

Rethinking the Future

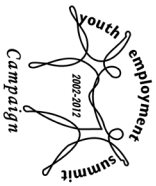
Youth Employment and Entrepreneurial Opportunities in Water and Sanitation

A joint WSSCC / YWAT publication for the Youth Employment Summit Campaign

Youth Employment Generation and the Water Supply & Sanitation Sector in India

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Written and compiled by: **Carolien van der Voorden**
Research Associate,
Water Supply and Sanitation Collaborative Council

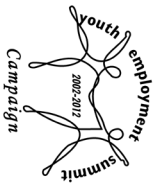


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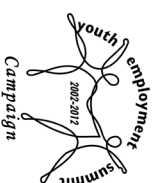
Introduction

Over the past few years, the Water Supply and Sanitation Collaborative Council (WSSCC) has developed a strong voice advocating for the need for improved water, sanitation and hygiene (WASH) for all. These WASH issues are connected to, and form the backbone of many other development issues. Malnutrition, disease, poverty, productivity, the position of women and girls, depletion of natural resources – WASH affects all of them. Therefore, addressing water, sanitation and hygiene is central to sustainable development. This was acknowledged by the world's leaders when in September 2002, at the World Summit on Sustainable Development in Johannesburg, they agreed to include a sanitation target in the list of targets defining the Millennium Development Goals. These MDGs set out a vision for where the world should be in 2015, and now include the target to halve, by 2015, the number of people without access to safe water and sanitation.

Achieving this target is going to be a challenge. As can be read in several WSSCC publications (WSSCC, 2002; 2003), the Council believes that business as usual is not going to bring about an extensive increase in the pace and quality of improving water and sanitation services in the developing countries, and is not going to achieve the MDGs. Rethinking current approaches, exploring alternative delivery mechanisms, and developing new methodologies and capacities are essential in achieving substantial progress.

Although, as will become clear in Sections 1 and 2, addressing water services delivery in developing countries entails many different aspects, this paper will focus mainly on one of them: the role that local people, entrepreneurs, and especially youth can play in boosting the water and sanitation sector in developing countries, and inversely, the way the water and sanitation sector can provide essential employment and business opportunities to these people. As can be read in Section 3, just by their numbers young people have enormous potential to make a difference to water and sanitation provision, and the realisation of genuine sustainable development. That is, as long as their interest for the sector can be scaled up, and sufficient employment opportunities can be created. While the paper will first explore employment and entrepreneurial opportunities in the water and sanitation sector in general, it will ultimately try to explore the specific opportunities for youth in the sector.

While briefly exploring the 'official', mainstream job market for youth in water and sanitation, the paper will focus mainly on the opportunities available 'outside the box', in the informal sector, in the small businesses existing next to the mainstream utilities, and in filling the gaps that these mainstream utilities and companies are not (yet) able to fill. Because WSSCC believes that this is where the real opportunities lie, and that in most developing countries, these are the jobs that are most easily available to the poor, the unskilled, and the inexperienced. Also, these are the businesses that, once accepted and included in the mainstream system, can make a real difference in increasing and improving access of millions of people to safe water and sanitation services.

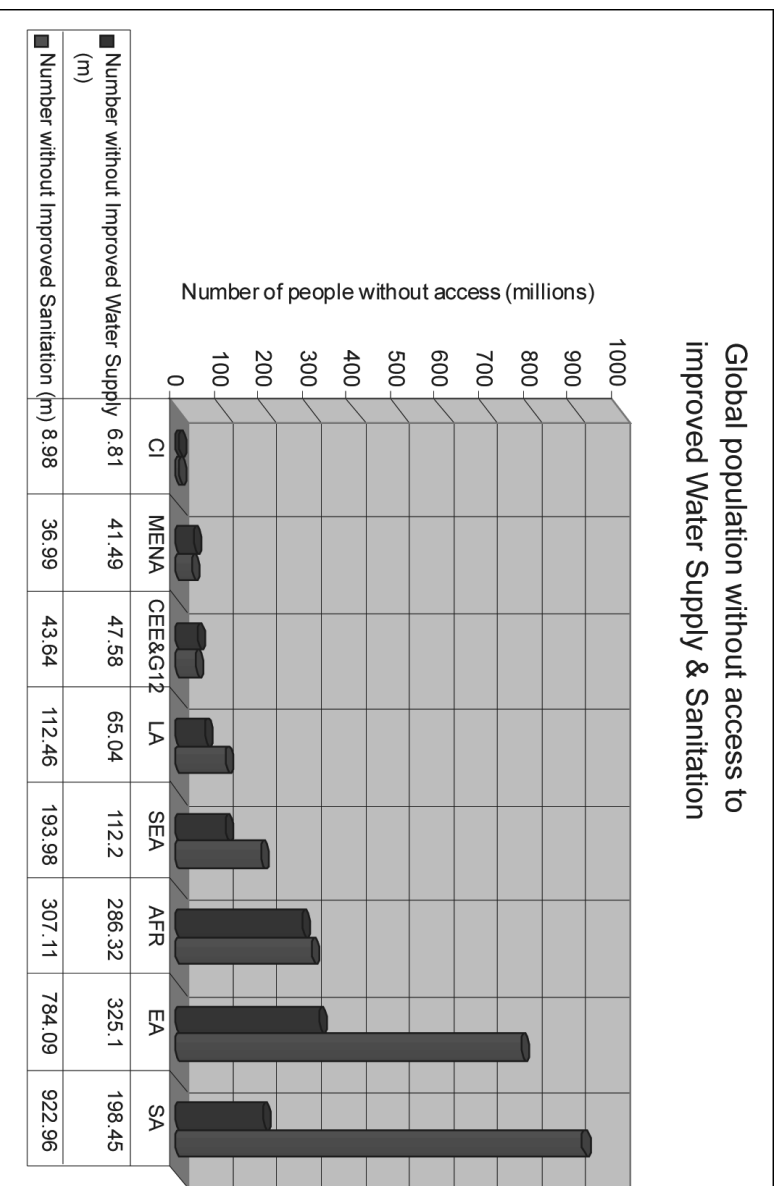


1. Stating the Facts

1.1 Scale and nature of the problem

In the year 2003, despite all its achievements and progress made, more than one sixth of humankind, or 1.1 billion people, does not have access to safe, reliable water. More than one third – 2.4 billion people – does not have access to proper sanitation. The majority of these people live in Asia and Africa. In Africa, two out of five people lack improved water supply. The lack of improved sanitation, as shown by Figures 1 and 3, especially affects people in East and South Asia, most notably China and India.

Figure 1



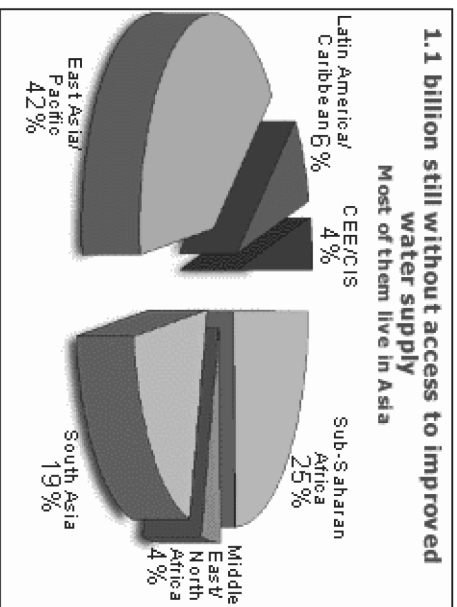
Source: WSSCC, 2003

(CI: Caribbean Islands; MENA: Middle East and North Africa; CEE&G12: Central and Eastern Europe and Central Asia; LA: Latin America; SEA: South East Asia; AFR: Africa; EA: East Asia; SA: South Asia)

In most developing countries, only about one or two percent of government spending goes to low cost water and sanitation. More is spent on high-cost services for the few than on low-cost services for the many. And while the costs of water supply and sanitation technologies have fallen sharply over the last twenty years – they have still not reached the poorest.

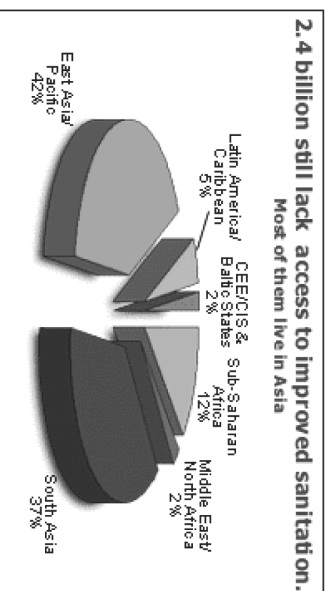
The lack of water, sanitation, and improved hygiene has severe health effects. At any one time, more than half the

Figure 2:



Source: UNICEF, 2003; www.childinfo.org

Figure 3:



Source: UNICEF, 2003; www.childinfo.org

poor of the developing world are ill from causes related to hygiene, sanitation and water supply. Diarrhoeal disease alone kills six thousand people every day, 80 to 90 percent of which are children. Public squalor and disease undermine productivity and economic growth, cost billions of working days every year, and are a major deterrent to investment and tourism (WSSCC, 2003).

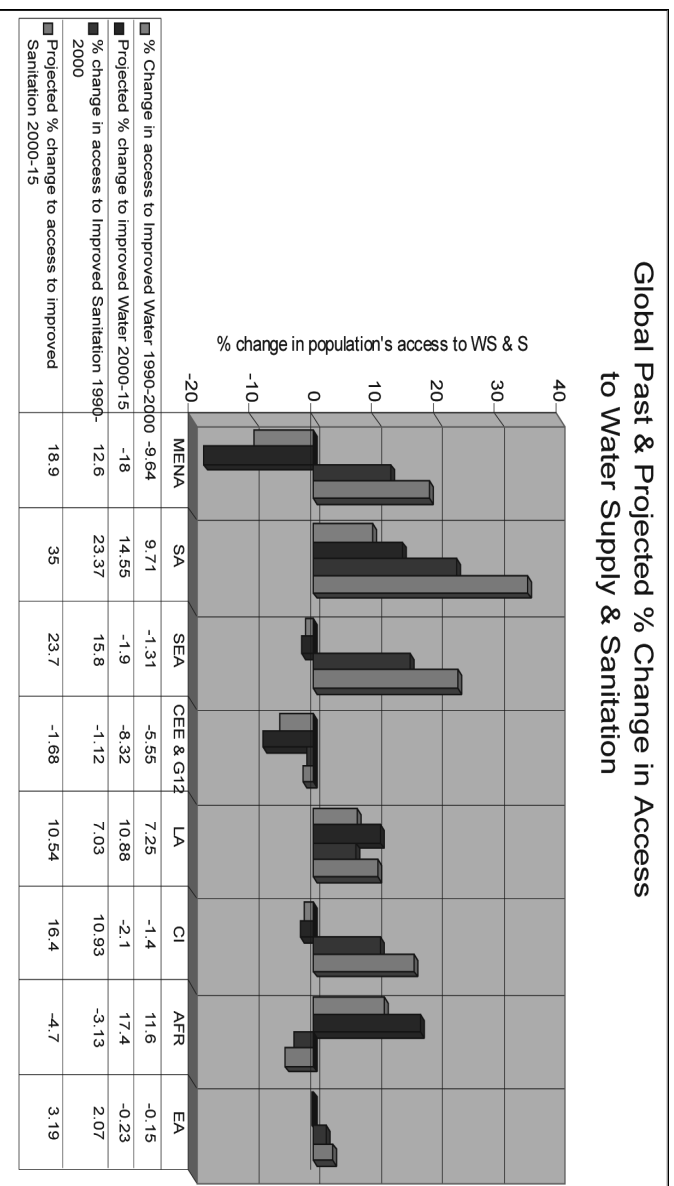
Significant discrepancies between rural and urban services continue to exist. In Africa, Asia, Latin America and the Caribbean, almost 1 billion people in rural areas are without access to improved water supply. The gap between urban and rural coverage is greatest in Africa, where 56 per cent of people living in rural areas still lack access to improved water, compared to 17 per cent without coverage in urban areas (UNICEF, 2003). On the other hand, the world-wide urbanization causes a great number of people to live in informal, overcrowded peri-urban settlements where coverage remains especially low. Extreme poverty and unacceptable living conditions in these settlements have become alarming problems, particularly in light of the fact that an additional 800 million people are expected to migrate to urban areas of the developing world over the next 15 years (WSSCC, 2003).

Although rural coverage for sanitation varies greatly among the regions, it lags far behind the overall coverage in urban areas. About 2 billion people, or 80% of those without adequate sanitation, live in rural settings - with the vast majority of 1.3 billion people living in China and India alone (UNICEF, 2003).

