CHAPTER SEVEN

WATER SUPPLY, SANITATION & HYGIENE

Introduction

Fresh water is essential for the survival and well-being of humankind. Access to safe water is a pre-requisite for the realization of many human rights, including those relating to people’s survival, education and standard of living. To a greater or lesser extent, these rights are denied where people are unable, for whatever reason, to access safe water. And, compared to water, rather less emphasis is placed on a related human necessity that is too often overlooked or taken for granted – the right to sanitation.

An estimated 844 million people, the majority in developing countries, are not using improved sources of drinking water, while 2.6 billion people are not using improved sanitation. This situation results in the avoidable deaths of an estimated 1.5 million children every year, many victims to diarrhoeal disease. And, whilst improving access to water, sanitation and hygiene (WASH) services is certainly not inexpensive, the economic gains that result are considerable. Huge economic and financial savings would be made, in terms of reducing health care costs, protecting the environment from human waste and freeing-up the time almost one billion people spend collecting water from remote sources, if access to safe water and sanitation were to be established and the right to water and sanitation finally realised.

The right to water supply and sanitation

Since the early 1990s there has been a persistent push for the adoption of a human rights based approach as a tool for improving people’s access to safe water and sanitation. Accordingly, the right to water has been recognized in a number of legally binding international and regional conventions and treaties. The right to sanitation is often coupled with the right to water, although only recently has sanitation received emphasis – not least because so little progress has been made towards the Sanitation target of the 7th Millennium Development Goal, especially in Sub-Saharan Africa and parts of South Asia.

The right to water (and implicitly sanitation) is not explicitly recognized as a human right in itself. The right to water is derived from safe water being a prerequisite for the fulfillment of other human rights relating to survival, health and development. The right to water is recognized in General Comment No.15 (GC15) of the UN Committee on Economic, Social and Cultural Rights: Article 11 (the right to an adequate standard of living) and Article 12 (the right to health). While GC15 is not legally binding in itself, it is an official and legal interpretation of these articles. GC15 affirms that: ‘the human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses’. It notes that the right to water has been recognized in a wide range of international documents, and reaffirms the fundamental importance of the right, stating that: ‘the human right to water is indispensable for leading a life in human dignity. It is a prerequisite for the realization of other human rights’. GC15 also stresses that water should be treated as a social and cultural good, and not primarily as an economic good, and that the manner of the realization of the right to water must be sustainable.

By comparison, the Dublin statement, agreed ten years before GC15 at an International Conference on Water in January 1992, puts more emphasis on the economic argument, stating that affordable water and sanitation services be provided as a human right (Box 7.1).

Box 7.1

The 4th Dublin Principle

Water has an economic value in all its competing uses and should be seen as an economic good. However, it is recognized that within this principle, it is vital to recognize the basic right of all human beings to have access to clean water and sanitation at an affordable price.

In practice, most states now expect that people should contribute something towards the establishment of a basic water supply (either in cash or kind, or a combination of the two) and a household toilet; and also pay for operation and maintenance. Affordability is one of four issues specifically referred to by GC 15. The others concern sufficiency, safety (i.e. water quality), and accessibility, described below.

- **Sufficiency:** An adequate quantity must be available in accordance with international guidelines. This is typically interpreted as between 15 and 25 litres per capita day in the context of rural communities in developing countries. The planning norm is significantly higher for urban dwellers.

- **Safety:** Water must be safe for the purpose for which it is intended. Drinking water must meet a very high standard, as indicated in the 3rd Edition of WHO Drinking Water Quality Guidelines. In the WHO / UNICEF Joint Monitoring Programme (JMP), the term ‘improved’ water supply is used – ‘improved’ being implicit in the application of specific water supply technologies that reduce the risk of microbial contamination.
• **Accessibility:** Water must be physically accessible, i.e. it must be provided within a reasonable distance from the household. In rural areas, this is often interpreted as 1,000 – 1,500 metres, although distance is not actually specified in the MDG target.

• **Affordability:** Water should be affordable and as such, should not affect a person’s ability to buy other essential goods including food.

Reflecting the need to focus on sanitation as well as water supply, GC15 states that “State parties have an obligation progressively to extend safe sanitation services, particularly to rural and deprived urban areas, taking into account the needs of women and children”. In terms of sanitation, states should ensure that people have access to safe, acceptable, affordable sanitation facilities in or near to their homes and public institutions (including schools and health facilities). GC15 specifies that “States have a constant and continuing duty to move as expeditiously and effectively as possible towards the full realization of the right to water”. States are therefore expected to establish programmes to deliver these rights as a matter of obligation. In addition, GC15 stresses that States should take steps to ensure that no individuals or groups of people are discriminated against, in terms of them securing safe water and sanitation – in other words, there should be an explicit focus on inclusion.

What GC15 is silent about is a third principle – participation, referred to in article 43 of Ethiopia’s constitution: enabling people to realize their rights to participate in and access information relating to the decision-making processes that affect their lives. This is particularly relevant if people are expected to pay towards the services they receive – such contributions being understood as vital to sustain the WASH service being provided. This contrasts with perceptions of how two other social services should be improved - primary health care and education, which are being provided free by many states.

