.



These risks must be taken into account in the design phase.

Engaging with the affected population, particularly with stakeholders who already have responsibilities in the water and sanitation sector, is an effective way of doing so.

Selecting between technical options can involve choosing, through participatory exercises, between traditional techniques and external technology, or a mixture of the two. For example, a focus group can be useful in clarifying the advantages and disadvantages of a traditional digging technique and borehole drilling.

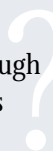
Traditional well digging

This is a **low-cost** technique that is often well mastered in developing countries. Although in some instances it enables access to relatively deep water tables, it is normally used to procure **superficial underground water**.



Deep borehole drilling

This is much more **expensive** and complex, but allows relatively **easy access to the deep water table**, even if solid layers of ground have to be drilled through. It involves considerable logistics, although new light drilling machines have been designed.



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In other situations, the crisis will have destroyed or disrupted local water and sanitation systems. The objective of a programme can be to re-establish these systems.

In Afghanistan, the collection of waste and excreta in urban areas is done using the 'Karachi system', whereby it is collected in carts and used as a fertiliser in nearby fields. The system was disrupted by the war and by population displacement. Habitat, through the community forums programme in Mazar, revived this traditional system, which has both benefits for the urban population and for farmers in the area.

This type of intervention can be highly pertinent in certain contexts, but it is important to avoid overlap with local systems already in place, or to engage in projects that the population is more than capable of carrying out itself.

'NGOs come and clean irrigation canals, and after a few months they are clogged again. But we have been doing this work for centuries. We don't

need their help to do that! They should help us do things we can't do ourselves!"

Shura leader, Nangarhar province, Afghanistan.


C Anticipating the social, cultural and economic impact

It is also important to consider the potential social, cultural and economic consequences of water projects. They can have a profound effect (good and bad) on the local equilibrium, social relations and livelihood patterns.

In pastoral areas in the Horn of Africa, the establishment of permanent water points, while assisting pastoralists during periods of drought, have probably contributed to the sedentariness of nomads (who settle in areas where irrigated agriculture is a new possibility), and affected migration routes. This has profound social consequences, both in regard to these people's way of life, and in terms of relations between communities

9.2.2 SELECTING THE PROJECT SITES

Water is a strategic resource, especially in water-scarce areas. Consequently, where you place hand-pumps, dig wells, or drill boreholes, for instance, are key factors in the design process. Of course, such choices are often determined by the location of water sources. But when there are several options, it is important to be aware that security and protection, as well as discrimination/minorities and impartiality, are often looming issues.

 In water-scarce areas, the location of water points is a strategic matter. If it is seen to favour one community more than another, it can create tension between them and put the security of your organisation at risk.

In some situations, the water project can *de facto* relatively privileged groups and individuals. For example, irrigation projects are likely to favour landowners, who are often less vulnerable than landless groups. But they can also benefit poorer groups if the project strengthens local

agricultural production, creates employment, and prevents population movement.

During the 1999-2000 drought in southern Afghanistan, NGOs considered drilling deep wells and digging *bowlis*, very powerful pumps that can reach underground water tables. But they faced a dilemma since these technologies with high pumping capacity risked depleting underground water stocks rapidly. Nevertheless, some NGOs chose to implement these projects, because if water were not made available quickly for drinking and agriculture, people would start to leave the area and move to precarious IDP camps.

These are difficult choices. Hence, it is important to **work with key stakeholders** when making these decisions, and to be explicit and transparent in regard to your choices. **Mapping exercises and transect walks** are key tools to assist in collective decision-making.

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Although the location of sanitation projects presents less strategic concerns, it can also have a bearing on security and protection. For example, the location of latrines and showers in refugee/IDP camps can support or undermine an individual's security depending on whether they are situated far from the camp, or in an easily accessible and safe area. Focus groups (especially gender-sensitive ones) with the people concerned offer a means of selecting project sites in a way that will take their specific security and access needs into account.

9.2.3 SELECTING THE PROJECT PERIOD

The relevance and efficiency of a project is also related to when it is conducted. The transportation of emergency water supplies, for example, is expensive and involves considerable logistics; it thus requires planning. If they arrive too late (after people have started to suffer serious health problems or have moved, for instance), the project can fail to meet its objectives.

Identifying the apposite time to engage can be done most easily through participatory exercises, involving **calendars**, for example, on which project activities can be plotted. In the case of emergency missions, **criteria** concerning when to trigger an operation can be more appropriately defined with members of the affected population who best recognise the warning signs.

9.2.4 DEFINING WHO DOES WHAT

It is important to determine the distribution of tasks ('who does what') in the design phase, in order that all aspects of the implementation phase run smoothly.

The various options for participatory implementation of water and sanitation projects are presented below.

9.3 IMPLEMENTATION

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9.3.1 CHOOSING THE IMPLEMENTATION SET-UP

In most situations, local structures responsible for water issues already exist; they should have been identified in the assessment phase. It is important to work with them to ensure that implementation goes smoothly. How this is to be done can be decided collectively.