1.2 The future without action

Most estimates about future access to water and sanitation are based on the premise that we will be able to learn from past mistakes and improve and increase delivery and coverage. Therefore it is hard to say particularly how grim the future will be without any new, concerted action. However, Figure 4 shows the projected change in access to water and sanitation for the developing regions by 2015, based on an extrapolation of changes in access between 1990 and 2000¹. If current trends continue, access to water in the Middle East and North Africa will in 2015 have dropped by 18% since 1990. This is assuming population growth will continue as it has between 1990 and 2000. In Sub-Saharan Africa, sanitation coverage will have dropped by 4.7% compared to 1990, while access to water is projected to rise by 17.4%. The biggest change in access is estimated to occur in South Asia, where the percentage of people with access to sanitation services is projected to rise by 35% since 1990. However, this is still 15% short of the Millennium Development Goal target of halving the number of people without access to water and sanitation by 2015, with 1990 as the baseline. Based on present trends, many developing countries will not, by a long way, achieve the MDG targets.

Figure 4:



Source: WSSCC, 2003 (See Figure 1 for meaning of abbreviations.)

Above and beyond the coverage figures, it can be safely assumed that without progress on water, sanitation and hygiene, nutrition will continue to be undermined by the sheer frequency of illness during the vital, vulnerable years of a child's growth. Health care systems will continue to be overwhelmed by the hygiene-related illnesses that currently account for half of all visits to health centres in the developing world. Progress toward equality for women and girls will continue to be held back by the huge demands that 'WASH' issues make on their time and energy. Education will continue to yield lower human and economic returns as disease takes its toll on school attendance and performance. Economic growth will continue to be held back by the loss of productivity and the billions of working days lost each year. And groundwater resources and the living environment will continue to be degraded by faecal pollution (WSSCC, 2003).

1.3 Immediate attention required

In accepting a sanitation target to be added to the already existing water target of the MDGs, the World Summit on Sustainable Development in Johannesburg acknowledged that without progress on all 'WASH' issues (water, sanitation and hygiene), progress towards all of the other development goals will be debilitated. In other words, addressing the WASH issues is now recognized as central to the struggle for sustainable development. The art will be to learn from past mistakes, address the issues that require immediate attention, and achieve genuine sustainable change in people's access to and use of water and sanitation services, and hygiene behaviour.

Issues requiring immediate attention include the problems around serving the urban poor – with issues of norms and standards, of tenure and illegality, of density, and of weak community links hampering community management approaches. Both in urban and rural areas, issues requiring attention include making the transition from successful pilot-projects serving hundreds, to programmes serving thousands, or even millions. They include finding better ways of ensuring continued operation and maintenance of rural water schemes; and improving financial management and cost recovery of schemes. On sanitation, attention needs to be paid to increasing the demand for household sanitation, possibly by using social marketing approaches, and on sustaining behaviour change. For both water and sanitation, the focus on technology needs to shift from large-scale, western style, highly technical solutions, to local, small-scale, appropriate and affordable technologies. And to make all the above possible, attention needs to be paid to institutional management options, the role of local government, and alternative management options such as public-private partnerships and the use of small-scale entrepreneurs.

In short, addressing the WASH issues with the intention of drastically improving people's lives, needs a shift away from the 'business as usual' idea.

2. Rethinking the Future

2.1 Why is this the time to rethink?

Despite all efforts over the past decades to make water and sanitation for all a reality, in many areas of the developing world relative access and coverage figures for water and sanitation have dropped since the 1980's, not increased. The current agenda has largely failed to make an impact. With population growth rates remaining as high as they are, urbanisation rates rising, and water resources being increasingly depleted, there is need for a new agenda. A need to rethink current approaches.

2.2 An opportune time

Next to the *need* to rethink water and sanitation delivery in developing countries, the present time also provides distinct *opportunities* to do so. Thanks to UN initiatives such as the Millennium Development Goals and the WSSD adoption of the sanitation target, and thanks to global initiatives such as the WASH campaign, there is a burgeoning political will and awareness on the issue.

Many developing countries, for example Uganda and Madagascar, have recently adopted or are in the process of defining and adopting new, improved water services and/or sanitation policies. An important lesson that most of these new policies incorporate is that government water and sanitation policies are most effective when they seek not to do the job themselves but to stimulate and support community-based initiatives (WSSCC; 2003).

Related to this, is the drive of many governments to decentralise their management processes. Where many countries used to be controlled, managed and financed from the centre, now provinces, districts and local authorities receive more and more autonomy and responsibility. This specifically affects service delivery, and such reforms therefore present good opportunities to rethink, build capacity, and engage more people in the service delivery processes.

At the same time, there is more and more acknowledgement of the fact that water and sanitation are not stand alone issues, and that for success, they should be addressed in an integrated, holistic manner encompassing water resources management, health and hygiene issues, environmental and economical concerns, socio-cultural issues and institutional and management structures. This realisation provides opportunities to rethink water and sanitation delivery, and to tie it in to other development efforts and activities. This way, duplication of effort may be avoided, and a more lasting impact achieved.

Lastly, it is starting to become generally accepted that although water is a basic human right and needs to be accessible to everyone, it is also an economic good. And as such, economic value can be attached to it. This realisation is increasingly changing the ways water services delivery is being dealt with, and in particular has led to the involvement of many other parties in the sector. Rethinking the ways in which these parties co-exist and cooperate can provide opportunities to drastically improve water services delivery.

2.3 Public and private participation in water and sanitation supply

The fact that water came to be perceived as an economic good, led to increased attention by the private sector for

the water services sector. Over the past ten to fifteen years, a growing variety of public-private partnerships, private company concessions, Public Limited Companies, and other contractual arrangements has been set up, all of them based on the premise that water services delivery can be run like a business, and that private sector involvement and the use of private sector management approaches will increase efficiency and effectiveness of that 'business'. However, so far this business-like approach to service delivery has often meant a decrease in services for the poor.

Servicing the poor is seen as a high-cost, low-revenue affair, and therefore not a very attractive business-opportunity for the private sector (Trémolet, 2001). In order for companies to make their contracts profitable, charges will have to be raised in some way, often with detrimental effects for the poor. In Buenos Aires for example, the concession for the water utility was awarded to the bidder offering the lowest tariff, resulting in an immediate benefit to existing users. However, the connection fee was re-designed to include an infrastructure charge meant to finance the expansion of secondary networks. This connection fee was completely unaffordable for the poor, who made up most of the unconnected consumers in the city, leaving them unable to access the service even at low tariffs (WSP & PPIAF, 2002:2).

The attention for private sector involvement has very much benefited large-scale, often international companies, and has failed to incorporate the possible added value of local small-scale providers. Many of the private concessions and public-private partnerships deal with large-scale, mainly urban systems. Local artisans, masons, and small-scale manufacturers have little role in such centralised and large-scale operations. In addition to this, privatisation or rationalisation of public utilities often leads to job-losses or recruitment stops. Like in the case of Mexico, where the National Water Commission has reduced its number of employees with roughly 40 percent since 1996. Since there are hardly any entry-level positions anymore, this especially affects young professionals who find it increasingly hard to find employment in the sector².

However, past experience has proven that low-cost, locally applicable and available technologies and community management approaches are often more appropriate and sustainable than large-scale, highly technical options managed by external institutions. Therefore, using local, small-scale entrepreneurs might make more economical, social and institutional sense. Already, several studies have shown that the small-scale entrepreneurs or independent providers³ are responsible for serving large groups of people that are not being, or cannot be served by the mainstream providers. As Collignon (1999:9) puts it: "In Africa, the share of the water market and of jobs taken by private operators is inversely proportional to the performance of the national enterprise which has the water service concession, at least for middle-class clients."

Keeping in mind that achieving the Millennium Development Goals will require a huge gearing-up effort, identifying more possible delivery channels and increasing the capacity-base for improving and increasing service delivery will be essential. This includes the necessary investments in training new staff and ensuring inlet of young professionals into the mainstream companies, as well as opening up opportunities for small-scale providers and entrepreneurs to become more actively involved in water services provision.

2.4 The role of technology

The assumption regarding water and sanitation technology has long been that the solution would be found in highly technical, high cost, often western style solutions that would be imported into the developing countries from abroad, often by external support agencies. This assumption is flawed. Instead, there are now tried and tested low-cost water and sanitation technologies – such as hand pumps, pit latrines, and rainwater harvesting – that communities themselves can manage and maintain and that will work for almost any site in almost any country.

These technologies can be produced – often with use of local materials – and maintained locally, and with spare parts locally available; supply chains can be drastically shortened. Using such locally produced technologies will provide local level jobs and business opportunities, including manufacturers, operators or caretakers, mechanics, shopkeepers, and trainers. Also, using locally available materials and technologies will increase efficiency, and will ensure continuous service. In effect, it will reduce the dependency of countries and communities on remote technologies and external support, while at the same time boosting the local or national economy.

However, a shift in focus from large-scale, highly technical schemes to appropriate, small-scale technologies will require a shift on many levels, not least in the training of civil engineers who are currently still responsible for the technological side of planning and service delivery within the ministries and service delivery agencies of developing countries. They need to be convinced of the use of looking for locally applicable, sometimes unusual technologies, that do not require much technological knowledge to be operated, maintained and repaired. Institutionalising the use of such technologies will represent job-opportunities for the trainers and the local level operators and mechanics, but also for young engineers coming in with a new perspective on the function of technology in society.

3. Investing in youth⁴

3.1 Building the knowledge base of youth

Building the knowledge base of young people is vitally important. In *Our Common Future*, Brundtland⁵ defines sustainable development as the “development that meets the needs of the present without compromising the ability of the future generations to meet their own needs” (Brundtland, 1987). Since young people represent the next generation in all aspects of life, their involvement in water issues is key to guarantee sustainability.

In some nations, young people have little knowledge, and even less say, on how the water sector affects their daily lives. There is a huge need to build the knowledge base, change behaviour and personal attitudes and increase awareness amongst young people, both in order to increase their interest in water and sanitation and more directly, to change the current situation of squalor and disease caused by unhygienic behaviour and unsafe water and sanitation.

Children and youth are agents of change. Both at present within their schools and families, and in the future when raising their own families and working for water and sanitation institutions or organisations. Therefore, it is crucial to build their knowledge of WASH issues from as young an age as possible. Including school sanitation and hygiene education programmes in school curricula, both in primary and secondary schools, is essential.

With one-sixth of the world’s total population ranging between 15 and 24 years old, investing in youth is key to building leadership, human, social, intellectual capital and hence to social change and progress. Youth are, for better or worse, the bridge between generations, and potentially between paradigms and worldviews. They are the future key stakeholders, and they need to be prepared for that task.

3.2 Youth-led and youth-serving organisations

Water issues should engage all stakeholders. Young people are a substantial section of the population, and yet are often neglected. Youth organisations recognise that since young people will be the future managers, and for that matter will inherit current problems and challenges, it is of vital importance that they are aware and involved in the water sector. Investing in water and sanitation should therefore incorporate investing in youth.

It is worth mentioning the ‘Young Peoples’ Declaration’ presented at the Third World Water Forum, Kyoto 2003 in the presence of Dr. Jan Pronk, chair designate of WSSCC. This Declaration called for an investment in youth to develop awareness and enable young people to get involved in bringing about meaningful progress in water issues. Among others, the Declaration identified the need for the ‘establishment and/or proper implementation of transparent and accountable public participatory processes’, and stated that young people have the potential to give effect to such a public participatory model by:

- ❖ Interacting with and educating the local community, thereby empowering them to participate and contribute to the policymaking process;
- ❖ Acting as a bridge between the local community and decision-makers and/or water service providers;

- ❖ Assisting local government with research and the implementation of action plans to benefit the local community. The Young Peoples' Declaration highlighted that youth will not only inherit the responsibility of looking after the earth, but also are often highly vulnerable to the effects of environmental degradations.

Youth-led and youth-serving organisations can have a useful role in the process of getting young people involved in water issues: they serve as important feedback, learning, and leadership development mechanisms. They bridge the perceived organisational and conceptual gaps between these youth and older allies. As future users and managers of water resources and water services, an investment in youth-led and youth-serving organisations can ultimately engage a great number of young people in the implementation of programmes that are critical to the long-term success of the water sector. These can include water and sanitation education programmes and personal hygiene awareness campaigns, which will help young people to gain a solid understanding of best practices in water, sanitation and hygiene.

3.3 The future of youth and water

For the most part, young people have been left out of the decision-making processes surrounding water accessibility (Cairns & Vander Weyden, 2003). Within this line of thought, an eloquently put article by Van der Helm entitled “Will Young People Solve the Water Problems?” stands out. Van der Helm argues that it is important to identify and understand the image that these young people have constructed on the future of water, since it is these same images of the future that will lead to specific actions or inactions (Van der Helm, 2003). Based on that, it could be seen as crucial to try to influence young people's images of the future of water as a future that is still full of potential, a future that is able to provide water to all who need it – as long as they are willing to take the appropriate action.