On 28 July 2010, the UN General Assembly passed a resolution recognizing access to clean water and sanitation as a human right. The resolution declares the right to ‘safe and clean drinking water and sanitation as a human right essential for the full enjoyment of life and all human rights; calls upon states and international organizations to provide financial resources, capacity building and technology transfers to scale up efforts to achieve universal access, and welcomes the decision by the Human Rights Council to request that the Independent Expert presents an annual report on the Right to Water and Sanitation to the General Assembly. Nevertheless, it should be noted that consensus was not achieved. Forty one countries abstained from voting, citing a lack of consultation during the drafting process, the need to consider legal implications of a declared right to water and sanitation, and that the declaration could undermine the ongoing work of the Geneva-based Human Rights Council on the Right to Water and Sanitation and questions of international water sources and trans-boundary water. Lacking consensus, some of the ambiguity over the right to water and sanitation, in particular, relating to its legal interpretation, continues.

The legal basis for the right to water in Ethiopia emanates from the 1994 constitution. Article 90 explicitly states that ‘To the extent the country’s resources permit, policies shall aim to provide all Ethiopians access to public health and education, clean water, housing, food and social security’. Article 44 states that ‘All Persons have the right to clean and healthy environment’. In terms of the participation in decision making, Article 43 states that ‘People have the right to full consultation and to the expression of their views in the planning and implementations of environmental policies and projects that affect them directly’.

Inclusion of the right to water and sanitation in the national constitution signifies a political commitment to achieve the full coverage of both. It also signifies a legal entitlement, and provides the ultimate legal basis for policies, proclamations and plans needed to ensure the realization of this right. In this respect, the Government of Ethiopia has established appropriate institutional structures as well as issued and implemented a number of policies and plans.

The National Water Resource Management Policy (1999), sets out a framework to implement community based water supply, sanitation and hygiene interventions in an integrated manner. It also establishes policy in respect of cost recovery and user contributions for the operation and maintenance of water supplies, and provides a foundation for water quality management. The policy was made operational with the subsequent publication of the Water Sector Strategy (2000) and the Water Sector Development Programme (2002).

In 2005, the Water and Sanitation Universal Access Plan (UAP) was formally established. This set relatively ambitious targets to achieve near 100 per cent access in terms of water supply and sanitation by 2012. The UAP was conceptually linked with the Plan to Accelerate Sustainable Development by the Eradication of Poverty (2006-2010), and the WASH Memorandum of Understanding (MoU, 2006). The WASH MoU was designed to establish an integrated institutional framework for WASH service delivery at Federal, Regional, Woreda and Kebele level. It was signed by the Ministers of Water Resources, Health and Education in 2006. The WASH MoU and UAP together provided a much needed foundation for a National WASH Programme for both Government and Development Partners including UNICEF, and their formal approval by the Government at more or less the same time was seen as an important milestone in the context of donor alignment and harmonization – indeed, it signposted the beginnings of a possible WASH Sector Wide Approach.

The Public Health Proclamation (2000) makes it illegal to provide water “unless its quality is verified by the Health Authority”. Likewise, the proclamation states “No person shall dispose of waste in a manner that contaminates the environment or affects the health of society”, and that “any institu-
Water resources development shall be underpinned with the promotion of the participation and community management and participation of smaller communities. Sanitation and hygiene are necessary to achieve the plan’s objectives. With water supply being clustered with water for productive use, however, there is less reference to treating WASH as an integrated concept.

The Growth and Transformation plan (GTP, 2011-2015), establishes a significant change in emphasis in terms of water and sanitation. Focusing on agriculture-led industrialization, maximizing the productive use of fresh water is necessary to achieve the plan’s objectives. With water supply being clustered with water for productive use, however, there is less reference to treating WASH as an integrated concept.

With the GTP finalized, the UAP is being revised for a second time, taking into account GTP targets and their 2015 achievement date. The revised document takes into account the increasing costs of WASH service delivery, associated with declining water tables, and serving more remote locations and smaller communities. Sanitation and hygiene are the specific focus of a specific strategy, a related Sanitation and Hygiene Protocol, and a new Sanitation and Hygiene Strategic Action Plan (SAP). Finally, the WASH MoU is also in the process of being revised to strengthen the institutional arrangements for delivering integrated WASH outcomes.