One participatory approach is to conduct an analysis of the pros and cons of each of the options.

Direct implementation by the NGO	Subcontracting to an intermediary structure	Partnership with the local water company or local structure
Pros	Pros	Pros
Cons	Cons	Cons


Although this process—to be carried out in the design phase—might appear time-consuming, in fact, it saves time during the implementation phase, because it creates a sound basis for negotiation and problem solving.

Elements to define with key stakeholders include:

- Labour mobilisation.
- Procurement of raw materials (such as sand and stone).
- Organisation of the work.

 When involving the affected population by asking them to contribute to the project via the provision of labour, be careful not to shift from an instrumental approach to outright manipulation.

In a project proposal, the cleaning of latrines in an IDP camp by the residents was described under the chapter named 'community participation'.

3  In some situations, it can be appropriate to support the involvement of the affected population in project implementation through cash-for-work or food-for-work schemes. In such cases, though, you should be careful not to undermine activities usually carried out by the population without incentives.

Many NGOs in Afghanistan have been offered cash-for-work or food-for-work to be engaged in the rehabilitation of irrigation networks, *karez*es (underground water channels in mountain sides), and water evacuation channels. A perverse effect of these projects is that, in some areas, communities previously conducted these activities without external assistance. Now, villages do not carry out the maintenance, because they expect that an aid organisation will propose a cash-for-work or food-for-work arrangement.

9.3.2 SETTING UP OR IDENTIFYING A WATER COMMITTEE

In regard to most water and sanitation projects, it will be important to work with an existing committee or to create a new one for the purpose of the project. The committee will be responsible for implementation activities (organising, in most instances, the hygiene education associated with a water project) and for the maintenance of project outputs.

One way to do this is to work through locally organised committees. A certain level of care is required in establishing these committees, to prevent too much manipulation. Here, again, transparency in relation to identifying and nominating committee members is essential.

- Possible members of a water committee, such as elders, specialised workers and women's representatives, should be designated by the population in collaboration with local institutions.

9.3.3 ESTABLISHING A MAINTENANCE SYSTEM

A water and sanitation programme is not complete once hand-pumps are installed, latrines or sewage systems are in place, or an irrigation canal has been rehabilitated. Management, maintenance and repair issues have to be considered well in advance, especially to ensure that the project does not collapse once your organisation withdraws.

The time required for managing and maintaining the system and for solving problems come at a price. For example, repairing broken pumps, supplying gasoline for water pumps, and emptying and cleaning the latrine and sewage system, all have a cost. The earlier these issues are discussed, the better. Top-down solutions seldom work.

This means that you may have to ensure that future maintenance and repair issues can be financed and that the committee is viable. This can entail establishing **cost-recovery** mechanisms. **Capacity building**

and training committee members are also essential aspects of implementation.

In a coffee production area of El Salvador, small producers were compelled to buy water from large landowners because the springs were located on their land, and because, otherwise, herders would have to travel long distances to water their herds. A European Community Humanitarian Organisation (ECHO) programme funded a collective system for irrigation and water access. This programme included water committees (whose members were chosen from the affected population) and the system of water irrigation (pumps, water network, technical training) for the area). A committee was created for the purpose. Two years after its establishment, the committee is still functioning. New families have been added to the water network as the project has evolved. The committee takes care of repairs to, and maintenance of, the network, with those that are directly assisted providing monthly financial contributions. Once access to water was guaranteed, this committee expanded its activities to cover agricultural and livestock initiatives (the introduction of new crops and animals).

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9.4 MONITORING

Monitoring allows you to ensure that your programme goes according to plan, allowing for timely adjustments to reflect changes in the context or in regard to other influencing factors. Participatory monitoring of water and sanitation programmes should be rooted as much as possible in local water committees, drawing on existing groups or ones established for the purpose.

Issues to be considered include:

- evolution of the situation (including water availability and population density);

- outputs (wells, catchments and pipes, for instance);
- quality of the service; and
- the satisfaction of the population.

9.5 EVALUATION

The impact of water and sanitation programmes can take many forms and can be perceived in many ways. In a participatory process, it is essential to highlight the different questions and issues at stake through a collective exercise involving the various stakeholders. The process could result, for example, in a matrix like that presented below.

Issues	Related questions
Impact on time spent fetching water	What did/would people do with their time if they were not fetching water?
Impact on the quality of water available at the household level	What do/would people do with this extra water?
Impact on smell in the area	Do people really care?
Impact on health due to improved water quality and a healthier environment	Are the impacts real and quantifiable? Do people attribute these changes to the water and sanitation programme?
Impact on settlement dynamics	Will the water programme affect the movement of people (pull and push factors)?
Sustainability issues	Will the water and sanitation infrastructure last after the implementing agency's withdraw? Do water committees have the capacity and the means to ensure the maintenance of project outputs?

These are not easy questions to answer, but the only way to get an answer is to raise the question and to organise a debate on it.

The evaluation can also focus on the programme process: did people feel that there was sufficient consultation? Was the implementation set-up appropriate? Could some of the problems confronted have been avoided? (See chapter 7.)