In addition to supporting volunteer advocacy groups, it is critical to increase the employment opportunities for the youth. According to International Labour Organisation's data, youth unemployment numbered 66 million people at the outset of the present decade. Youth unemployment rates are typically two to three times those of adults. The water and sanitation sector, with its need to gear up and its crucial role in achieving sustainable development, could prove to be a valuable source of employment for young people.

Unless the youth is helped to be aware of the importance of water and sanitation, and learn appropriate employable skills to get involved in solving the crucial water and sanitation issues, it is hard for young people to comprehend how poverty will be curtailed in the future. Without the commitment and dedication of youth, either by individual efforts or under the umbrella of youth-led/serving organizations, the attainment of the Millennium Development Goals and Agenda 21 will be threatened. If the role of the youth in water and sanitation is seen as critically important, then the absence of the youth element from the water area might very well lead to failure.

4. Employment and Business Opportunities in Water and Sanitation

4.1 Different faces of the sector

In order to discuss how youth employment can be stimulated, it is important to first understand the employment and business opportunities and tendencies in the water and sanitation sector in developing countries in general. For this, one needs to understand the shapes and structures of this sector. First of all, there generally is no one single sector.

4.1.1 Formal versus informal

Especially in urban areas, but also in rural and peri-urban areas, water services delivery to the poor is often a task of the informal sector, operating next to, or in the shadow of the formal sector utilities and service delivery companies. The lines between informal and formal sector are not always clear, with small-scale providers sometimes being allowed to function in the formal sector, but in general it can be said that in most cities in developing countries, more than half the population gets basic water services from suppliers other than the incumbent official utility (Solo, 1998). In rural areas, thanks to the boom in community management approaches, much of the service delivery work is based on volunteerism, and carried out by householders and village committees.

4.1.2 Employment versus entrepreneurship versus volunteerism

Following from the above, people can be working in the water and sanitation sector in developing countries in more than one way. They can be employed by the main service provider, often a utility; they can be working for themselves, often as small-scale providers (illegally) operating next to the main services provider; they can be working at the community level – i.e. as caretaker or pump mechanic – being employed by the community level water committee; or they can be part of the community water committee without receiving an official salary, but sometimes receiving an allowance for their activities. All these ways of working in the sector represent employment or business opportunities, but only some of them actually guarantee a stable income.

However, by far the largest part of income-generating initiatives in the sector seems to be on account of the small-scale providers and entrepreneurs. A ten-country study into the role of independent water and sanitation providers in African cities carried out by Bernard Collignon and Marc Vézina in the late 1990s, found that on average, the independent water providers market share was between 30 and 80 percent, and the independent sanitation providers market share ranged from 60 to 90 percent. This dominance in sanitation applies to the number of households served, revenue collected, and employment created (Collignon & Vézina, 2000:16).

The study also found that in each of the cities studied, the water sector employs about 1 to 2 percent of the active urban labour force. Most of these workers are employed by the independent providers (70 to 90 percent), with 10 to 30 percent working for the city-wide water concessionaire (Collignon & Vézina, 2000:15). Of those employed by the independent providers, the greatest number of workers are found in the informal sector, such as handcarters, carters using animal traction, and manual latrine cleaners. The latter are an important source of local employment for – often young – newcomers and residents of unauthorised and low-income settlements and bring much appreciated income into these areas.

In the rural areas, the numbers will be different. Although clear statistics are lacking, it can be said that in comparison to urban areas, a larger share of people active in water and sanitation in rural areas do so voluntarily or receive only small allowances. And while small-scale entrepreneurs are active in rural areas as well, salaried workers in water and sanitation are mainly employed by the public sector utilities or institutions, or NGOs and consultancy firms carrying out water and sanitation projects.

4.1.3 Skilled versus unskilled labour

The majority of the independent providers and the people employed by them, are relatively low-skilled, and are often people that migrated from the rural areas into the cities. However, they have learned by doing, and can be highly experienced and knowledgeable about running their business.

In contrast to this, utilities or concessionaires often seek skilled employees. Skill levels vary from low-skilled labour to employees with university degrees, but on average represent a higher educational level than those of the independent providers.

As for the people working for and in village water and sanitation committees, since such committees are usually set up as part of a project, the facilitating organisation (often an NGO) will ensure proper training of the committee members and employees. Quite often, those trained by NGOs as part of village projects, find other ways to use their acquired skills and knowledge and move on into official jobs. This actually represents a substantial threat to the sustainability of such community-managed schemes.

4.2 Small-scale business opportunities in the sector

As described by Tova Maria Solo (1998: 2,3), there are a wide range of small-scale business opportunities in the water and sanitation sector in developing countries. When water utilities provide water through trunk lines but cannot justify investments in low-income neighbourhoods, individuals with water connections sell water through standpipes or extensions to their neighbours and extended families. This is called residential resales. Where groundwater is available and extending pipelines is costly, bulk water supply systems bring water from private wells to secondary vendors. Small-scale network infrastructure systems provide house connections – for example the aguateros in Paraguay (see Troyano, 1999), or the small-bore developer in Malang, Indonesia, who put together a private sewerage system that ended up covering more than 1,000 families. When utility companies lack means to extend their networks, suppliers of materials or equipment and contractors build water and sanitation systems and turn them over to user groups or to the utility. For more than forty years virtually all new secondary infrastructure in Latin America has been supplied by developers and paid for by home owners. Private entrepreneurs own or manage water points, kiosks, latrines, pipelines, storage tanks, and fillers.

There are also a few examples where small-scale providers hold concession contracts. In Mauritania for example, 50 percent of the countries' water supply is concessioned to private operators. The characteristics of these concessions is that they are private, that the concessionaires are mostly young professionals, and that they are natives of the towns or villages whose water service they manage (Collignon, 1999: 4).

Focusing on sanitation, the ten-country study by Collignon and Vézina showed, that independent providers own 15 to 30 suction trucks in each city studied, with the number increasing each year. In Cotonou, Benin, a private entrepreneur built the first sludge treatment plant in the city. The construction of facilities for treating sanitation waste is the main area where investment, whether private or public, lags far behind potential market demand. Public authorities collect and treat a part of such waste in Dakar, Kampala, and Accra, but most of it ends up being dumped somewhere, with no treatment (Collignon & Vézina, 2000:13). Waste collection and treatment therefore represent a large potential source of employment and business opportunities.

In addition to this, other sanitation services performed by private providers include masons who build latrines, manual latrine pit cleaners, suction truck operators for septic tanks, manual or mechanised drain and latrine ditch cleaning services, toilet and shower operators.

4.3 Benefits of using small-scale providers

As described in many studies, there are ample advantages to using small-scale providers in water services delivery. They tend to be customer-driven, financially viable, and ready to apply innovative technologies and marketing methods. They provide appropriate solutions in appropriate places, assume all investment risks, and reach the poor. They charge market prices, cover costs, and respect willingness to pay. Their businesses are profitable, and the small-scale operators can start up more quickly and cheaply than their bigger competition. They have less to lose, and are therefore more likely to adopt innovations. And thanks to their size and their consequent ability to get closer to clients, they have developed simpler, more appropriate charging mechanisms (Solo, 1998).

In their ten-country study, Collignon and Vézina also found that the main advantages of independent providers are their ability to respond quickly to changes in demand, to offer services needed by low-income families, to self-finance, and to recover all costs (Collignon & Vézina, 2000:47). In addition, they found that the independent providers were particularly successful in working in areas where the concessionaires have great difficulty, and in overcoming the barriers cited by the concessionaires in justifying their neglect of these areas. These areas include elevated areas, areas prone to flooding, illegal settlements, and areas where there is a low sales volume.

The overall picture that emerges from the study suggests that by recognising and regularising the activities, roles, and institutional position of independent providers, and by facilitating intermediation, coordination, and partnership between city-wide operators and independent providers, municipal and national authorities can set the stage for better delivery of water and sanitation services to the urban poor (Collignon & Vézina, 2000:3).

4.4 Opportunities for youth

4.4.1 Youth and independent providers

Looking at the many business opportunities for independent providers, only a few stand out with regard to opportunities for youth employment. The picture of a typical independent provider of water or sanitation services in a sub-Saharan African city shows a versatile man, risk and publicity averse; capable of raising important sums of money when necessary, but without a logo or a front office. He seeks no loans from the bank, nor does he pay

the city business tax, if he can avoid it. He can and does cover many bases, depending on what is most profitable today. His relations with other providers are opportunistic, governed by the practical advantage conferred, with little inclination (at least so far) to control or restrict the free operation of market forces. (Collignon & Vézina, 2000: 37). This is not the picture of a very young person. However, many independent providers do employ staff – albeit not always officially, and with little job security – and that is where the opportunities lie for youth to pick up jobs. Next to this, activities such as hand carting of water from door to door are often dominated by young men – usually from rural areas who have been in the city for less than ten years. This work is relatively easy to come by because the initial investment is low and the market is very open.

Next to the independent providers, many urban utilities and concessionaires work with standpipe operators, who are officially employed by the provider. These standpipe operators are generally much older, long-time city residents. Frequently they are prominent neighbourhood residents who are considered to be honest and responsible men and would not otherwise be likely to be granted the standpipe lease. Since income from this activity is steady, reliable, and virtually free from competition, it is little surprise that traditional elders and local leaders vie for the honour of holding a standpipe lease.

The hand carriers and standpipe operators represent the absolute opposites of the scale. While the typical water carrier is young (under 25), relatively poorly educated, and suffers from a low social standing, the standpipe manager is typically older, well educated and enjoys a much higher social status (Collignon, 1999:4).

Another characteristic of the typical water carrier is that he is male. With the exception of one city in their ten-country study, Collignon and Vézina found that all water and sanitation trades are practiced by men. Where women were involved in standpipe operation or hand carting, this could be traced back to government policies to promote the participation of women in economical activities (2000:37).

4.4.2 Youth and the formal sector

The above section talked mainly about the jobs for poor and marginally educated youth. However, with growing university enrolment numbers in almost all developing countries, there is also a growing army of young, highly educated professionals who need to be given the chance to gain experience. While university research projects and civil society organisations offer some opportunities for these youth to become involved⁶, in many countries more structural positions and opportunities for young professionals need to be created in order to enter into the mainstream professional water and sanitation circuit.

This also includes the main utilities and concessionaires where, as mentioned in Section 2. 3, thanks to processes of rationalisation and reorganisation, many jobs have been lost over the past decade, affecting especially the entry-level, young professionals' jobs. This, while populations and unemployment rates keep increasing, and the percentage of youth as part of the entire population keeps growing.

4.4.3 Youth and community management processes

Many organisations working with people-centred approaches and facilitating or promoting community management

processes, have discovered the potential of youth groups-next to women's groups-in strengthening their message and carrying out community mobilisation and other awareness-raising activities. In Medinipur, a district in the state of West Bengal in India, a highly successful state-wide sanitation mobilisation programme has been running since 1990, and has so far led to almost 2.5 million households building improved latrines and practicing improved hygiene behaviour. At village level, the programme is run for a large part by village youth clubs, working with households to make them aware of the need for improved sanitation and hygiene and assist them in constructing latrines (source: UNICEF).

Women and youth have been recognised as possible change-agents within their communities, and – notwithstanding complications – have shown much eagerness to become involved in community management processes. Not only do these processes lead to an improved living situation in the sense of improved water and sanitation, healthcare or education, often they also lead to empowerment of the women and youth involved, and provide them with opportunities to improve their livelihoods by becoming involved in income-generating activities. For example, a community-managed water project in rural Nigeria has managed to provide affordable water, while at the same time creating sustainable employment for 50 young men who were previously unemployed (see Annex 1).

In some cases, like in South Africa, young committee members, having been trained and having gained experience within their own community projects, have even moved on to become proper fieldworkers employed by local NGOs or consultancies for tasks such as community mobilisation and awareness raising (The Mvula Trust, 2002). They often work in their own area where, being aware of the local habits, culture and circumstances, they can be very effective in convincing people to change their behaviour or become involved in water or sanitation projects.

4.5 Challenges, problems and opportunities

4.5.1 Legal frameworks, policies, and contractual arrangements

Most publications and studies done on the subject agree that the main constraints for independent providers are institutional and legal, and stem from the lack of an appropriate public policy framework. Since these providers are however responsible for employing 70 to 90 percent of the workers in the sector, it would be wise just from an economical perspective, to consider legalisation or institutionalisation of – parts of – the independent providers' activities.