Whatever the history of WASH in Ethiopia, policies, strategies, and plans, reinforced by legal promulgations and by-laws, serve to articulate the rights to water and sanitation earlier described. To illustrate this point, the following provisions are extracted from policy and legal documents:

i. As far as conditions allow, every Ethiopian citizen shall have access to sufficient water of acceptable quality to satisfy basic human needs” (WRMP).

ii. Sanitation is a basic right for all Ethiopians but it is also an individual responsibility. Individuals will have collective responsibility for creating and sustaining 100% per cent sanitized households” (WRMP).

iii. Domestic water use shall have priority over and above any other water uses”. (Proclamation No 197/2000 Article 7).

iv. It is prohibited to provide a water supply service unless water quality is verified by the Health Authority; no person shall dispose of waste in a manner that contaminates the environment or affects the health of society; and any institution providing a public service has the obligation to organize clean, adequate and accessible toilet facilities for its customers. (Proclamation No 200/2007 Articles 10,12,13).

v. MoWR has set a minimum service level of 15 litres per capita per day available at a distance of 1.5 km for rural areas and 20 litres per capita per day at a distance of 500 metres for urban areas (Water Sector Development Programme, UAP).

vi. Furthermore, WRMP and other formal documents identify various mechanisms to ensure access to the poor and vulnerable. These include ensuring that the basic human needs of water for disadvantaged rural communities, who cannot afford to pay for development of water systems, shall be borne by the government, in so far as the communities are able and willing to cover the operation and maintenance costs on their own.

Finally, reflecting the principle of participation and Article 43 of the Ethiopian Constitution, the principles of the WSDP, UAP and SAP focus on decentralized service delivery, participation and community management. As stated in the WRDP:

- “Water resources development shall be underpinned on rural-centred, decentralised management, participatory approach as well as an integrated framework.”; and
- “Promotion of the participation and community management of all stakeholders and user communities, particularly women’s participation in relevant aspects of water resources management”.

Progress towards targets

According to data provided in the Growth and Transformation Plan (2010), Ethiopia’s water supply coverage has improved from 19 per cent in 1990 to 65.8 per cent in 2010 (comprising 62 per cent rural and 91.5 per cent urban). During the same period, sanitation coverage increased from 4 per cent in 1990 (JMP estimate) to 60 per cent in 2009 (MoH), with rural coverage lagging behind urban coverage (56 and 98 per cent, respectively). Most of these increases were accomplished during the 2005-2010 PASDEP implementation period. The growth in water and sanitation coverage is remarkable, given the various constraints outlined in the preceding section.
It should be noted that internationally published water and sanitation access figures for Ethiopia are considerably lower than government figures (e.g. the Joint Monitoring Programme, 2010 update). These figures estimate access to safe water in Ethiopia at 38 per cent (as of 2008), and sanitation at 12 per cent. Differences between Government and JMP figures can be explained in part by their differing definitions of improved water and sanitation services, as well as the fact that the JMP relies on a “straight line” extrapolation of national survey data such as the Demographic and Health Survey. Thus, the JMP does not reflect recent developments in Ethiopia’s WASH sector, such as the advent of the Health Extension programme, introduction of Community Led Total Sanitation and Hygiene (CLTSH) campaigns, and other innovations that have accelerated the growth of access to WASH services. Further, investment in water and sanitation by development partners has increased significantly since 2007.

Note that coverage or access figures in the WASH sector are difficult to verify in virtually all countries globally. Given the importance of access figures for planning and budgeting, the Government of Ethiopia has recently initiated a National WASH Inventory” (Inventory). The Inventory is not a survey but a facility-by-facility census of existing WASH infrastructures, including those at schools and health facilities. The Inventory will be completed during 2011, and its findings should go a long way towards establishing a firm foundation of reliable WASH access figures nationally, with regional and local breakdowns. The Inventory will report not only on existence of facilities, but also on their condition and use. Also, in the future, “Sanitary Surveillance” and water quality data collection will be stepped up from the current pilot efforts to become routine elements of the Inventory.

The National WASH inventory will help establish an accurate baseline as of mid-2011, coinciding with the revised UAP and new SAP. Inventory data can also be compared to DHS 2011, making this a critical year for establishing the sector’s status.
Both Government and JMP data indicate significant disparities between urban and rural areas – but the gap is narrowing as the rural situation improves. The data also reveal striking differences in coverage between Regions. In overall terms, the Developing Regional States (DRS) of Benishangul-Gumuz, Gambella, Afar and Somali require the most attention. The Government is now seeking long-term economic solutions for the DRS, which go well beyond WASH, to realise the full economic potential of these regions. There is growing recognition of related challenges in this effort, which include transforming land use and, implicitly, people’s traditional livelihoods.

The remainder of this section examines two priority issues relating to WASH coverage in Ethiopia: Sustainability and Water safety. Whilst there are many other important issues that could have been described, sustainability and water safety are of high significance in terms of meeting people’s rights.

**WASH programmes and capacity gaps**

Since 2004, the Government has organized water supply and sanitation institutions to support decentralized service delivery. Regional Government is responsible for WASH service delivery in each Region, with Federal Government responsible for facilitating, supporting and assisting the Regional Governments.

At Federal level, WASH coordination is the responsibility of the National WASH Steering Committee, chaired by the Minister of Water and Energy, and supported by the National WASH Technical Team and National WASH Coordination Office. This structure was established by the 2006 WASH MoU. The Steering Committee and Technical Team has not met often. It is expected that the revision of the WASH MoU and the specific inclusion of the Ministry of Finance and Economic Development in the Steering Committee will strengthen this aspect of WASH sector leadership.