Yet, despite the fact that independent providers often offer the only service available to the poor, some governments have been reluctant to acknowledge their function in the market or to provide a workable way to make them part of the formal sector: even going so far in a few cases as to accuse them of illegally competing with the main operator (WSP & PPIAF 2001:4). Independent providers in some African countries even face the risk of seeing their investment expropriated by the concessionaires. Clearly, this discourages all but short-term investment (Collignon & Vézina, 2000:13).

One of the big issues in defining the legal position and rights of independent providers, is that of exclusivity. Public utilities or private companies often have exclusive rights or contracts to provide water, leaving small entrepreneurs

to be illegal, or at best, irregular. Guarantees of exclusive sales and extraction rights to the major supplier, rigid technical standards, lifeline water rates, and subsidized prices can all wreak havoc for a small entrepreneur, as can the utilities' attempts to organise and control parallel vendors (Solo, 1998).

The consequences of not taking into account this effect on the small-scale entrepreneurs' livelihoods can be substantial. The Bolivian Cochabamba concession, intended to be a 40-year contract, failed in 1999 just 5 months after signing the contract. The people of Cochabamba rioted, and the contract was cancelled. Powerful groups felt threatened by the exclusivity of the contract, including alternative providers such as truck vendors, small cooperatives and neighbourhood associations. They were involved in serving the poor areas that were not before served by the utility and, in view of the exclusivity clause in the contract, were afraid that the concessionaire would take over serving these areas and rob them of their livelihoods (Nickson, 2001).

Many World Bank and WSP studies have addressed the need for concession contracts to allow for service quality differentiation and to relax or ban exclusivity rules; and the possibility to use alternative providers both to serve these groups (the poor who can't afford the often standardised connections) that can't be served by the main provider, and ensure that free competition keeps prices affordable and quality standards high. Here the argument for alternative providers is based on what is best for the poor consumers, thus from a consumers' perspective.

However, the argument can also be made from a providers' perspective, where a ban on the use of alternative providers means a loss of many jobs and/or a move into the informal, illegal sector, where regulation of the providers and a control on the upkeep of quality standards will not at all be possible.

Appropriate regulation setting out the rights and responsibilities of the main concessionaire, as well as dealing with the position of the small-scale providers, can enable a form of coexistence and even cooperation that will improve service provision to all groups of consumers, ultimately benefiting the poor. At the same time, stimulating the independent providers' businesses to grow and officially become part of the system, may lead to increased employment opportunities.

Yet governments should be cautioned that too many new or changed rules or regulations, even though they are intended to be pro-poor and benefiting alternative providers, might render it more profitable or less complicated for the independent providers to remain in the informal sector, and will probably be a disincentive for them to start operating in the formal sector. A slow and careful transition process is essential.

4.5.2 Perception, image and quality

Small-scale providers seem to suffer from perception problems. In particular water vendors have to deal with the common perception that they are overcharging and uncompromising, and make consumers pay anything from ten to a hundred times more for their water than utilities would. In reality, this is often untrue (Solo, 1998; Collignon & Vézina, 2000).

In order to improve people's perception of independent providers, it is essential that they keep up certain quality

standards, while at the same time offering reasonable prices. In many cases this is taken care of by the fact that there are many independent providers working the same market, with competition driving the prices down. However, although competition is good to keep the prices low, some quality assurance or marketing on quality arguments is needed to ensure sustained quality. Otherwise, increased demand will lead to increased production, and in order to be able to compete on price, quality standards go down. Then because of decreased quality, demand will go down. Ultimately, lower demand will mean a decreased production need, and jobs will be lost.

Countering the general perception is a task of both the providers themselves, and of government. By performing and delivering services of a good standard for a reasonable price, the independent providers can show their – potential – consumers, as well as the local authorities and main services providers, that they can be an asset to service delivery. And since the above doom-scenario of low quality leading to low demand and job-losses is not in anyone's best interest, governments might consider developing appropriate quality assurance procedures for the independent providers.

Both in the informal and formal sectors, youth suffer from perceptions as well. In the informal sector, youth are often the ones holding the jobs with the lowest social standing, such as pit-cleaning. This has a negative impact on the overall perception people have of them, while they might be capable of and willing to perform many other functions. In the formal sector, young professionals in their turn suffer the perception that their inexperience renders them un-useful for most jobs, making it very hard for them to find openings in the job market.

Countering these perceptions is partly a matter of nature. In growing up young people can literally 'grow over' the perceptions, by learning and proving themselves capable of contributions far beyond their current activities or status. In addition to this, youth-led and youth-serving organisations as described in 3.3 can play a role in improving the image of youth in the water and sanitation sector, by stressing the importance of involving and preparing the future generation of sector workers and leaders.

4.5.3 Finance

Finance, lacking the money to invest, is probably one of the most quoted challenges in the water and sanitation sector in developing countries. In the public and private, formal and informal sectors, in rural and urban areas, in central or local government layers, lacking the financial resources is one of the biggest limitations for improving water services delivery. It impacts on the quality and number of systems that can be put in place, on the number of staff that can be hired, on the training that they can be given, on the management and operation & maintenance approach that will be taken, on the time that can be spent on community mobilisation and awareness-raising, and so on.

There are financial reasons for concessionaires to decide to downsize or put a stop on hiring new personnel. And there are financial reasons for independent providers to want to remain small and manoeuvrable. Focusing on how in particular finance affects employment and business opportunities in water and sanitation, a few issues stand out.

Firstly, connected to the fact that they rarely have a legal status, it is difficult for independent providers to obtain access to funding for investments. As stated by Collignon and Vézina (2000:38), “Banks and financial institutions are conspicuous by their absence in the world of independent providers, and most enterprises contacted during the surveys have never had occasion to borrow money from the banking sector.” Therefore, small-scale entrepreneurs are more prone towards using/investing money from family savings, savings clubs, informal sector loans, or pre-financing arrangements with future clients (i.e. suction trucks).

In addition to this, in light of the often unpredictable political and economic conditions in developing countries and the risk of their businesses being outlawed or expropriated, independent providers have many strategies of limiting risks. These include: to minimise investment, to practise diversification (hold more jobs/businesses, always have several clients), to keep ones’ head down, and to stay in the informal sector (to avoid municipal taxes and social security charges for benefits that are rarely received). All of these strategies directly impact on employment among the independent providers. In short: there is no job security whatsoever, and while businesses might be expanding one day, they might be laying off their staff on the next.

The only way in which independent providers will be able to gain financial security and get business loans more structurally, is to find ways to provide them with a legal status and recognise the small businesses as a valid service delivery option (as discussed in section 4.5.1). In the mean time, as has been shown in India, small-scale entrepreneurs can be assisted by micro-credit schemes and micro-finance organisations (source: WSP).

Secondly, with the drive of privatisation and rationalisation of water and sanitation services in the formal sector in many developing countries, profits have become almost as important as service delivery. Efficiency and cost-effectiveness have become sector buzz-words, and ensuring high job-levels is not often a main driver for the companies anymore. While government policy is usually aimed at limiting job-losses as much as possible (van Dijk & Schwartz, 2002), low staff-productivity usually amounts to unsustainable cost-levels for the utilities or concessionaires, and they often see few other options than to increase staff-productivity and decrease their work force.

Thirdly, the amount of finance available for the sector impacts on the amount of capacity building that can take place. The following section will highlight how the lack of capacity building opportunities is a concrete threat to the performance of the sector.

4.5.4 Training and capacity building

A study into social marketing in sanitation in East Africa confirmed that informal private sector latrine providers can respond to changes in users’ demand in innovative ways, such as modifying the method of installing vent pipes in VIPs to enable easy access for desludging. Therewith, they have an advantage over the main concessionaire, who is not often in a position to change strategy so easily. However, it was also found that in many cases the independent providers lack the necessary technical, financial and business-planning capacity to make their business a real success. (Obika et al., 2003).

Many of the independent providers are ‘self-made men’, who did not receive much training, and learned by doing. While they represent a large part of the market, both in terms of service delivery and as source of employment, it is clear that they could increase on both counts, if they had access to proper skills training and capacity building. Many independent providers recognise this, and one of the main findings of the study by Collignon and Vézina “was the eagerness with which independent operators, brought together in city workshops by trade speciality, spontaneously began organising and arranging to pool equipment and experience. The urge to organise was much stronger than anyone had imagined (2000:11).” However, since the organisation-rate amongst independent providers is still quite low, and their informal status generally makes it difficult to access mainstream funds and opportunities for training and capacity building, a good chance to improve service delivery is as yet being lost.

The need for capacity building of the sector also becomes evident when focusing on the many countries that have recently gone through decentralisation processes, and now depend on local governments for their service delivery. Often the spread of budget, responsibility and autonomy from the centre to the periphery, has not been accompanied by an equivalent spread of training and capacity building over the regions. Therefore many local government staff currently lack the relevant skills, and clarity, to perform the service delivery functions to its best. Staff capacity building is a high priority for many governments and service delivery agencies. In how far this capacity building effort focuses specifically on youth, is however unclear.

Conclusion

The main conclusion of this paper is that although there are many job opportunities in the water and sanitation sector in developing countries, not many of these employment opportunities are specifically or exclusively aimed at youth. However, young people have the same chances as anyone to become involved in the water and sanitation sector, and can make a conscious choice to aim for a carrier in this sector. Furthermore, especially in the civil society / NGO part of the sector, the potential of youth in bringing about change is being increasingly recognised. This provides more and more chances for youth to become involved.

More importantly, there are clear options for expanding current employment and business opportunities in water and sanitation by recognising and institutionalising the independent providers. This will not only lead to increased job opportunities, but also to improved and increased water and sanitation services delivery. For WSSCC, achieving water, sanitation and hygiene for all remains the key issue. Advocating for the role small-scale entrepreneurs – and for that matter, youth – can play in achieving that, therefore is not only a goal in itself, but more importantly, a means to an end.

As Tova Maria Solo (1998) puts it: recognising and understanding the role of small-scale providers could lead to a rethinking of the traditional model for the sector. It could mean switching from the usual regulatory mechanisms to an approach in which competition, open entry, and open sharing of information replace control mechanisms. This flies in the face of some traditional public sector policies, as it would end guarantees and “breaks” for the monopoly

utility and seek to level the playing field for entrepreneurs of all sizes. Yet at the same time it would oblige small entrepreneurs to live up to certain standards and to avoid tendencies toward collusion and monopolistic behaviour. Altogether, this would increase the chance of providing sustainable water and sanitation services to many more people than are currently being served.

The Council strongly believes that, given clear rules and regulations and quality assurance, and clear guidance on the roles and responsibilities of the independent providers vis-à-vis the mainstream concessionaires, cooperation and co-existence of these two entities can be possible, can lead to more employment opportunities, and can make a real difference. It can change the quality and sustainability of water services, and can be the base for a credible attempt to achieve the Millennium Development Goals.

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Online resources

- ❖ UNICEF key statistical database: www.childinfo.org
- ❖ Joint Monitoring Programme: <http://www.wssinfo.org/en/welcome.html>
- ❖ Website of the Young Water Action Team: www.YWAT.org
- ❖ Water Supply and Sanitation Collaborative Council: www.wsscc.org

Annex 1: YWAT case study

Rural Africa Water Development Project

Joachim Ezeji from Nigeria is 27 years old. Joachim works with the Rural Africa Water Development Project. RAWDP constructed a well in Uzuakoli Uruala, a rural community in South Eastern Nigeria, and now employs 50 young men to fill 30 litre water cans and distribute them throughout the community.

The Problem: Until recently, there was no safe water supply in Uzuakoli Uruala, a rural community of 15,000 people in South Eastern Nigeria. The community has no permanent streams and rainfall is never heavy. It is a very dry and rocky area with many undulating hills.

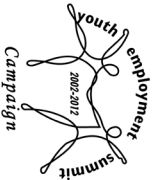
The Project: In 2001, the Rural Africa Water Development Project facilitated the construction of a well with two fetching heads: one was for dedicated use by the general public, and the other to fill water cans. The RAWDP employs 50 young men to fill 30 litre cans, and distribute the water to members of the community. The water is sold at an affordable price to villagers. A local project committee was set up at the inception of the project, and the committee members were trained in aspects of well construction, repairs, well operation, maintenance, bookkeeping and accounting.

The Outcome: About 50 jobs were created. The young people were placed on salary, which was based on their daily reach. Recruitment focused on long-term unemployed young males, for whom there was a lack of employment provision in the community.

Success Factors: Funds for the project were sourced locally. With the support of the government and local people, the project is now self-sustaining. RAWDP has developed a trusted and hard-working young workforce, of people who previously had little chance of finding lasting employment.

Lessons Learnt: The young employees were initially paid a flat fee, but they are now paid on a commission basis to increase their incentives. Local people sit on the Project Committee, which reviews the finances and ensure accountability.

Joachim Ezeji (santajayinc@yahoo.com) is a member of the Young Water Action Team



Annex 2: Information on WSSCC and YWAT The Water Supply and Sanitation Collaborative Council

The Water Supply and Sanitation Collaborative Council (WSSCC) was mandated by a 1990 UN resolution to accelerate progress towards safe water, sanitation and hygiene for all.

WSSCC facilitates this process by arguing the need for action on water, sanitation and hygiene, in short WASH, issues in every possible forum. It therefore stimulates and co-ordinates action by governments, donor agencies, professional bodies, researchers, non-governmental organisations, community associations, women's groups and the private sector.

With the support of regional and national representatives in currently 33 countries, WSSCC continues to put WASH issues on the global agenda and seeks to mobilise political commitment for this cause.

All concerned organisations and individuals are invited to join in this global partnership and help make water, sanitation and hygiene a reality for all and a foundation for sustainable development.

For more information, visit www.wsscc.org or email wsscc@who.int.

The Young Water Action Team

The NGO Young Water Action Team (YWAT) is a global movement of students and young professionals dedicated to increasing awareness, participation and commitment amongst young people in water-related issues. Members of this group have already participated in some major water events, including the World Water Forums in The Hague and Kyoto, the International Conference on Freshwater in Bonn, 2001, and the World Summit on Sustainable Development (Johannesburg, 2002). As an official member of the World Water Council, YWAT was also present at the 3rd General Assembly of the WWC in Marseille, 2003.

Moreover, the Young Water Action Team has organised two main forums itself: the Youth World Water Forum, Vlissingen, the Netherlands, 2001 (over 200 participants from all over the world) and the Second Youth World Water Forum, Kyoto, 2003 (over 400 participants, on the Youth Day of the 3rd WWF). In addition to this, regional workshops have been held recently in China, Mexico, Egypt and South-Africa.

YWAT members (all between 18 and 30 years old) are involved in a range of youth-led water initiatives, from water conservation projects in Egypt to public awareness campaigns in Bhutan. The organisation is currently developing 11 local units situated around the world. YWAT is creating a global database of youth-led water initiatives, to provide recognition for innovative grassroots initiatives, to share best practices and experiences, to network with and to exchange knowledge amongst young (water) professionals and students.

For more information, see www.ywat.org or send an email to information@ywat.org.

Youth Employment Generation and the Water Supply & Sanitation Sector in India

Jaily, A.⁷, Narula, K.K.⁸, Singhal, S⁹, and Gupta, V¹⁰

In India, according to official figures from various central government ministries, approximately 90 percent of rural habitations have been fully covered with drinking water facilities; and 20 percent of rural habitations have been covered by sanitation facilities (Annual Report, Ministry of Rural Development 2002-03). Similarly, in the case of urban habitations, more than 90 percent of the urban population has been covered with water supply and around 55 percent by sewerage and sanitation facilities. Accelerated water supply and sanitation programmes in each sector have been under implementation for the last few years to ensure coverage of rural as well as urban habitations with access to safe drinking water and required sewerage and sanitation facilities. The objectives of these programmes are to ensure sustainability of drinking water systems and sources; to tackle the problem of water quality in the affected habitations; to cover habitations with proper sanitation; and to institutionalize the reform initiative in the water supply sector. Various schemes have come up such as the programme of Urban Water Supply launched in March, 1994, Swajaldhara launched last year in December, 2002, Prime Minister's Gramodaya Yojana - rural drinking water; the Central Rural Sanitation programme that got restructured in year 1999 and the concept of 'total sanitation Campaign', a demand driven and people centred approach has been introduced. Similarly, since 1989-90 low cost sanitation schemes for urban sewerage and sanitation facilities have been under implementation. Table 1 highlights various legislation, policies, programmes and other initiatives for improving governance and provision of services in India.

Table 1. Highlights of policy and other initiatives: urban governance and services

Year	Initiative	Highlights
1972	Accelerated Rural Water Supply Programme	<ul style="list-style-type: none"> ■ The Central Government Programme to assist the States and the Union Territories with 100% grants-in-aid to implement water supply and sanitation schemes in problem villages.
1974	Environmental Improvement of Urban Slums (EUIS) Scheme	<ul style="list-style-type: none"> ■ The scheme was applicable to notified slums in all urban areas ■ Aims at provision of basic amenities such as water supply and sanitation
1979	Integrated Development of Small and Medium Towns (IDSMT)	<ul style="list-style-type: none"> ■ The EUIS scheme was made an integral part of the Minimum Needs Programme in 1974 ■ The Scheme was initiated with a view to: <ul style="list-style-type: none"> ■ Augmenting civic services ■ Strengthening municipalities through promotion of resource generating schemes ■ Reducing migration from rural areas to larger cities by providing sufficient infrastructural facilities, including water supply ■ Supports the component of Integrated Rural Development Programme (IRDPP) <p>Aimed at providing technical and entrepreneurial skills to rural - unemployed in the age group of 18 - 35 from families below the poverty line to enable them to take up income generating schemes.</p> <ul style="list-style-type: none"> ■ Has now got merged with Swarnajayanti Gram Swaroggar Yojana (SGSY) ■ To ensure coverage of all rural habitations especially to reach the un-reached with access to safe drinking water.
1979	Training of Rural Youth for Self - Employment (TRYSEM)	
1986	National Drinking Water	

Year	Initiative	Highlights
1991	Mission renamed as Rajiv Gandhi Drinking Water Mission; Sub Mission: Sector Reforms Programme	<ul style="list-style-type: none"> ■ To ensure sustainability of the systems and sources. ■ To preserve quality of water by institutionalising water quality monitoring and surveillance through a Catchment Area approach
1988-89	Million Wells Scheme	<ul style="list-style-type: none"> ■ Taken up as a sub-scheme of National Rural Employment Programme (NREP) and Rural Landless Employment generation programme (RLEGP) ■ Aims to provide open irrigation wells to small and marginal farmers amongst the SC/ST and freed bonded labourers who are below the poverty line free of cost ■ Also includes water harvesting structures for the benefit of the target group ■ Now this scheme is merged with SGSY
1986	Urban Basic Services Scheme (UBSS)	<ul style="list-style-type: none"> ■ The primary objective was improving the standard of living of urban low-income households, particularly women and children, through the provision of sanitation and social services in slum areas.
1990/91	(1986) / Urban Basic Services for the poor Programme (UBSP) (1990/91)	<p>In 1990/91, the scheme was integrated with the EIU/S and came to be known as the Urban Basic Services for the Poor (UBSP) programme.</p> <ul style="list-style-type: none"> ■ SHASU was one of these schemes implemented under the Nenu Rozgar Yojana (NRY) which targeted people living below the poverty line in urban areas
1989	Scheme of Housing and Shelter Upgradation (SHASU)	<ul style="list-style-type: none"> ■ It aimed at shelter upgradation and providing homes for the urban poor and was introduced in cities with a population between 1 and 20 lakhs
1990	National Waste Management Council (NMMC)	<ul style="list-style-type: none"> ■ One of the NMMC objectives was municipal solid waste management. The Council is engaged at present in a survey of 22 municipalities to estimate the quantity of recyclable waste and its fate during waste collection, transportation and disposal.
1992	73rd and 74th Constitution (Amendment) Acts	<ul style="list-style-type: none"> ■ A three-tier system of local governance, through Panchayat Raj Institutions (PRIs) in rural areas and through Urban Local Bodies (ULBs) in urban areas was established. ■ Reservation of not less than one-third of total number of seats in each PRI and ULB for women was stipulated ■ State legislatures were empowered to entrust local bodies with necessary power and authority to enable them to function as institutions of local self-government ■ State Finance Commissions were to be set up to provide for sharing of revenues between the state and local bodies
1994	Accelerated Urban Water Supply Programme (AUWSP)	<ul style="list-style-type: none"> ■ A centrally-sponsored scheme initiated with the objective of solving the drinking water problems in towns having a population of less than 20,000 (as per the 1991 Census)
1994	National Housing Policy	<ul style="list-style-type: none"> ■ Formulated to implement the recommendations of Agenda 21 for developing sustainable human settlements
1994	Human Resource Development Programme (Rural Drinking Water Supply)	<ul style="list-style-type: none"> ■ Main objective was providing access to adequate shelter for all ■ Aims at training at least one grass root level worker in a village through district level trainers ■ Aim at empowerment of Panchayat Raj Institutions/ Local Bodies with the objective of enabling them to take up operation and maintenance activities related to rural water supply systems.

Year	Initiative	Highlights
1995	Master Plan for Municipal Solid Waste Management	<ul style="list-style-type: none"> ■ It also aim at capacity building of local communities by giving requisite training to mechanics/ health motivators/ masons etc. especially women to operate and maintain hand-pumps and the components of other water supply systems as well as to generate demand for adequate sanitation facilities
1996	National Slum Development Programme (NSDP)	<ul style="list-style-type: none"> ■ The Ministry of Environment and Forests and the Central Pollution Control Board organised a meeting with municipal authorities and other concerned ministers in March 1995 to evolve a strategy for the management of municipal solid wastes ■ Additional central assistance being released to States/ Union Territories for the development of urban slums ■ Objectives of the programme include provision of adequate and satisfactory water supply, sanitation, shelter upgradation, garbage and solid waste management in slums. ■ Focus areas of the NSDP include development of community infrastructure, empowerment of urban poor women, and involvement of NGOs and other private institutions in slum development
1997/98	National Agenda for Governance	<ul style="list-style-type: none"> ■ Identifies 'Housing for All' as a priority area, with particular emphasis on the needs of vulnerable groups, economically weaker sections and lower income groups.
1998	Aseem Burman Committee	<ul style="list-style-type: none"> ■ Under this programme, 20 lakh additional units were to be created every year from 1998-2002 of which 7 lakh additional units were to be in urban areas. ■ In January 1998, the Aseem Burman Committee was formed under the Supreme Court of India to review the solid waste management conditions in Class I cities in India. ■ The key recommendation of this Committee's report was to enable private sector participation in SWM
1998	National Housing and Habitat Policy	<ul style="list-style-type: none"> ■ Objective of the policy is to create surpluses in housing stock and facilitate implementation of the National Agenda for Governance
1999	Swarnajayanti Gram Swaroggar Yojana	<ul style="list-style-type: none"> ■ Promoted public-private partnerships for tackling housing and infrastructure shortages ■ Aims at providing sustainable income to the rural poor ■ Aims at establishing a large number of micro-enterprises in the rural areas building upon the potential of the rural poor.
1999	Jawahar Gram Samridhi Yojana	<ul style="list-style-type: none"> ■ It is a credit cum subsidy programme and covers all aspects of self employment such as organisation of the poor into self help groups training, credit technology, infrastructure and marketing ■ It is a centrally sponsored scheme and funding is shared by the Central and State Government in the ratio of 75:25 ■ Designed to improve the quality of life of the poor ■ The primary objective is creation of demand driven community village infrastructure including durable assets at the village level and assets to enable the rural poor to increase the opportunity for sustained employment ■ The secondary objective is the generation of supplementary employment for the unemployed poor in the rural areas

Year	Initiative	Highlights
2000	The Municipal Wastes (Management and handling) Rules	<ul style="list-style-type: none"> ■ It is being implemented entirely at the village panchayat level which is the sole authority for preparation of the Annual Action Plan and its implementation ■ Implemented as a centrally sponsored scheme on cost sharing basis between the centre and the state government in the ratio of 75 : 25 ■ The rules lay down the procedure for waste collection, segregation, storage, transportation, processing, and disposal ■ Municipalities will be required to submit annual reports about municipal waste management in their areas to the Central Pollution Control Board ■ These rules mandate that all cities set up suitable waste treatment and disposal facilities by December 31 2001, or earlier
2000	Manual on Solid Waste Management for Local Bodies	<ul style="list-style-type: none"> ■ In January 2000, the CPHEEO (Central Public Health Environmental Engineering Organisation) under the Ministry of Urban Development brought out a manual on solid waste management to provide guidance to local bodies.
2002	Urban Reform Incentive Fund	<ul style="list-style-type: none"> ■ Rs 500 crore to provide reform linked assistance to States on: ■ Revision of municipal laws in line with model legislation ■ Levy of realistic user charges and resource mobilization by urban local bodies. ■ Initiation of public private partnership in the provision of civic services.
2002	City Challenge Fund	<ul style="list-style-type: none"> ■ Support to mega-cities for transitional cost ■ Partial cost of developing an economic reform programme and financially viable projects undertaken by the ULBs
2002	National Water Policy	<ul style="list-style-type: none"> ■ Drinking water should be priority in planning and operation of systems ■ Maintenance of existing water resources schemes would be paid special attention under these institutional arrangements. ■ Participatory approach should be adopted and water user associations and local bodies should be involved in operation, and maintenance to lead to eventual transfer of management to the local bodies/user groups ■ Private Sector Participation should be encouraged in planning, development and management to introduce corporate management and improve service efficiency ■ A standardised national information system with a network of data banks and data bases, integrating and strengthening the existing Central and State level agencies should be established ■ Exploitation of ground water resources should be so regulated as not to exceed the recharging possibilities as also to ensure social equity.
2002	Swajaldhara (Rural Water supply programme)	<ul style="list-style-type: none"> ■ This scheme is an extension of the ministry's sector reform programme being implemented in 67 districts. ■ Under the scheme, about 882 initiatives will be undertaken at a cost of Rs. 82 crore in the states of Andhra Pradesh, Haryana, Madhya Pradesh, Maharashtra, Orissa, U.P. and West Bengal. ■ A salient feature of the scheme is a focus on involving people and the users for water management. Panchayats or communities are expected to be responsible for the implementation and management of the project. The scheme intends to give ownership of the asset to the Panchayats or the owners. ■ Another feature of the scheme is that 90% of the funds would be provided by the Central Government while the rest would be raised from local people.