Institutional structures responsible for WASH service delivery at regional level consist of Regional Water and Health and Education Bureaux, and their corresponding zonal and woreda equivalents. At Regional level, the 2006 WASH MoU mandated the establishment of a Regional WASH Steering committee and Technical Team. In reality, these Regional Structures have rarely been active. This situation has made integrated planning difficult, resulting, for example, in schools with toilets but no water supply, and vice versa. Inevitably, this situation has diminished the impact of WASH investments on the rights to health, and education. Whilst several sector programmes e.g. health and agriculture have a field presence at kebele level, for water supply, the Woreda Water Office has no legal kebele level representation. The integrated WASH structures set up in accordance with the 2006 MoU include the Woreda WASH Team (combining staff from the Woreda Finance, Water, Health, Education, Agriculture and Woman and Child Development Offices, chaired by the Woreda Administration), and kebele or village-based Water, Sanitation and Hygiene Committees (WASHCOs). Whilst most Regional WASH structures have to be established, many Woreda WASH Teams and WASHCOs exist, and are relatively effective, implementing an integrated Woreda WASH Plan. This is most evident in woredas which receive significant funds from a development partner. Nevertheless, many woreda institutions suffer from inadequate capacity and resources.

At community level, WASHCOs are important. They are responsible for the operation, maintenance and management of rural water supplies – as well as playing an important role in their planning and construction. Their lack of legal status restricts the mandate, authority and accountability of WASHCOs. Legalisation of WASHCOs, as has been implemented in Oromia, is a high priority for the sector. Another priority is ensuring that women are able to actively participate in WASHCOs, and play and equally important role in decision making as do men. Such empowerment must go beyond simply ensuring the physical presence of two women members in the WASHCO.

In terms of hygiene and sanitation, Health Extension Workers (HEWs), almost all of whom are women, have the responsibility of promoting the construction and use of (unsubsidized) household toilets, hand washing with soap at critical times, and safe water management. They do this with the support of Community Health Volunteers and other local stakeholders. HEWs are also responsible for delivering an expanding number of other primary health interventions. Without effective planning, competing priorities and a heavy workload may lead to the promotion of preventative and communication based WASH services being marginalized. At the same time, a conceptual link between the HEWs and the local WASHCO(s) has not been established. As a result, WASHCOs tend to focus on water supply rather than WASH.

To implement the fundamental principles and objectives of the water sector policy and the national priorities defined in the water sector strategy, the Government of Ethiopia developed a 15 year Water Sector Development Program: WSDP (2002-2016). Its targets were reflected in the Plan to Accelerate Sustainable Development by the Eradication of Poverty (PASDEP). The Universal Access Program (UAP, 2006-2012) was launched in 2005 and is designed to achieve full access. The plan set out national and region-specific targets for the construction and functionality of water supply facilities and sanitation systems, and set out a strategy to achieve these goals based on low-cost technologies.

The WASH UAP was revised in 2009, necessitated by insufficient progress and escalating costs. The 2009 revision focused on mass mobilization and the promotion of self-supply (i.e. unsubsidized family wells). To date, the self-supply concept has not become a national programme or movement as envisaged, due to technical as well as economic and institutional issues. With the preparation of the Growth and Transformation Plan in 2010/2011, the UAP is undergoing its second major revision, taking into account a revised end date (2015) and spiralling costs of service delivery. The latter is not only due to inflation, but also the increasing com-
plexity and marginal costs of reaching difficult to access smaller rural communities with safe water. The revision also includes school and health facility water supplies, catchment management, capacity building, water quality management, reinvestment, and other issues, making the plan more comprehensive than that last revision.

In parallel with the revised UAP, a Hygiene and Sanitation Strategic Action Plan (SAP) is also being prepared as a component of the 4th Health Sector Development Plan. The SAP is largely focused on the scaling up of Community Led total Sanitation and Hygiene, a strategy – or movement – that links mass mobilization with the community wide rejection of open defecation and the construction of rudimentary home built toilets (with no subsidy). The challenge is to ensure that these toilets are used and upgraded to ensure a measurable health impact. As MDG 7 Target 10 refers to improved sanitation, marketing improved options is fundamental if the goal is to be achieved.

**Sustainability**

**Water Supplies**

Government has taken steps to improve the sustainability of water supply infrastructure improvements. Community participation and local ownership have improved through the systematic introduction and training of “WASH Committees” (WASHCOs), which comprise five to seven persons including at least 40 per cent female membership. Community contributions towards water and sanitation projects also have increased. WASH coordinating mechanisms have been established at all levels, including regional and woreda levels, which have improved planning, targeting, and follow up. Government also has promoted standardisation of hand-pumps to help ensure availability of spare parts and technical know-how for upkeep (similar effort is needed for submersible/powered pumping schemes).

Government also has supported innovative, community empowering approaches such as the Community Development Fund (CDF) for community water supplies, and Community Led Total Sanitation and Hygiene (CLTSH).