Issues and concerns

It has been found that official reports tend to give much greater weight to physical and financial progress rather than quality, reliability and sustainability of services (TERI 2002a, IRC 2003, <http://www.irc.nl/themes/communication/cases/india.html>). Following are the key issues involved therein:

- ❖ *Local governance in India received an impetus with the introduction of the 73rd and 74th Amendment to the Constitution of India in 1992, which laid down provisions for empowering local elected bodies and municipalities by decentralizing decision making powers from the state government to the local government, symbolising the beginning of a new era in local governance in the country. The Amendments redefined the role, powers, functions and financial authority of local bodies aimed at better co-ordination between the state governments and the rural and urban local bodies. The Amendments were targeted for decentralisation of responsibilities, thereby increasing the functional areas of local bodies and giving them more powers. Despite all such changes, these institutions still encounter problems ranging from inadequate resource mobilization (NIUA, 2000); multiplicity of responsibilities; inferior quality and coverage of service; limited internal capabilities; and lack of adequate information and systems for performance monitoring.*
- ❖ *Devolution of financial, administrative and legislative powers to local bodies has not taken place adequately*

The above two key aspects are discussed separately in sections below with regard to rural and urban areas.

Rural India

- ❖ *Coverage statistics do not indicate the actual functioning of the system, the regularity or duration of supply, financial sustainability of the system, water security and long term sustainability of the source. They only reveal that a source of drinking water has been provided/installed. According to a recent study (TERI, Ongoing) a number of ground water supply schemes installed in the last three years in a northern state of India namely, Uttar Pradesh, have either gone dry as a result of groundwater depletion or are delivering water of poor quality but are still in use due to negligence and poor awareness of the rural population. Another study (TERI 2002a) indicates that while these programmes have made a dent, they have not truly delivered. Low effectiveness of such programmes is also due to ineffective governance at the local level.*

Rajiv Gandhi National Drinking Water Mission

Provision of safe drinking water in the rural areas is the responsibility of the States. The Government of India (GOI) introduced the Accelerated Rural Water Supply Programme (ARWSP) in 1972-73, to assist the States and Union Territories to accelerate the pace of coverage of drinking water supply. The entire programme was given a Mission approach with the launch of the Technology Mission on drinking water and related water management in 1986. It was also called the National Drinking Water Mission (NDWM) and was one of the five Societal Missions launched by the Government of India. The NDWM was renamed Rajiv Gandhi National Drinking Water mission (RGNDWM) in 1991.

The state governments have been implementing the Rural Water Supply Programme under the state sector Minimum Needs Programme (MNP). The central government, through the RGNDWM supplements the efforts of the state governments by providing Central assistance under the ARWSP.

The mission has the following objectives:

- To cover the residual Not Covered (NC), Partially Covered (PC) and quality affected rural habitations.
- Evolve appropriate technology mix.
- Improve performance and cost effectiveness of ongoing programmes.
- Create awareness on the use of safe drinking water.
- Take conservation measures for sustained supply of drinking water.

It was realised that the objective of supplying safe water would not be achieved unless the sanitary aspects of water and the issue of sanitation are addressed together. The Centrally Sponsored Rural Sanitation Programme (CRSP) was launched in 1986 with the overall objective of improving the quality of life of the rural people.

It was envisaged that the two programmes, the ARWSP and the CRSP, implemented simultaneously would help break the vicious circle of diseases, morbidity and poor health, resulting from the water borne diseases and insanitary conditions.

Source: <http://rural.nic.in/book98-99/chapter.7.pdf>

<http://rural.nic.in/rgndw.htm>

■ **FINANCIAL PROGRESS UNDER RURAL WATER SUPPLY PROGRAMME (ARWSP) DURING 2003-2004 (As per reports received till 16/10/2003) :**

Allocation

ARWSP-Normal : Rs. 152315 lakhs

■ **CENTRAL RURAL SANITATION PROGRAMME FINANCIAL PROGRESS REPORT UNDER THE**

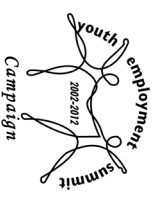
TOTAL SANITATION CAMPAIGN AS PER INFORMATION RECEIVED UPTO 06-Nov-03 :

Total Project Outlay: Rs. 337469.76 lakhs

- ❖ Water availability in rural settings is also restricted due to inadequate and erratic power supply in villages. TERI (2002a) reports that in the villages surveyed in Western India in the State of Rajasthan, power supply has been low and on an average available only for three to four hours a day is also not continuous, against the required eight hours.

- ❖ Under most programmes, although it is mentioned and recognized that the involvement of local communities in all aspects of the water schemes, including cost sharing, is an important step towards resolving the impending water crisis in India, it is found that the water supply and sanitation committees (usually called Village Water Supply and Sanitation Committee) often do not function efficiently mainly because of the lack of awareness. The role of NGOs and Panchayats important in familiarization with local priorities, practices and apprehensions as also in gathering community participation at the time of project planning, is somewhat limited.

Urban India



❖ *Urban Local Bodies (ULBs) suffer from several deficiencies and are yet to respond adequately to new challenges posed by the rapidly changing urban scenario. In the management of water supply and sanitation services, the basic needs of the urban areas, despite several efforts by the government, there are many concerns, which persist and continue to become more serious with time. The critical issues are service coverage and quality, per capita water supply, increasing demand for water, inequitable water supply, deficiencies in the treatment of raw water and in the distribution system along with poor revenue collection (Pachauri and Batra 2001). These drawbacks have in many ways resulted in the establishment of “water markets” where urban poor are the main sufferers and pay more than the affluent for the service. Over and above a political dimension also enters the issue.*

❖ *There is a huge disparity in the quantity of water supplied in urban centers throughout the country. For instance the daily per capita water supply ranges from a minimum of 9 lpcd in Tuticorin to a maximum of 584 in Trivammamalai. On the basis of this measure (water supplied per capita in litres / day), the Class-I cities can be divided into 4 categories: low (<100), normal (101–200), high (201–300), and very high (> 300). Figure 1 shows the percentage of cities falling under each category (CPCB 2000).*

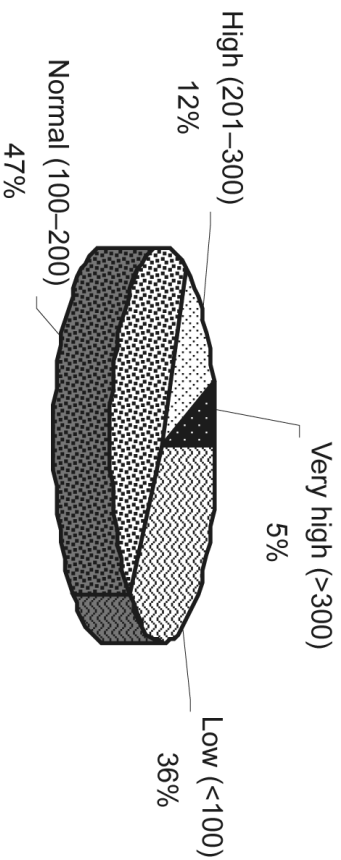


Figure 1. Daily per capita water supply in 299 Class 1 cities (population of 100000 or more)

❖ *The solution to water supply is often seen as capacity addition, rather than operating the existing capacity more efficiently. This bias in favor of new projects is partly on account of the lack of accountability on the part of agencies at both local and state levels because inefficient management of systems goes un-noticed (The World Bank, 1999). Estimates of average physical water losses in the system range from 25% to over 50%.*

Non-physical Unaccounted For Water (or 'administrative losses') are also likely to be high. International experience shows that administrative losses can be two to three times the physical losses (The World Bank 1999b). Technical capacity and equipment to detect losses in the distribution system are either non-existent or inadequate. The distribution pipes are old and leaking, resulting in both inadequate supply of water and loss of revenue for the city administration. The metering of domestic customers in any city is rarely taken seriously. Meters that are installed generally do not work for very long and even if they do, the charges are either not collected or are so low that they are not worth collecting.

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Lessons and strategies so far

Strategies needed for reforms in water supply and sanitation sector which will act as lessons for other reforming sectors also, are discussed in brief below:

- ❖ Need for integrated water resources management including environmental sanitation and wastewater management: This is a process through which people can develop a vision, agree on shared values and behaviors, make informed decisions and act together to manage natural resources including water supply and sanitation. This will enable addressing the environmental, economic and social dimensions associated with environmental infrastructure in cities and rural areas in a holistic manner. Such approaches could include promotion of private sector participation in construction and maintenance of water supply and sanitation schemes, involvement of communities in the management of services and strengthening of local institutions for implementing and sustaining water and sanitation programmes. Tripartite Partnerships (Government - People - Service Provider) could play a very important role here. The role of NGOs, media, academia, local institutions etc., is critical for raising levels of awareness for maintenance of such schemes especially in the rural context.
- ❖ To ensure long term sustenance of water supply and sanitation schemes in rural areas, representation of women in village water and sanitation committees is a must since they are the ones who collect and store water at the household level. Making women and children aware of the benefits of clean water, hygiene, and related health benefits would ensure long term sustainability of the resource. Organizational reforms, promoting an

integrated approach and including changes in procedures, attitudes and behaviour and the full participation of women at all levels need to be encouraged. Awareness generation campaigns about water conservation measures both in rural and urban centers need to be supported and strengthened.

- ❖ *Community management of services, backed by measures to strengthen the capacity of local institutions (ULBs and Panchayats etc.) in implementing and sustaining water and sanitation programmes is essential. The focus of state and Central governments should not be to only augment supplies or install additional systems in sanitation and water supply. Instead, equal or greater attention must be paid to critical issues of institutional restructuring, better and more equitable service, managerial and efficiency improvement particularly of ULBs. TERI has taken an initiative called USERS (Urban Services Environmental Rating System) which focuses on development and implementation of a Performance Measurement System in ULBs for efficiency enhancement in delivery of services and more informed decision making (TERI 2002b).*

- ❖ *Greater decentralization and devolution of revenue-raising powers to local bodies should be promoted, to reduce excessive dependence on the Central and state governments. This is essential as with the implementation of 73rd and 74th Amendments, local bodies will become increasingly responsible for the operation and maintenance of water supply and sanitation services. In addition local bodies should be encouraged to raise internal resources and then receive matching grants from the government (Planning Commission, 2001).*

Issuance of tax-free municipal bonds by the Ahmedabad Municipal Corporation in 1998 has been an important step in this direction where tax-free municipal bonds worth one billion rupees were notified without a state guarantee to partially finance water supply and sewerage projects. This was an important milestone in the development of a debt market for urban environmental infrastructure in India. The Pune and Bangalore Municipal Corporations followed suit. Such initiatives need to be adopted by other local bodies to enable them to raise capital for environmental infrastructure projects and to explore potential for financing other sectors.

Municipal bonds are now accepted as a viable option for financing urban infrastructure in India. Public financing concepts are well understood by the financial community and are becoming familiar to the local government sector. However, to routinely access capital markets for municipal bonds, ULBs (Urban Local Bodies) will have to strengthen their capacity to develop commercially viable projects. This will require appropriate pricing of services, improved cost recovery mechanisms, improved accounting and financial management systems, enhanced professionalism of the work force, improved service delivery systems, and development of capital investment plans. To complement project development, ULBs will have to institute efficient project management systems and procedures to reduce time delays and cost overruns. The most critical factor for obtaining market finance will be a healthy municipal revenue base (FIRE(D), 2001).

- ❖ *In order to strengthen the socio-economic conditions of India, mere administrative decentralization may not be enough. Urban and rural sector reforms could play a major role in adoption of demand-responsive and*

adaptable approaches based on empowerment of local people to ensure their full participation through a decision making role in the choice of project design, control of finances, and management arrangements. This would also mean a shift in the role of Government from direct service delivery to that of planning, policy formulation and providing partial financial support. Monitoring and evaluation of projects could be done by NGOs and other independent bodies.