Sustainability challenges exist. Regarding water supply, malfunctioning schemes number approximately 20 per cent of the total, a significant improvement over 2004 when this figure was approximately 30 per cent. In the sanitation arena, many of the toilets constructed through campaigns carried out by the Health Extension Programme and through CLTSH do not yet meet international criteria for ‘improved sanitation’, and their usage among family and community members is not universal. Government and its partners recognise these shortcomings and are taking steps to address them in future WASH programming. Overall, WASH service sustainability is a challenge not just in Ethiopia, but globally. Steps required to address this concern include better training and equipping of local artisans, a strengthened private sector; formalised (legally recognised) WASHCOs; sustainable supply chains for WASH commodities; improved monitoring systems (to report problems); better coordination within local government and strengthened outreach to communities and service providers. The Government and its partners are addressing many of these issues through improved WASH programmes at TVETCs, issuance of policies and standardising guidance on WASH implementation approaches, roll-out of the National WASH Inventory, training of government cadres on the latest WASH programme approaches, and more.

**Water Resources**

Ethiopia receives an average annual rainfall of around 1,200 mm. Its distribution is highly uneven, with 80 to 90 per cent of surface water potential occurring in basins in the western and southwestern parts of the country. The central and eastern parts of the country have less than 20 per cent of the total surface water, yet are home to around 60 per cent of Ethiopia’s people. Some areas of the southeastern part of the country receive less than 200 mm of rainfall per year. Compounding this situation is the high seasonal variability of rainfall, and the frequency of droughts. And rainfall, when it does arrive, can often overwhelm local drainages, resulting in flooding that affects both livelihoods and lives. Limited infrastructure for water storage and watershed protection further exacerbate these problems.

Most communities, especially those in the drier parts of the country, must rely upon exploitation of ground water resources for year-round drinking water. As population pressure grows and other water resource demands increase (e.g., large scale agriculture), sustainable fresh water supplies will become increasingly difficult to secure. Many hand dug wells and springs, and even shallow drilled wells, already fail during the dry season. Of particular concern are parts of Somali, Afar, and Tigray regions where water resources are barely sufficient to meet projected needs. A changing climate will add to the uncertainties, with relatively wet portions of the country potentially subjected to more intense rainfall events (and flooding), and drier areas subjected to less rainfall and lower infiltration to replenish ground water reserves.

In the short term, systems for the regulation and allocation of fresh water resources (including water demand management and pollution control) must be significantly strengthened at Federal, Regional and local level. At community level, WASHCOs could be legally established to protect the micro-catchment associated with village water supplies.

**Sanitation and Hygiene**

Sustainability of sanitation and hygiene services is linked to establishing universal and long-lasting behavioural change, as well as the quality of the infrastructure used. Both aspects have made great progress in Ethiopia, though there is still much to do. Sustainable hygiene and sanitation behaviour
change (e.g., regular use of a toilet, and proper hand washing at appropriate times by all family members) are the first steps towards establishing a sustainable hygienic outcome in any given community. However, the quality of the toilets in use – i.e., hygienic properties (do they effectively compartmentalise excreta); accessibility for children, the elderly, and the disabled; and the ability to empty or renew the toilet when its pit is full – all contribute to sustainability. Further, hand washing with soap (or substitute) and water is still not widely practiced; recent research suggests only about 20 per cent of Ethiopians are regularly washing their hands at critical times. Without instilling regular hand washing behaviour, gains made in WASH infrastructure will not have the full impact upon nutritional status or health that is desired.

The introduction of Community Led Total Sanitation and Hygiene (CLTSH) in many parts of the country, often linked to the Health Extension Programme, has contributed to the acceleration of growth in basic toilet coverage. However; it is recognised that CLTSH requires much more than the initial community ‘triggering’ to have a sustained and positive outcome - to ensure that people do not return to open defaecation and continue to use, and upgrade, their household and public toilets. Due to the increasing demands on Health Extension Workers, the Government and its implementing partners need to identify new ways of promoting improved community sanitation and hygiene. As well, additional emphasis must be placed on effective support to local sanitation entrepreneurs to ensure the marketplace can keep up with increasing demand for improved sanitation commodities and services.

**Water Quality**

**Faecal Contamination**

Whilst attention has been afforded to expanding access to water supplies, rather less has been given to ensuring its safety. Of greatest concern, health-wise, is the risk of faecal contamination. In 2006, the joint Government, WHO and UNICEF Rapid Assessment of Drinking Water Quality established that about 28 per cent of all protected rural water supplies were contaminated with faecal micro-organisms (Rapid Assessment of Drinking Water Quality, Ethiopia Country Report, March 2007).

Different problems require different solutions, although many of the underlying principles are the same. In terms of faecal contamination, in the majority of cases, it is the lack of proper preventative operation and maintenance (O&M) that results in the risk of pathogenic microorganisms contaminating a drinking water source. Strengthening O&M – as set out in the last section - should reduce this risk. And, as recommended by WHO in its 3rd Edition, Drinking Water Quality Guidelines, the introduction of sanitary surveillance, with verification undertaken by Health Sector using quantitative assessments of Thermo-tolerant Indicator Bacteria, can be used to assess the situation and assess progress.