- ❖ The Government should primarily play the role of a facilitator and regulator and not that of an implementer. Local institutions such as Panchayats in villages, Urban Local Bodies in urban centers, NGOs, communities would have to play a greater role in the implementation of schemes. Awareness of various schemes (technology and science) should be made amongst the community well in advance by building partnerships between government, NGOs, technology makers/distributors and the private sector. In order make water supply management more efficient private sector participation will be essential. The water supply sector can be unbundled into separate entities for bulk water sourcing, transmission and distribution. This, for instance, has been successful in the electricity sector where supply, transmission and distribution have been unbundled. The participation of the private sector in each component will bring additional resources, provide technical and management expertise and thus increase operational efficiencies. In addition, for economic viability of the water supply system appropriate water pricing mechanism in urban areas would be imperative.

In brief, while most of the programmes have had objectives of imparting training as well as raising awareness, youth employment has not been clearly established for three basic reasons:

- i) long term sustainability of the schemes cannot be presently guaranteed thereby leading to a feeling of water insecurity in the community itself. For instance in TERI (ongoing) it has been found that almost 10 percent of the total water supply schemes installed and commissioned in villages of Uttar Pradesh are defunct primarily due to reasons attributable to the bore getting dry and improper or no maintenance.
- ii) “safe” water quality is not ensured. Water in many borewells is found to be contaminated either due to presence of a chemical constituent or bacteriological presence pathogenic in nature. A narrow option on cost and technology, the model promoted in case of sanitation, did not suit varied geologic and water supply conditions as well as the economic situation of poor families. Over and above, hygiene promotion was missing.
- iii) Training imparted to a person or two in each village did not provide an environment for developing “entrepreneurship” amongst the youth or even create opportunities for youth to exercise those skills in their settings. A supply chain including both materials and skills were not created. A ‘package’ approach needs to be evolved covering aspects of finance, technology, materials, marketing etc.

In other words the concept of “good water managers” needs to be inculcated so as to motivate the youth to act as catalysts in promoting water conservation and safe water supply. Youth and empowerment have to go hand in hand and ensured in governmental programmes.

Youth and empowerment

Youth, defined by the United Nations as the age range of 15 to 24 years, form a significant proportion of the population in India. Youth bear a disproportionate burden of unemployment, with young women, school leavers and drop-outs, being particularly vulnerable. In India, especially in the rural areas, young people do not have access to safe drinking water, nutrition, sanitation and adequate health services. Youth empowerment is predicated on the belief that young people are themselves the best resource for promoting their development. Empowering young people means creating and supporting conditions under which young people can contribute to the economic, social and cultural advancement of their societies and gain self fulfilment. Within the HRD context, enabling conditions for youth empowerment include education, knowledge, information and skills, access to health and other social services, and employment opportunities. The increasingly complex challenges faced by youth require skills in decision-making and problem-solving.

Research shows that information-based approaches need to be combined with attitudinal and interpersonal skills, known as “life skills”. UNICEF refers to the following definition of the life skills approach:

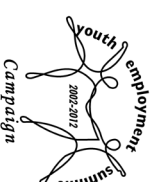
“The interactive process of teaching and learning which focuses on acquiring knowledge, attitudes and skills which support behaviours that enable us to take greater responsibility for our own lives; by making healthy life choices, gaining greater resistance to negative pressures, and minimizing harmful behaviours (UNICEF, 2000)”

The life skills approach encompasses three aspects: knowledge (K), skills (S) and attitudes (A). These three components are combined to provide young people with not only information but also methods of processing the information, and using it in everyday life. This involves translating knowledge and attitudes into actions.

The term “life skills” is becoming used increasingly in the context of youth issues, and it is important to ensure a common understanding of its meaning. Life skills comprise interpersonal, attitudinal and psychosocial aspects, and include such skills as communication, decision-making, creative thinking, negotiation, stress management, values analysis, and confidence-building. The following example outlines some of the skills the approach entails:

Social	Cognitive	Emotional coping
<ul style="list-style-type: none"> ● Communication skills ● Negotiation/refusal skills ● Assertiveness skills ● Interpersonal skills ● Cooperation skills 	<ul style="list-style-type: none"> ● Decision-making/ problem-solving skills ● Understanding consequences of actions ● Determining alternative solutions ● Critical thinking skills, including analysing influences 	<ul style="list-style-type: none"> ● Managing stress ● Managing feelings ● Self-awareness skills, including awareness of influences, values, attitudes and rights ● Goal-setting skills

Source: UNICEF, 2000.



An important aspect of the life skills approach is that information, while a necessary component, has proved not to be enough by itself to change behaviour. Information must be combined with other skills, including attitudinal changes and methods of interpersonal relations. Simply using a “fatalistic” approach, which focuses on a purely negative message (such as “pollution kills”) has, in particular, not proved effective. Recognizing the complexity and challenges facing young people, the life skills approach seeks to move beyond simplistic messages and discuss issues in a more open manner. The life skills approach does not tell young people what is right and what is wrong. Rather, through the provision of options and choices, young people are empowered to make the choices that are best for them.

There is need for the promotion of eco-jobs under various sectors, which predominantly covers water and sanitation, energy, health, agriculture and bio diversity. Water is the essential element in rural livelihoods because of the food security and income options including productivity (in terms of ensuring good health) it generates in rain fed and irrigated crop production, industry, domestic processing, aquaculture, livestock, recreation, navigation and transport and electricity supply. Safe water and sanitation also shape health through potable water supply, safe food preparation, hygiene, better nutrition and relaxation. The aspects here are:

- To provide clean, safe and inexpensive drinking water supply, while creating employment and building capacity among local residents.
- To develop an income generating opportunities for out-of-school youth by educating and training so that large numbers of rural youth will be able to make an economically rewarding and satisfying life for themselves and their families.
- Developing some guides/ manuals on selected subject ‘ water and sanitation sector’, which will help in bringing about a significant change in their knowledge, skills, attitude and behavior which may also include non-formal educational programming at the village level.
- Rain water-harvesting methods for communities to secure supplies and manage their own systems. Also, it will provide solution in areas with water quality problems especially in arsenic prone areas in West Bengal in India. Rainwater harvesting will create an opening for new entrepreneurs and generate more employment opportunities especially in urban areas. The design of rainwater harvesting structures can be built by public-private partnership. The concept of “Barefoot Architects” needs to be applied here right from the stage of project conceptualization.
- Household rainwater harvesting techniques which can be simplified and targeted to women in urban and rural. They can be involved in all stages of planning, implementation and maintenance.

Case examples

The community-based programme ‘ Youth for sustainable livelihoods in Rural Nambia’, that will provide training, education and income generating opportunities to the Youth from the ages 15-30.

'Nakuru ' Water kiosk project, Kenya

Nakuru built the capacity of residents community based organisation (CBO) to construct and manage a series of water kiosks in a low-income, underserved areas which not only will provide clean water at reasonable rates but at the same time will generate well paying, long term employment positions. Kiosks will be operated by the local CBO.

NROKA, a CGO with a team of 8 -key players, paid membership of 30, with an extra 20 that were too poor to pay but which offered labour:

lack of water in the area had led to significant problems namely:

- *problems in collecting the correct revenues from the existing connections as main pipes were tapped illegal.*
- *wayer meters were vandalized and did not read read true, officers were bribed- Due to the absence of local supply, water had to be carried in jerry cans for 2-3 kms, on foot or bicycle .*
- *Contaminated water and high charges has to be paid to the water vendors.*

As a pilot study, 5 kiosks were constructed where the residents have to walk no more than a kilometer for water. Each was built of stone , connected to the municipal water main, able to be locked at night and enough to house a tap and the attendant.

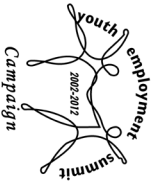
The project was expected to generate seven well-paid, permanent jobs that NAROKA intended to give young people who participated in the work. The price of water to residents was expected to be half of what residents had been paying. The final price was to be decided by water company maintained certain profit margins.

Integrated water resource management, Jhabua, Madhya Pradesh, India

Jhabua in the central Indian State of Madhya Pradesh witnessed some severe droughts and famines which in 1985 prompted the Central government to shift its thinking from short term public relief to long term drought proof policies and programmes. 'Jhabua' in MP was selected as a pilot district to introduce a new strategy of integrated water resource management under the National Drinking Water Mission. The programme was driven by inter-sectoral action and a wide ranging partnership of district and sub district administration, national scientific organisations and locally elected representatives, school teachers and health workers. Employment opportunities were provided for 150,000 people, two third of which were related to water management, digging trenches and pits for afforestation. The programme focussed on ensuring sustainability of water supply and had a related objective to eradicate guinea worm disease.

The project doubled irrigation area, raised income levels and reduced seasonal rural urban migration. Linking health, productivity, water and the environment resulted in the total eradication of guinea worm disease in the district. Strategies included enlisting women in their capacity as water carriers, social mobilization, forming district, sub district and village action committees, and use of popular local media such as street theatre; training to co-ordinate inter-sectoral action and managing eradication campaigns.

The water management efforts were run by the state with local people also providing wage labour. The key lesson



was the need to involve people directly in the environmental reconstruction and improvement of their own land and water resources. This is a good example of community based management of water resources.

Source: P Gopalakrishnan, Waterfront, WES, UNICEF New York, March 1994

Water Environmental and Sanitation Technical guidelines Series-No7.

Water Aid India (WAI), Tamil Nadu, India

Water Aid India (WAI) launched a sanitation programme in the State of Tamil Nadu, India, 1996 covering 1750 villages in 15 districts. WAI and its partner local NGOs and community based organizations acted as catalytic agents to create a people's movement around sanitation and hygiene promotion. The community was involved in the programme from the start. People participated through improving the toilet's superstructure, using locally available material such as gunnysacks, palm, thatches, reeds, cycle tyres etc. Water Aid introduced a lower, variable rate subsidy calculated according to the means of the household or individual. Village members were involved in wealth ranking for purposes of ascertaining who needs to get the maximum level of subsidy and credit, and which household could afford the capital costs with reduced subsidies or without need for one or both of these financial options. Village self-help micro-credit groups were mobilized to assist in the promotion of health and life style messages etc. Local youth and women were given opportunities for employment as masons and block makers either independently or attached to production centres and Rural Sanitation Mats. WAI sanitation programme had not just lowered subsidy but also introduced a variable level according to a household or individual's economic situation. Also, rural sanitary mats, small-scale production centres and training of masons have been taken up under the sanitation programmes. The Rural Sanitation Mats, non-profit, independent retail operations were developed and promoted by UNICEF in India. SEVAL, one of the WAI's NGO partners was assisted to develop a Rural Technology Centre to be a centre of excellence for training, design and production of sanitation materials. Gradually, these mats and production centres will be transferred to community based institutions, where upon it is expected that they will contribute to employment generation, skill development and income generation for the community and surrounding villages.

Source: *Meeting the sanitation and hygiene challenges: experience of Water Aid in India*

Ek Panch Ek Talab, MP

The State Government (MP) launched a novel initiative called Ek Panch Ek Talab (a pond for every panchayat member) in 1999. Under this programme, the Panchayat (local self government body) member were asked to renovate or build at least one water harvesting structure in their village during his or her tenure. In less than 15 months, 3412 tanks were renovated and more than 500 new ones were built. Also, of the total cost of Rs 160 million (US \$ 3.2 million), one fourth was contributed by the community.

Due to the erratic rainfall in the region, the State Government also initiated Pani Rako Abhiyan (Save Water Campaign), which is the world's biggest-ever rainwater conservation programme. The campaign involved the

entire community. It was conducted simultaneously in 51,806 villages of the state. By mid of 2001, more than 700,000 water-harvesting structures were created across the state. The benefits could be seen in terms of increased water storage capacities, economic benefits like field irrigation by stored water with recharged wells as an additional water source, Poverty levels have been also reduced and benefits in terms of large scale awareness about the water conservation.

SEWA, India: Women's Participation in Watershed Management

In 1995, the Self-Employed Women's Association (SEWA), a trade union of 215,000 poor self-employed women, launched a ten-year water campaign to revive water sources in drought-prone districts of Gujarat, India. Women comprised seven out of eleven members of watershed committees set up at village meetings, and the chairperson was also a woman. As part of the program, the committees performed soil and moisture conservation work, creating a green belt and grass cover for better retention of water. They also created an irrigation facility to guarantee drinking water. These projects decreased soil salinity, resulting in more fertile land and a more sustainable source of income for women, while generating employment opportunities for about 240 women.