The National WASH Inventory should, in future iterations, include sanitary surveillance and water quality testing (including fluoride) in all Woredas of the country. At present, these elements are only being piloted in the Inventory.

Many field studies globally have shown that it is not sufficient to control water safety at the point of supply, due to the fact that drinking water is often contaminated during transport and storage. Additional measures, including the promotion of safe water handling, household water treatment, and safe storage systems, also must be introduced to improve water safety at the point of consumption.

**Fluorosis**

In terms of chemical water quality, an estimated 11,000,000 people are at risk of contracting fluorosis, in the rift valley with manifestations ranging from unsightly dental staining to chronic joint pain and crippling skeletal deformation. To reduce the burden of disease and social stigma associated with fluorosis, a multi-sector approach is needed, involving mapping (of fluoride concentrations and clinical manifestations of fluorosis); a protocol which defines different sets of actions depending on the observed risk that people face, including their exposure and clinical response to exposure; the implementation of these actions (with priorities extending from awareness generation to fluoride removal to establishing alternative water supplies in the most affected areas), and monitoring the results. All this requires higher levels of capacity and resource allocation in the affected areas. In general, whilst research is important to improve understanding of the problem, from a rights perspective, it is absolutely imperative that action is taken to reduce exposure in the worst affected communities.

**Financing the WASH sector**

Resource flow to the WASH sector from all sources has been rising steadily, growing by about 400 per cent in the five years from 2003/4 to 2007/8. Nevertheless, the sector’s share of the budget may be declining when compared to the Education and Health Sectors. The Treasury provides the single largest source of funds through a federal Block Grant channelled directly to regions and woredas. The sector also receives funds from a large number of diverse sources, and through an equally wide range of channels. The fragmentation of donor funding is a major cause of inefficiency.

Available funding in the WASH sector is currently not adequate to meet the ambitious targets of the UAP. In 2009, projections showed that less than half of the estimated 644 million USD (ETB 8.7 billion) were being committed. Recent updates to the UAP and advent of the hygiene and sanitation SAP suggest that the cost of meeting these national targets is now closer to 2.4 billion USD (1.75 billion USD for rural water supply alone). The cost escalation relates in part to the ever increasing cost of establishing WASH services in remote underserved communities, compounded by a still-
developing transportation and roads sector. In pastoralist and agro-pastoralist communities, seasonal mobility and the need to water livestock and support small scale agriculture place high demands on water supply systems, which in turn drives up costs.

The higher budget revisions also reflect a more detailed and inclusive approach as regards school and health facility WASH, which are often costly to secure and which are much in need nationally.

Apart from endeavouring to reduce the financial shortfall, the Ethiopian WASH sector is also working hard to improve absorption capacity. The underlying issue is related in part to lack of harmonization and alignment of donors (most follow a project type approach); a singular lack of water well drilling equipment and technical expertise; delays related to offshore procurement; the large number of vacant posts and a lack of suitably trained personal at woreda level. Finally, in overall terms, WASH service delivery is not supported by a strong private sector (compared to the construction sector, for example) to accelerate service delivery. This may relate to the investment costs involved (drilling rigs are expensive and are costly to maintain; and the risks that go with the investment – for example, the risk of not finding water, mechanical failure, and of operating in remote and sometimes insecure areas.

**Underlying factors influencing progress**

In overall terms, based on this analysis, the following are considered to be the underlying factors which will most influence the achievement of the right to water and sanitation in Ethiopia.
a) **Awareness of Policy:** At regional, woreda and local level, people's awareness and understanding of National Policy, Strategies and Plans – and their rights and obligations, needs to be strengthened. This is a prerequisite for the fulfilment of a Rights Based Approach to their participation in any National WASH programme.

b) **Regulatory Framework:** Associated with this first point, the legal and regulatory framework that enforces duty-bearers to implement policy and strategy should be reviewed and strengthened, supported by clear guidance and training. This extends to the legalisation of WASHCOs, and the implicit formalization of an approach that ensures that people can participate effectively in informed, decentralized decision making. Such an approach is particularly apparent in the Community Development Fund (active in Amhara, Beneshangul Gumuz), which is now being built into the revised WASH Programme Implementation Manual (PIM).

c) **Capacity:** Notwithstanding the above, the WASH sector suffers from inadequate capacity at woreda level. This includes technical capacity. In this context, Technical, Vocational and Education Training Centres (TVETCs) need to be supported to produce and maintain the numbers and quality of graduates (trainers of trainers) required to accelerate progress. This applies in equal measure to the health and water 'sub-sectors'. In addition, compared to other sectors, the private sector is under-represented in the WASH sector, despite its potential to accelerate WASH coverage. As mentioned, in Somali Region and Afar, long-term development plans must address the increasing levels of fresh water scarcity. Finally, much better use can be made of existing capacity if the high level of donor fragmentation which characterizes the WASH sector can be resolved under a single National WASH programme.

d) **Finance:** With the cost of achieving full access now becoming clear, the sector needs a much greater level of financing. This implies the need for (i) a greater allocation of treasury funds to the WASH sector; (ii) significantly increased levels of donor support; (iii) the development of private public partnerships and private sector investment, most likely associated with urban WASH in larger, medium and small towns and multi-village piped water supplies.

e) **Reaching the Poor and Underserved:** Given the disparities that exist in terms of WASH coverage between and within Regions, and regional differences in unit costs of providing water supplies, it is a major challenge to secure and channel needed funds to achieve UAP targets throughout the country. Increasing Government emphasis on WASH and other investment in the DRS is helpful in this regard. However, pockets of vulnerable and poor groups exist in most if not all regions, requiring careful data collection and use of those data in comprehensive woreda WASH planning. WASH Inventory data will help in this regard, but WASH coordination mechanisms must be in place and well-functioning at woreda and regional levels to ensure WASH investments are targeted to best reach the poor.

f) **Accountability:** More needs to be done to improve sector monitoring, with reliable, updated data available to inform the priorities and plans developed by Woreda WASH Teams, Regional and Federal Government, strengthen reporting 'up the chain', and underpin accountability. In this respect, the National WASH Inventory is expected to provide a considerable opportunity to improve reporting and accountability at all levels.

g) **Harmonisation:** Donor support to the sector is fragmented, with major donors still operating in an expanded 'project mode'. Government support is also fragmented, with the results of the Productive Safety Net Programme not reported together with the outputs of sector investment. Each modality has its own system for budgeting, planning, implementation and reporting. This situation is highly inefficient and saps much of the limited capacity available. The establishment of a revised WASH PIM provides a framework for achieving a much greater level of harmonization and alignment that currently is being achieved.

h) **WASH Coordination:** The 2006 WASH MoU between the Water, Health, and Education sectors was a great step forward for WASH coordination, investment planning, and implementation. However, there are still many challenges remaining to realise the ambitious goals of the WASH MoU. The ongoing revision of the MoU presents a good opportunity to strengthen the formal WASH coordination mechanisms, especially at local and Regional levels. Regional Steering Committees and Woreda WASH Teams should be priorities in this regard. Strengthened coordination mechanisms and more efficient management and use of WASH data will go a long way towards making the use of limited resources more efficient, thus helping achieve the desired outcomes and impacts.
Box 7.2

Libo Kemkem Woreda gets a boost in clean water supplies

Saturday morning, and 9-year-old first grader Askebir Dessie is at school with her older sister Mantegbosh, but not to attend lessons. The two sisters have come to the Kikibe Primary School in Libo Kemkem Woreda of Amhara Region with their father to water their family’s cattle. Askebir fills a container with water from the hand-pump fitted well which her father carries out of the enclosure and sets down for the animals. The cattle run forward and crowd around. Within a few seconds all the water is gone, and Askebir goes back to pour them more.

“We used to have to walk over an hour to get water from the river before this well was constructed,” says Askebir. Now, thanks to the hand-pump at our school it is less than 10 minutes walk from our home. The water is clean and we can get as much as we want. This has made our lives much better.” Safe water coverage in Libo Kemkem woreda is now 56 per cent, up from 49 per cent in 2007. In rural areas, access to safe water is defined by the State as having a protected water supply (typically a hand pump on a dug well or drilled borehole) able to provide each user with at least 15 litres of water a day, within 1,500 metres of their home.

The reason coverage has increased in Libo Kemkem Woreda is, in part, because UNICEF secured funding from several donors to construct 44 water supply points in this district, working with the Amhara Regional Water Bureau. The funds provided supported the construction water points in four primary schools. Improving access to water and sanitation is an expensive and complex process involving different arms of Government, international development partners such as the World Bank, African Development Bank, European Union, the UK’s Department for International Development and Government of Finland, the private sector, NGOs and the UN.

What is not clear is the proportion of Ethiopian financial resources that has been invested in water supply and sanitation. It has been difficult to separate expenditure on rural water supply from expenditure on irrigation, or to separate expenditure on promoting sanitation from expenditure on other public health concerns. In this situation, parliamentarians find it difficult to debate how to allocate resources to different and sometimes competing priorities. The state is revising its “Universal Access Plan for Water Supply” and is producing a similar plan for hygiene and sanitation. Both these plans will feature a budget, relating to what is needed to accomplish the targets set out in the GTP. Both initiatives will help move the water and sanitation agenda forward, with the Government and its development partners moving towards a ‘one plan, one budget’ sector wide approach.
It is ten minutes to break time and fifteen-year-old sixth grader Kadr Hassen and the rest of the Harmukayle Haji Mumin Elementary and Junior High School’s WASH club make their way to the back of the school where the cooks are preparing the mid morning school meal. They fill buckets with water from the nearby taps, newly constructed by the Somali Region Water Bureau, and carry them to where stacks of clean plates wait to be filled with the porridge simmering in giant cooking pots. One of the many ways the WASH club members promote good hygiene in the school is to keep the plates washed and clean.