Economic growth - Bangladesh

Safe water, hygienic latrines and a clean environment together with people's knowledge and practices can ensure them a life with reduced health risks. As a result people do not have to pay for unnecessary treatment costs caused by water and excreta born diseases, which puts a direct effect on saving money. They can work more in the productive activities and can earn more. Besides, demand of watsan generates employment as mason shopkeeper, dealer etc. It helps to earn and save money that contributes in economic growth of the people and lead them towards a better life.

WATSAN Initiatives in Bangladesh: Case study: Md. Ajbhar Dhali

Md. Ajbhar Dhali (35), a watsan mason is now very happy with his present occupation. He lives in a saline affected village named by Shirfalkathi, of Shyamnagar Upazila in Sakhira very near to the mangrove forest Sundarban. He lived in a hut with his wife and two sons. Only 5 years ago, he usually went in to Sundarban for fishing and cutting wood. For that purpose, he had to borrow at high interest from local moneylenders and also to pay back immediately after coming back. He usually had nothing left in his hand for maintaining his livelihood. His wife had to work in other's houses as a maidservant to manage food for their 2 sons.

In 1997 he contacted a local NGO and got training on RWHS, PSE, AIRP and different options of hygienic latrines from NGO Forum. After this, he started work as a watsan mason and has constructed more than 400 safe water options and a significant number of hygienic latrines in the locality. He is familiar and very accepted in the locality as an expert mason. Many people from the neighboring and other localities demand his services for constructing RWHS and AIRP. It has helped in enhancing his social prestige and made him economically solvent. His average earning in a month is Tk.5000 (about 85 US\$). He made another 3 masons who help him during his work. They also earn minimum Tk. 2000(About 33 US\$) in a month. It has contributed to a better life. He has

made a brick made nice house, his two sons go to school his wife does not need to work as a maidservant in other's houses.

He plans to ensure 100% water and sanitation coverage of his own village of 2,500 households. He is working not only as mason but as a motivator also. He urges that it not only would make the people aware but also increase sale of products and enhance his skill.

His wife assists him as a helper in his latrine production center, which contributes to earning more money. They are now planning to establish a furniture mart, a rice husking mill and excavation of ponds for fish culture.

Case Study: Haruna Begum

Haruna Begum was born in a hardcore poor family in 1969 at Khaspara village under Parulia union of Satkhira District. Father Asmat Ullah Gazi was a day labor, and mother Parul Begum was a typical housewife. Asmat had six daughters and two sons. Having no any agricultural land or other earning source they had to depend only on the earnings of the father. And facing the reality of poverty Mrs. Haruna had to be victimized by early marriage; i.e., at the age of 12 years. This was also her husband, Mr. Adar Ali Biswas's second marriage.

The conjugal life of Mrs. Haruna was not happy: After just six years of her marriage her husband left her with two kids. She felt in darkness of life and started to struggle with the situation. She started to earn as a day labor and earned a maximum 20 taka per day, which was not enough to support the family of three members. In early 1997 she came in touch with a mason, Mr. Abdur Rahman and started to work as his assistant. Being a woman he also exploited her at the time of giving her wage.

In 1997 she got mason training form NGO Forum for Drinking Water Supply and Sanitation. According to her, "The training not only enhanced my skill but opened up my eyes also." That is, she came to know that skill is the factor of earning, as regards of work as a mason not the man-woman factor.

After having this training she started her career as a mason of Village Sanitation Center (VSC) of IDEAL, one of the Partner NGOs of NGO Forum. She earns in an average of Tk. 2,500 (about 43 US\$) per month form this occupation and leads a better life

Case study: Daily pre-payment systems (Applicable to Low Income Urban Communities)

The practice

The use of tokens to pay for water from water kiosks in Melini Compound of Chipata Town in Lusaka, Zambia, for the collection of fees. The system is based on privately managed water kiosks from which the community purchases a given volume of water using pre-paid tokens. The purpose of this payment system is to ensure cost recovery for water supply thereby enabling (Chipata Compound Water Supply Company) CWSC to operate in a commercially viable manner. The system was initiated by the CWSC in collaboration with KfW on the basis of past experience and persistent problems encountered.

Management

Alternative organisational concepts were developed, discussed and tested by CWSC, CMC and community members in the compound before the kiosk system was eventually adopted. KFW played a key facilitative role in piloting the new systems and engaging in the community discussions along side the Community Relations Officer of the CWSC. The kiosks are run by independent operators licensed by CWSC and revenue collected is remitted to CWSC. Kiosks are owned by CWSC.

The attendants at kiosks are contracted by LWSC (Lusaka Water and Sewerage Company) and provided with a kiosk Attendant Duty List to guide their operations. The kiosk attendants are expected to ensure that service to customers is at a high level; tap sites are well maintained and kept clean; vandalism is at a minimum and damage is reported quickly; wastage is kept at a minimum. Two attendants are assigned to each tap and women are preferred as traditionally women fetch water and clean the surroundings of the house and water sources. Environmental Health and Hygiene are important features of tap management and responsibility of the attendants. Whilst employing attendant from within the compound has obvious logistical advantages, it was found preferable that they not be from the immediate community using the tap due to jealousies, favoritism and other factors.

The Public Relations Officer of CWSC supervises the Attendants and spends two to three days per week monitoring 15 kiosks. The kiosk system has led to considerable improvements in hygiene around the taps which previously were surrounded by large pools of stagnant water. This is because of the role of the attendants in maintaining environmental health and hygiene and the shift of laundry activities from the tap to the household.

Impact and Constraints

Service provider-CWSC

The water kiosk system has now been in operation for almost six years. Surveys in communities close to Mchini (carried out in 1998) showed that other service areas within Chipata town wanted the kiosk tokens system in their community. Each kiosk established caters for a population of 2,000 meeting all social and hygienic objectives of the system. The level of 2,000 people was considered to be economic. Serving smaller populations would require only one attendant per kiosk and shorter opening hours.

An analysis of Mchini kiosks in 1995 showed that the amount of water piped into the compound reduced from over 4,000 cu. m per month prior to implementation of the kiosk system to 2,000 cu.m. The average per capita consumption is currently 7.51 litres per day. Where taps are too far away, people only collect water for drinking and cooking, with water for other activities being collected from nearby wells and streams. A small number of disabled and destitute households are given a card to allow free access to a limited quantity of water. An interesting aspect of the kiosk service is that anyone is allowed to drink at the tap for free and water is also provided free for cleaning out the water container before collecting water.

During the first six months of operation the kiosks have made a profit for CWSC. Two of the five kiosks made a loss in one or two months of the year. (Recent data was not available). The utility has reacted to losses by reducing the number of attendants for the kiosks and restricting opening hours. Careful management of the kiosk system

has shown that it ensures an adequate water supply to consumers; contributes to the viability of the CWSC; and reduces wastage.

The attendants are considered to be performing well and the monitoring system shows that more than 93% of metered water is sold. When compared to the pre-kiosk situation where water ran almost continuously irrespective of whether people were fetching water or not, this is a significant improvement.

Consumer

Overall the consumers have reacted positively to the kiosk system. Problems sited include the long distances between kiosks and households, especially for the elderly. Eighty percent of the households use the kiosks as the main source of water for drinking. Water for washing and bathing is also obtained from wells. The water supply system is considered to be in good condition and the water quality is good.

The three main advantages identified by consumers were the clean taps (63.9%), the organized system for collecting water (55.8%) and that everyone pays according to the quantity consumed (41.1%). The three main disadvantages of the kiosk system identified by consumers were distance (29.9%), congestion (19.8%) and expense (17.3%).

Lessons Learned/Conclusions

The kiosk system provides a good option in situations where communities are not well organized or there are deep community divisions due to political or other reasons. Privatised kiosks can result in widely differing levels of income between kiosk attendants but on the other hand the employment of kiosk attendants by the utility may raise costs and create viability problems if not well managed and supervised. Utility managed kiosks will tend to reflect the minimum to reduce investment costs thus creating accessibility problems. Community managed kiosks are more likely to meet accessibility needs but may compromise on viability. The replicability/viability of token system has been shown by its continuation and expansion in Chipata Town over the last four years.

Case study – Payment system for low-income urban communities in Lusaka, Zambia

In Lusaka, Zambia there are numerous residential compounds where water systems are owned and managed by the community. The Lusaka City Council acts as an independent advisor, auditor and signatory for providing the necessary oversight to assure the community that the risks of management are minimal.

The monthly payment card system is used in Chipata compound (one of such compounds) in Lusaka for the collection of revenue and management of water charges. The design of such system aims to facilitate payments by consumers, minimise misuse, efficiently collect revenue, ensure effective maintenance and above all create employment for the local community. Payment is made once every month and there is no provision for payment in kind by those people who cannot raise the membership fee and user fee. They are left to either continue drawing water from unprotected sources, neighbours or from outside the compound. The provisions however have been kept that elderly people may clean the area surrounding taps in exchange for water.

In this system 55% of revenue collected meets the wage bill, 40% meets operating costs (electricity, stationery etc.) and 5% is deposited into the investment fund for future development. The system has resulted in employment of 46 people from the community on full time posts and the employment of others such as plumbers, as the need arises. This recycles money back into the community creating wealth and reducing poverty.

The scheme has been very successful in terms of the number of households subscribing rose steadily from 16.5% to 61% since 1998 and the cash reserves rose from K4.5m to K14m (three fold) over the same period. The residents appreciate that the scheme is theirs and they do not want to go back to the days where they had buy water from street vendors at higher prices.

Honduras

United by their need for reliable and affordable water and by the burden of high water prices from private vendors and license holders, women in low income urban neighborhoods in Honduras have taken on and managed their own licensed water vending points. The results are lower and fixed water prices, part-time employment to poor single women with children, and use of the group's surplus for neighborhood projects. Women in the area have also used their own local water supply for income generation through beer brewing, teashops and a laundrette Adapted from Espejo, N., Gender and the Management of Drinking Water Supply in Low Income Urban Communities in Latin America, IRC International Water and Sanitation Centre, 1993.

Corporate Social Responsibility and Watson - towards an increasing role for the future

Aditya Birla Group

The Aditya Birla Centre for Community Initiatives and Rural Development is responsible for all CSR activities of the Birla group. The group works in areas of water and sanitation, employment generation, women empowerment, health care, spreading literacy, and sustainable livelihoods. Participatory approach and social mobilization have been an integral to all the activities of the group. The group has been working with people around its various plants around the country and has undertaken works aimed at better watsan facilities, training of village youths. The group adopted 332 villages in Renukoot and Remusagar in Uttar Pradesh and in Jharkhand and Chattisgarh

IFFCO Phulpur unit

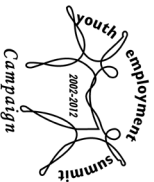
IFFCO Phulpur has been constantly carrying out training programmes for unemployed youth for the past few years and also implemented integrated rural development program for surrounding villages.

Oil India limited

OIL has been promoting Self help groups in villages. Over 5000 people have ben given indirect employment through SHG's. Areas of work for the SHG's are chosen and comprehensive training on the subject is provided by

OIL.

*Larsen & Toubro
L&T have been implementing a VIKAS (Village improvement know how and skills project). The project aims at providing employment opportunities through vocational training, health and education.*



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¹ All data are based on the WHO / UNICEF Joint Monitoring Programme. The progress over ten years as measured between 1990 and 2000 was divided over ten years to obtain an average per year growth, and this number was multiplied by 15 to extrapolate progress for the next fifteen years to 2015. However, the number of datasets used to determine progress between 1990 and 2000 differed for the various regions, impacting on the reliability of the data, and so of the extrapolations.

² As reported by Jose Agustin Breña Naranjo in a case study for the Young Water Action Team (YWAT), November 2003.

³ The words small-scale or independent entrepreneur, provider & operator are used interchangeably in this paper, and all refer to the same type of small-scale business, run independently and focusing on a wide range of activities around providing water and sanitation services.

⁴ This section carries contributions by Yoseph Araya, Yahakn Kabakian, and Alejandra Martin Galvez, all members of the Young Water Action Team, a youth-led organisation advocating for the need to involve young people in water resources and water services management. Tom Hadfield, Executive Secretary of YWAT, is responsible for editing the contributions.

⁵ Gro Harlem Brundtland is the former Director General of the World Health Organisation and was chair of the Brundtland Commission on sustainable development.

⁶ As described in YWAT case studies by Jose Rashedul Islam from Bangladesh and Chalaka Fernando from Sri Lanka.

⁷ Distinguished Fellow, The Energy and Resources Institute (TERI) India Habitat Centre, Lodi Road, New Delhi - 110 003

⁸ Fellow, Water Resources Policy and Management (WRPM), TERI

⁹ Research Associate, WRPM, TERI

¹⁰ Research Associate, WRPM, TERI