The school bell rings at ten a.m. and the students make their way to where Kadr and his WASH club friends have laid out the plates. The students each take a plate and line up to get their fortified porridge.

Having ensured the orderly distribution of food, Kadr moves on to the water point where he ensures that all students get a chance to drink. In the Somali Region, the day is already scorching hot. The throng of thirsty students grows impatient, testing Kadr’s leadership skills. One by one each student gets his or her cup filled — and Kadr ensures that the younger children don’t get bullied aside.

Firdoze Ali, 13-year old fifth grader, waits for the crowd to thin before taking her turn to drink from the taps. “We are very happy to have these new taps,” said Firdoze, after drinking her fill with her hands cupped under the flow of cool water. “Last year there was only one tap in the school compound and everyone would fight to drink before having to go back into class. If you were not strong or lucky you would not get any water; then you had to sit through the next class thinking about how thirsty you were.”

“Our duties as part of the WASH club include ensuring the proper use of the water and toilet facilities in our school,” said Kadr. “We use the morning line-up before the start of classes to inform the students about sanitation and hygiene practices, including the importance of hand-washing with soap. We encourage students to take responsibility for the facilities and make sure they are kept clean. Every week we organize a group to clean the toilets. As a result, our school toilets are kept clean and students feel comfortable using them, which is a big change from before when the toilets would get so dirty nobody wanted to use them.”

Both Firdoze and Kedr are students with big ambitions. “I am the first girl in my family to go to school and my dream is to be a doctor when I grow up,” says Firdoze. “There is no doctor in Harmukayle, and I want to be able to fulfil this important service for my community.”

“I want to be either a journalist, a scientist, or both,” says Kedr. “I listen to journalists on the radio giving us information about faraway places, and I would like to be able to do that one day. I would like to tell the world about what is happening in my community as well. If I were a journalist I would do stories about all the trees that people are chopping for firewood and charcoal, which is harming the environment. I would also report about the ‘Gerewa’ tree (a species of Mesquite tree imported to Ethiopia) which is useless but is spreading fast. It is a type of tree that is new to our environment. It is providing shelter for leopards, which are attacking our herds of goats more and more. It spreads fast, using up the scarce water that is underground, and it is hard to control. I would report about this because water is life, and we have to do everything to conserve it.”

Firdoze Ali cups her hands to drink from one of the eight water taps constructed at Harmukayle Haji Mumin Elementary and Junior High School.
**Action points**

The following recommendations are made that could support the timely achievement of the GTP and strengthen the WASH UAP, the Hygiene and Sanitation Strategic Action Plan, the revised WASH MoU and the revised WASH PIM.

**Communicating policies, reviewing legal and regulatory frameworks and financing**

Communicate existing policies, strategies, protocols and proclamations (in a style and language appropriate for the target audience) amongst the key actors at all levels – regions, woredas, WASHCOs, civil society and private sector.

Conduct a formal review of the sector policy, legal and regulatory frameworks and introduce improvements where necessary to ensure that they adequately address the specific requirements of the poor and vulnerable with specific provisions for children and women as well as men.

Increase allocations to the WASH sector (and water supply in particular) in the government budget reflecting its fundamental importance to the achievement of the GTP, UAP, Health and Education Sector Development Plans, the MDGs and Child Rights in general; in this context, establish a special fund or other appropriate mechanism to support DRS and marginalized populations elsewhere. International partners wanting to help Ethiopia with its WASH programmes would help to improve efficiency if they could be more predictable with their sector funding.

**Building capacities and incentives**

Invest in TVET capacity to provide the quality and numbers of graduates required to ensure the achievement of UAP and SAP objectives.

Develop incentives and provide information and if necessary orientation and training to attract and retain the private sector to support and sustain WASH service delivery, including but not limited to drilling capacity (which is one of several priorities).

Develop and invest in a Minimum Woreda Package for WASH capacity, linked to the achievement of the UAP / GTP and sustaining the services provided; investment in capacity needs to be linked to a minimum investment for the development of sustainable WASH infrastructure.

In this context, invest in the establishment of sustainable supply chains to ensure WASHCOs and local private sector mechanisms have ready access to fast moving spare parts for operation and maintenance.

Provide additional resources to fluoride affected communities to ensure the water they consume is safe, based on an agreed protocol that defines specific actions depending on measurable levels of exposure.

**Partnerships and monitoring**

Proactively promote donor alignment and harmonization, with the completion and ratification of the WASH PIM (currently under revision and re-named as the WASH Implementation Framework, noting that this establishes the Community Development Fund approach as a formal financing mechanism.

Strengthen WASH monitoring, accountability and planning by rolling out the National WASH inventory and its annual revision, including critical aspects of water quality (for example, sanitary surveillance and fluoride concentrations).

Strengthen WASH programming and sector efficiency by improving inter-sectoral coordination, achieved not least by formalizing WASH structures (Steering Committee and Technical Team) at Federal and Regional level and ensuring that formal Woreda WASH teams are established and functional in every Woreda. This can be achieved by finalizing the revised WASH MoU and providing Federal level support to promote its use at Regional level.